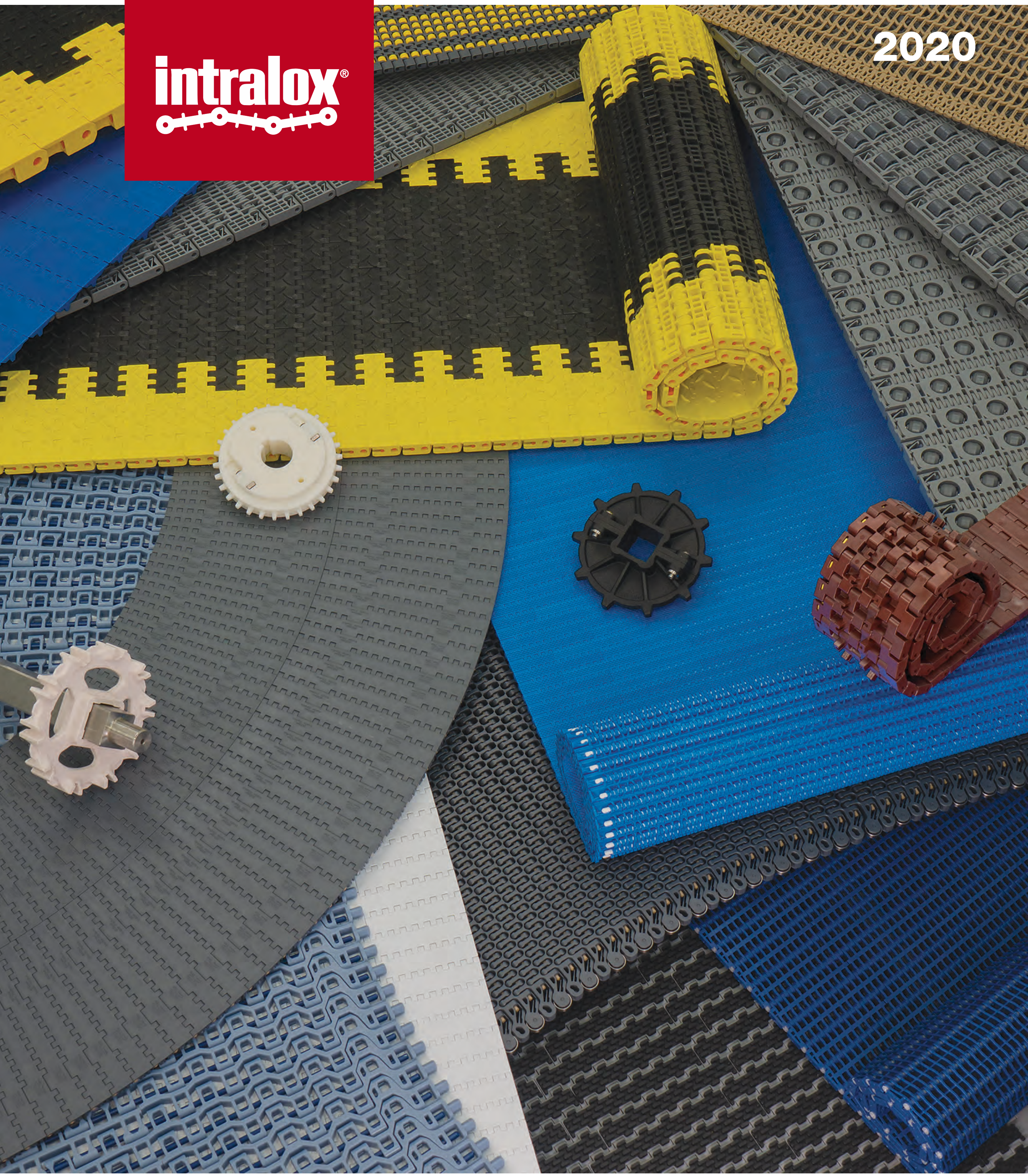

ENGINEERING MANUAL

MODULAR PLASTIC CONVEYOR BELTS

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intralox®

Engineering Manual
Modular Plastic Conveyor Belts

WARRANTY

Intralox, LLC warrants products of its own manufacture for a period of one year from date of shipment, to the extent that Intralox, LLC will repair or replace any products of faulty material or defective workmanship proven under normal use or service. No other warranty is expressed or implied unless otherwise set forth in writing and approved by a representative duly authorized to extend such approval by Intralox, LLC.

CAUTION

Intralox, LLC does not warrant that the design and/or operational function of any machine that incorporates and/or intends to incorporate Intralox, LLC products, conform to any local, state and/or federal regulations and standards relating to public safety, worker safety, safety guards, sanitation safety, fire safety, or any other safety regulations. ALL PURCHASERS AND USERS SHOULD CONSULT THEIR APPROPRIATE LOCAL, STATE AND FEDERAL SAFETY REGULATIONS AND STANDARDS.

NOTICE

The information contained in this manual is provided only as an aid and service to our customers. Intralox, LLC does not warrant the accuracy or applicability of such information and, Intralox, LLC is specifically not responsible for property damage and/or personal injury, direct or indirect for damages and/or failures caused by improper machine design, application, installation, operation, abuse and/or misuse of its products whether or not based on information contained herein.

WARNING

Intralox products are made of plastic and can burn. If exposed to an open flame or to temperatures above Intralox specifications, these products may decompose and emit toxic fumes. Do not expose Intralox conveyor belting to extreme temperatures or open flame. Flame retardant belt products are available in some series. Contact Intralox Customer Service for more information.

MAINTENANCE

Prior to installing, cleaning, lubricating, or performing maintenance on any conveyor belt, sprocket or system, consult the federal, state, and local regulations in your area regarding the control of hazardous/stored energy (lockout/tagout).

Intralox, L.L.C. manufactures products under one or more of the following U.S. patents: 5,072,640 - 5,074,406 - 5,083,660 - 5,101,966 - 5,156,262 - 5,156,264 - 5,316,522 - 5,361,893 - 5,372,248 - 5,377,819 - 5,507,383 - 5,544,740 - 5,597,063 - 5,598,916 - 5,850,902 - 5,904,241 - 6,119,848 - 6,138,819 - 6,148,990 - 6,209,714 - 6,209,716 - 6,334,528 - 6,367,616 - 6,398,015 - 6,401,904 - 6,439,378 - 6,467,610 - 6,474,464 - 6,494,312 - 6,499,587 - 6,554,129 - 6,571,937 - 6,644,466 - 6,681,922 - 6,695,135 - 6,705,460 - 6,749,059 - 6,758,323 - 6,811,021 - 6,837,367 - 6,926,134 - 6,968,941 - 6,997,306 - 7,055,678 - 7,070,043 - 7,111,725 - 7,147,099 - 7,191,894 - 7,210,573 - 7,216,759 - 7,228,954 - 7,237,670 - 7,249,669 - 7,249,671 - 7,248,653 - 7,311,192 - 7,344,018 - 7,360,641 - 7,393,451 - 7,424,948 - 7,426,992 - 7,461,739 - 7,494,006 - 7,506,750 - 7,506,751 - 7,533,776 - 7,537,104 - 7,537,106 - 7,540,368 - 7,575,113 - 7,588,137 - 7,607,533 - 7,617,923. Other U.S. and foreign patents pending.

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For customer service and application engineering assistance, see Contacts.

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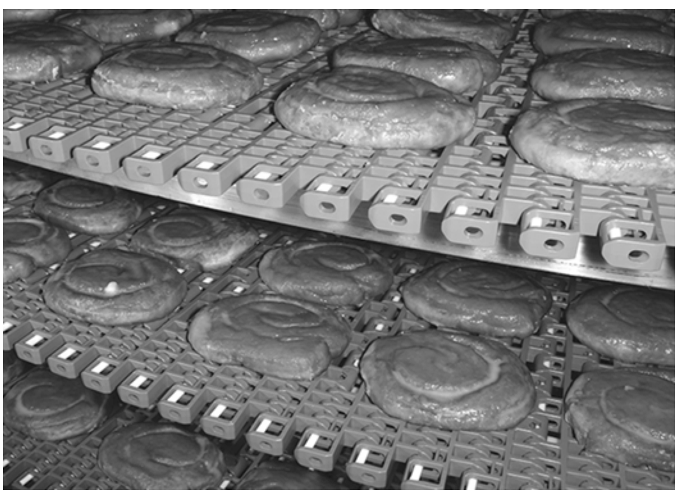
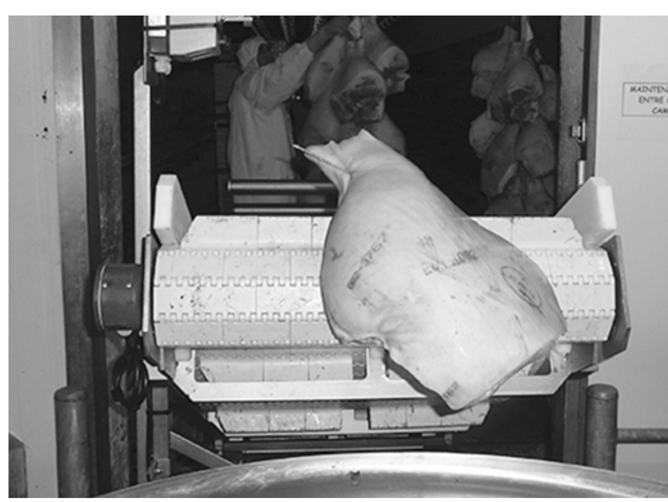
Section 1: Intralox Overview

With more than 40 years' experience, Intralox continues to lead the way in helping customers achieve their goals by offering comprehensive conveyance solutions that create significant economic value. Intralox delivers innovative, premium technology within a direct business model and a global, industry-specific structure. Our industry-specific teams have an in-depth knowledge of customer applications and provide technical support and consulting, and 24/7 customer service. Working with Intralox allows you to experience our uncompromising commitment to providing solutions and solving problems for our customers.

We pushed past the boundaries of traditional conveying systems with the revolutionary invention of modular plastic belting, and continue to move beyond industry standards with new products, equipment, solutions, and services. Intralox's commitment to innovation has led to over 800 patents currently in force around the world. If our customers have a need, we invent smart solutions to solve them.





Belt Construction

All Intralox belts are constructed with injection molded plastic modules. These modules are assembled into interlocked units and joined by plastic hinge rods.

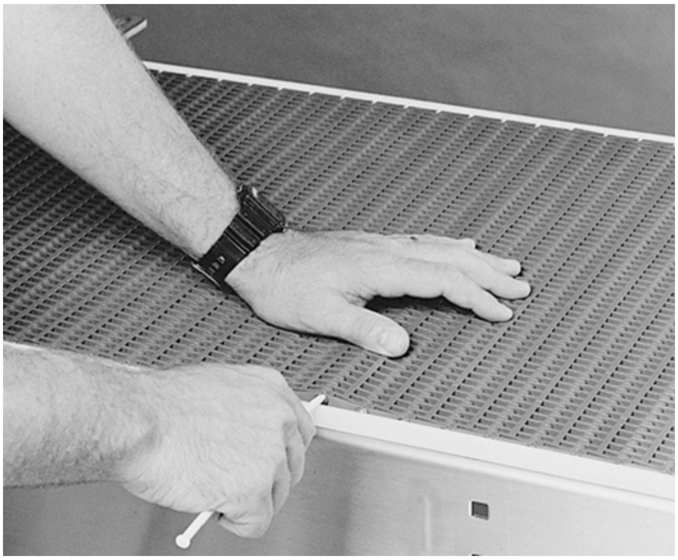


Figure 1: Plastic modules joined by hinge rods

Except for narrow belts (one full module wide, or a partial module), all belts are built with the joints between modules staggered between the joints of adjacent rows. This bricklayed structure interlocks the modules, giving the belt inherent lateral strength. The hinge rods do not hold the belt together from side to side, but act only as pivot members in shear. The belt that results from this construction process is intrinsically strong, both laterally due to the bricklaying, and longitudinally due to the rods being placed in multiple shear.

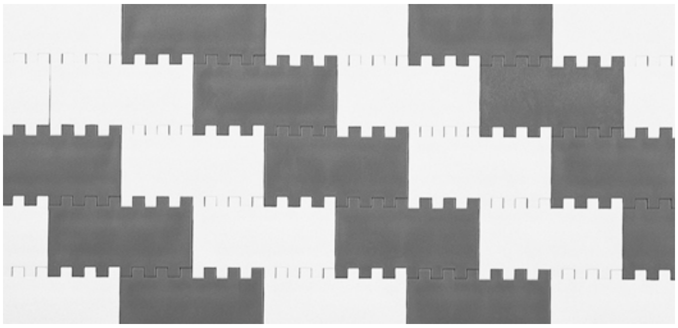


Figure 2: Bricklayed structure

Because of modular construction, Intralox belts can be made in almost any width, from three links wide.

Each belt style incorporates several distinguishing features. Surface, pitch, and drive features are described in detail in *Belt Selection Process*. Hinge and edge features are:

- Open hinges—the hinge rods are visible from either the top or bottom surface (or both) of the belt to aid in belt inspection.
- Closed hinges—the hinge rods are completely enclosed to protect them from abrasives or contaminants.
- Flush edges—flush edges ride snugly beside the conveyor frame rails without gaps or exposed rod heads. They reduce the possibility of product, or belt, snagging on the frame.

Drive Method

Intralox belts are positively driven by plastic or metal sprockets, not friction rollers. The sprockets, another part of the Intralox system, have square bores and are driven by matching square shafts.

Note: Sprockets are available with round bores for special applications.

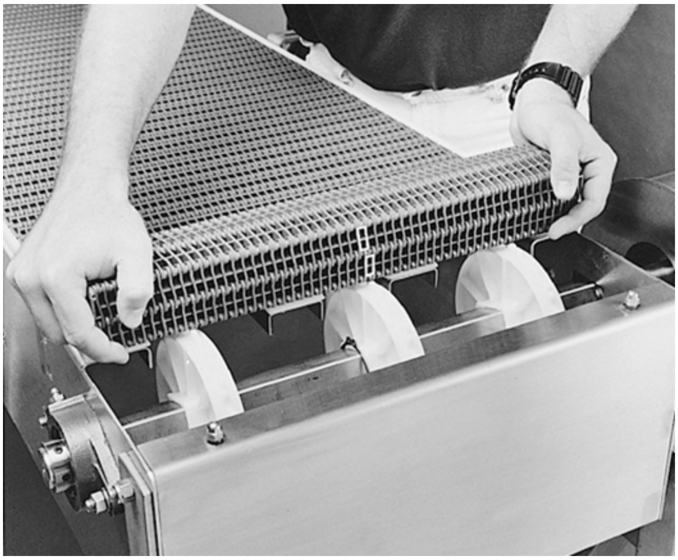


Figure 3: Intralox belts are driven by sprockets

Not only do square shafts transmit torque (rotational force) without the need for troublesome keys and keyways, they accommodate the lateral expansion differences of the plastic belt material and the metal shafts. Only one sprocket per shaft is retained. The others are allowed to float, moving along the shaft as the belt expands or contracts. Thus, the sprockets are always transmitting torque. Of all belt drive systems tested, the square shaft with square bore sprockets has proven to be the most effective, economical, reliable, trouble-free, and simple.

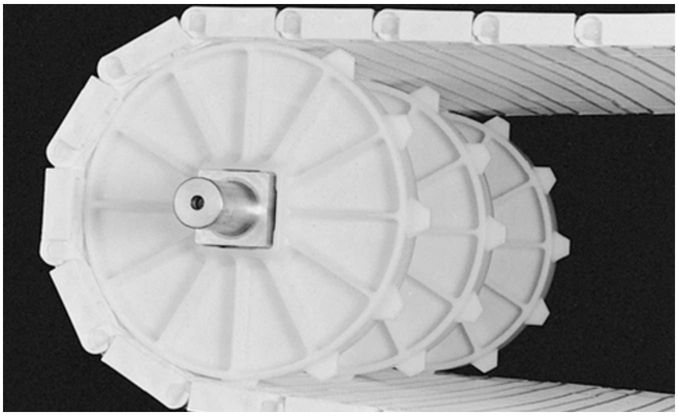


Figure 4: Square-bore sprockets on square shaft

Design Requirements

Intralox conveyor belts are available in various styles, materials, and colors, with many accessory options. To make the appropriate selections when designing for a particular application, reliable information about operating and environmental conditions is critical. Factors to evaluate include:

- The type of belt system: straight running, radius, or spiral
- The overall dimensions of the installed belt: length between driving and idling shafts, width, elevation changes
- The speed of belt travel
- The characteristics of the product to be conveyed:
  1. Density
  2. Unit size and shape
  3. Hardness, toughness, brittleness, rigidity
  4. Texture (smooth, rough, granular, lumpy, spongy, etc.)
  5. Corrosiveness
  6. Moisture content
  7. Temperature
  8. Frictional nature
- Any process change in the product during conveyance:
  1. Heating
  2. Cooling
  3. Washing, rinsing, draining
  4. Drying
- The sanitary and cleanliness requirements and conditions:
  1. USDA-FSIS approval
  2. Harsh temperatures or chemicals
  3. Continuous on-line cleaning
- The planned methods of product loading and removal: smooth or impact transfers
- The characteristics of the operating environment:
  1. Temperature
  2. Moisture, humidity
  3. Chemical nature (acid, base, etc.)
  4. Abrasive materials (sand, grit, etc.)
  5. Hazardous materials (dusts, vapors, etc.)
- The type of drive system:
  1. Motors
  2. Chains

For more detailed information, see *Design Guidelines*.

SECTION 1

Belt Selection Process

Step 1: Choose the Right Type of Belt System

Choose a straight-running, radius, or spiral belt system.

Step 2: Choose the Right Material for Your Application

Intralox belts and accessories are available in standard and special application materials. For complete descriptions of the standard and special application belt materials see, *Standard Belt Materials* and *Special Application Belt Materials*.

Contact Intralox Customer Service for more information. Current telephone numbers are listed on the back cover.

For specific recommendations on chemical properties, see *Chemical Resistance Guide*.

Step 3: Select the Best Belt Surface, Pitch, and Drive Method

Next in the process of choosing the belt for your application is to determine the belt surface or style best suited for the product or material being conveyed.

Note: Unless otherwise noted, all belts have fully flush edges.
The pitch of the belt is the next differentiating feature. Smaller pitch reduces chordal action (over similar size sprockets) and the space required for product transfer. Intralox belts are available in the following belt pitches:

0.315 in (8.0 mm)	1.50 in (38.1 mm)
0.50 in (12.7 mm)	2.00 in (50.8 mm)
0.60 in (15.2 mm)	2.07 in (52.6 mm)
1.00 in (25.4 mm)	2.50 in (63.5 mm)
1.07 in (27.2 mm)	3.00 in (76.2 mm)
1.44 in (36.6 mm)	

Also consider the drive method. Where back tension is an important consideration, drive method plays a significant role. Intralox uses two drive methods: hinge-driven and center-driven.

Step 4: Select a Belt of Sufficient Strength for Your Application

After choosing the material and surface style to meet your needs, next determine if the selected belt is strong enough to meet your application requirements.

Analysis for Straight Running Belts

After making a tentative series and style selection, see *Belt Selection Instructions* for instructions to determine the belt pull and adjusted belt pull for comparison with the allowable strength for that belt. To make the necessary calculations for belt pull, gather the following information:

1. The product weight applied to the belt, in pounds per square foot (or kilograms per square meter),
2. The length of the proposed conveyor, in feet (or meters),
3. Any elevation changes in the conveyor, in feet (or meters),
4. The desired operating speed, in feet per minute (or meters per minute),
5. The percentage of belt area with accumulated product,
6. The maximum belt operating temperature, in degrees Fahrenheit or Celsius,
7. The type of material upon which the belt will run in the conveyor frame. For example: stainless or carbon steel, UHMW-PE, HDPE, nylon, etc.,
8. The service duty, i.e., frequent startups under heavy load, an elevating or "pushing conveyor", etc.

Analysis for Radius and Spiral Belts

These belts require a more complex analysis. The following additional information is required:

1. The length of each straight run,
2. The turning angle and direction of each turn, and
3. The inside turn radius, measured from the inside edge of the belt.

Step 5: Other Important Considerations

Consider the following factors before proceeding any further with belt selection.

Rod Material

Each belt style and material is presented with a standard rod material; however, other rod materials are available and can be evaluated based on your application. Contact Customer Service for more information.

Belt Speed

The belt speed affects the wear and life expectancy in these ways:

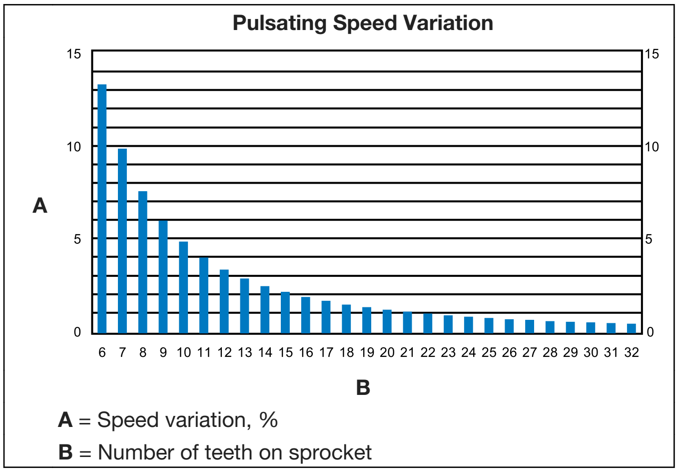
1. Hinge and sprocket wear: The frequency of module rotation about the hinge rods (as the belt engages and disengages the sprockets) is directly proportional to speed. The rotary motion can cause wear to both rods and modules. This wear rate, however, is inversely proportional to the belt's length, i.e., a shorter conveyor can wear faster than a longer one if both are running at the same speed. It follows that sprocket/tooth wear is directly proportional to speed. Sprockets with more teeth cause less module/hinge rotation, and so less wear than sprockets with fewer teeth.
2. Belt surface wear: As belts slide over carryways, returnways, shoes, and other fixed members, some wear is to be expected. The most destructive conditions are high speed, heavy loads, abrasive materials, and dry or non lubricated operation.
3. Dynamic effects of high-speed operation: Two effects of high-speed conditions are belt *whipping* or oscillating in unsupported sections, and *load surges* as heavy, stationary products are suddenly accelerated to belt speed. Where possible, avoid both of these conditions.

Abrasive Conditions and Friction Effects

In order to extend belt life, abrasives in a conveying application must be identified, the best combination of materials chosen, and protective features included. Abrasives will wear away any material, but the correct material choice can significantly increase belt life. In highly abrasive applications, the hinge rods and sprockets are usually the first elements to be affected. Hinge rod wear typically results in excessive belt-pitch elongation. This can prevent proper tooth engagement, increasing the wear on sprocket teeth. Intralox offers stainless steel split sprockets and abrasion resistant rods that work to increase belt life.

Chordal Action and Sprocket Selection

As the modules of belts engage their driving sprockets, a pulsation in the belt's linear velocity occurs. This is due to chordal action, which is the rise and fall of a module as it rotates around a shaft's centerline. It is characteristic of all sprocket-driven belts and chains. The variation in speed is inversely proportional to the number of teeth on the sprocket. For example, a belt driven by a six tooth sprocket has a pulsating speed variation of 13.4%, while a belt driven by a 19 tooth sprocket has a variation of only 1.36%. In those applications, where product tipping is a concern, or where smooth, even speed is critical, it is recommended that sprockets with the maximum number of teeth available be selected.



Shafts

Intralox, LLC USA can supply square shafts, machined to your specification, in standard sizes of 5/8 in, 1 in, 1.5 in, 2.5 in, 3.5 in, 40 mm and 60 mm. Available materials are carbon steel (C-1018) (not available in 40 mm and 60 mm) and stainless steel (303, 304 and 316). Contact Intralox Customer Service for more information.

Intralox, LLC Europe offers square shafts in standard sizes of 25 mm, 40 mm, 60 mm, 65 mm, and 90 mm. Available materials are carbon steel (KG-37) and stainless steel (304).

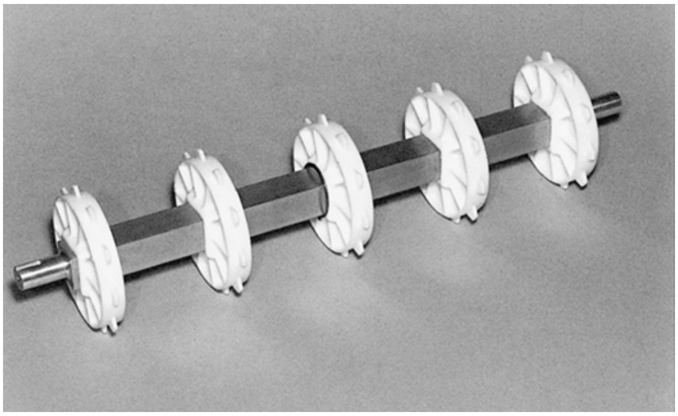


Figure 5: Square shaft

Square shafts need turning of bearing journals only. No keyways for sprockets are required. Only one sprocket per shaft must be retained to prevent lateral belt movement and to provide positive tracking. Sprocket retention is usually accomplished by placing retainer rings on opposite sides of the center sprocket. Standard rings rest in grooves cut into the four corners of the shaft. These grooves introduce stress concentration zones on the shaft. Under high load conditions, the grooves can lead to a premature fatigue failure of the shaft. Self-set retainer rings and small bore round retainer rings are available which do not require grooves.

Shaft Strength

The two primary concerns regarding the strength of the conveyor drive shafts are 1) the ability to pull the belt without excessive shaft deflection, and 2) the strength to transmit the torque for driving the belt. In the first case, the shaft acts as a beam, supported by bearings and stressed by the belt's tension through the sprockets. In the second case, the shaft is being rotated by the drive motor. Resistance from the belt's tension introduces torsional (twisting) stresses. These two types of stresses, maximum deflection and maximum allowable torque, are analyzed separately. Simple formulas are provided for selecting appropriate shafts.

Maximum deflection is governed by adequate belt and sprocket tooth engagement. If the shaft deflects more than 0.10 in (2.5 mm) the sprockets may not engage properly, resulting in "jumping". On bi-directional conveyors with center-drive, the limit is increased to 0.22 in (5.6 mm) because the return side tension is greater and the tooth loading is more uniformly distributed.

Wearstrips

Wearstrips are added to a conveyor frame to increase the useful life of the conveyor frame and belt, and to reduce the sliding friction forces. Proper choice of wearstrip design and material, yielding the best coefficient of friction, reduces belt and frame wear, and power requirements.

Any clean liquid, such as oil or water, will act as a coolant and as a separation film between the belt and the carryway, usually reducing the coefficient of friction. Abrasives such as salt, broken glass, soil and vegetable fibers will embed in softer materials and wear on harder materials. In such applications harder wearstrips will prolong belt life.

Static Electricity

Plastic belting may produce a static discharge or spark when used in a dry environment. If static electricity is a potential problem in your application, electrical grounding is recommended. Lubricating or adding moisture to the conveyor running surfaces is also recommended. Electrically Conductive Acetal is available in some belt styles. Contact the Intralox Sales Engineering Department for additional recommendations.

Intralox Services

Engineering Assistance and Design Review To obtain engineering assistance, or to request a design review, contact the Intralox Technical Support Group.[1]

Engineering Analysis Computer Programs Intralox offers web-based engineering programs that help determine belt pull, sprocket requirements, motor and drive information, and more. Contact Intralox Customer Service to find out how to access these programs.[1]

CAD Drawing Files Auto CAD.DXF templates for all series are available. The templates have belt and molded sprocket details that can be used in CAD conveyor designs. Contact Intralox Customer Service for more information.[1]

Product Literature Intralox offers additional technical and application-specific literature on most of the products listed in this manual. Contact Intralox Customer Service for more information.[1]

World Wide Web For information on Intralox products, our company, or to get access to our engineering programs, or this Engineering Manual, visit the Intralox web site at *www.intralox.com*.

[1] See the back cover for international contact information.

Section 2: Product Line

Standard Belt Materials

Acetal

This material is a thermoplastic that is considerably stronger than polypropylene and polyethylene. Acetal has a good balance of mechanical and thermal properties.

- Good fatigue endurance and resilience.
- Low coefficient of friction, making it a good choice for container handling and transport.
- Temperature range is -50°F (-46°C) to 200°F (93°C).
- Specific gravity is 1.40
- Relatively impact, cut, and scratch resistant.
- Anti Static acetal (AS acetal) is available for applications where a slow static build-up has to be dissipated. With AS acetal, dissipation is slow and improves in a humid environment. AS acetal is available in Series 400 Non Skid.

Polyethylene (PE)

A lightweight thermoplastic, PE provides superior flexibility and high impact strength.

- Buoyant in water, with a specific gravity of 0.95.
- Excellent product release characteristics.
- Exhibits excellent performance at much lower temperatures.
- Temperature range is -100°F (-73°C) to 150°F (66°C). Check belt specifications for exact figures.
- Resistant to many acids, bases, and hydrocarbons.
- Black polyethylene is recommended for low temperature applications exposed to direct sunlight.

Polypropylene (PP)

A standard material for use in general applications and where chemical resistance is required.

- Good balance between moderate strength and lightweight.
- Buoyant in water, with a specific gravity of 0.90.
- Temperature range is 34°F (1°C) to 220°F (104°C).
- A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high-impact conditions below 45°F (7°C).
- Good chemical resistance to many acids, bases, salts, and alcohols.
- Black polypropylene is recommended for applications exposed to direct sunlight.

Special Application Belt Materials

Abrasion Resistant (AR) Nylon

This material is available only for Series 1700.

- For abrasive (wet and dry), heavy-duty applications.
- Available in black and white, which are both FDA-approved.
- Temperature range is -50°F to 240°F (-46°C to 116°C).
- 0.5% expansion in belt width at 100% relative humidity.
- Specific gravity is 1.06
- Heat stabilized for superior outdoor wear.
- Uses the same temperature factor table as regular nylon.

CRFR

An engineered material optimized for food processing, where a high degree of chemical resistance is required. One application in particular is continuous-use antimicrobial dip tanks that use peracetic acid (PAA) or similar chemicals.

- Exceptional resistance to strong acids.
- Highly resistant to other sanitation chemicals, salts, alcohols, and oxidants.
- Resistant to ozone, radiation, and UV light.
- Tough and durable, even after continuous chemical exposure.
- Extremely hydrophobic compared to other plastics or metals.
- Temperature range is 0°F (-18°C) to 150°F (66°C)
- The specific gravity is 1.77-1.79.

Detectable Acetal

This material was developed for applications in the food-processing industry where product contamination is a concern. It is detectable by metal or X-ray detectors and used upline from metal or X-ray detectors. It is specially formulated to enhance impact resistance.

- Metal-filled material does not rust or expose hazardous sharp fibers.
- Temperature range is -50°F to 200°F (-46°C to 93°C).
- Material has good impact resistance for temperatures above 34°F (1°C).
- Testing the material on a metal detector in a production environment is the best method for determining detection sensitivity.
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

Detectable MX

This material was developed for applications in the food processing industry where product contamination is a concern. It is designed to be detectable by metal or X-ray detectors and used upline from metal or X-ray detectors.

- Detection package will not rust and contains only food-safe additives.
- Temperature range is -50°F to 200°F (-46°C to 93°C).
- Testing the material on a metal and/or X-ray detector in a production environment is the best method for determining detection sensitivity.
- Contact Intralox Customer Service for series and accessory availability.

Detectable Nylon

This material was developed for applications in food-processing industries where product contamination is a concern. It is detectable by metal detectors and X-ray machines, and should be used upstream from these machines.

- Available for Series 1700 belts.
- For abrasive (wet and dry), heavy-duty applications.
- Temperature range is -50°F (-46°C) to 180°F (82°C).
- 0.5% expansion in belt width at 100% relative humidity.
- Specific gravity: 1.06.
- Uses the same temperature factor table as regular nylon.
- Metal-filled material does not rust or expose hazardous sharp fibers.
- The thermal expansion coefficient is 0.00072 in/ft/°F (0.11 mm/m/°C)
- Testing the material on a metal detector in a production environment is the best method for determining detection sensitivity.

Detectable Polypropylene A22

This material was developed for applications in the food-processing industry, where product contamination is a concern. Detectable polypropylene A22 is detectable by metal detectors or X-ray machines and used upline from metal or X-ray detectors. It is specially formulated to enhance impact resistance.

- Temperature range is 0°F (-18°C) to 150°F (66°C)
- Metal-filled material does not rust or expose hazardous additives.
- Specific gravity is 1.13.
- Material has good impact resistance for temperatures above 34°F (1°C)
- Testing the material on a metal detector in a production environment is the best method for determining detection sensitivity.
- The thermal expansion coefficient is 0.0011 in/ft/°F (0.17 mm/m/°C)
- Available in select styles across a wide range of belt series. Contact Intralox Customer Service for more information.

Easy Release PLUS

This material resists rubber sticking and maintains dimensional stability in the presence of oils and high temperatures. Easy Release PLUS is appropriate for tire industry applications.

- Temperature range is 34°F (1°C) to 220°F (104°C).
- The thermal expansion coefficient is 0.0004 in/ft/°F (0.06 mm/m/°C)
- Easy Release PLUS is available in Series 1400 Flat Top.

Easy Release Traceable Polypropylene

This material was developed to resist rubber sticking and offer metal detectability for tire applications where stickiness and product contamination can be problematic.

- Temperature range is 34°F (1°C) to 220°F (104°C).
- Easy Release Traceable Polypropylene is available in Series 1400 Flat Top.

Electrically Conductive (EC) Acetal

This material can be used to help dissipate static charges that can build up, especially when moving cans or other conductive objects. A metal railing or carryway can be used to ground the belt, dissipating any charge built up in the product. EC acetal is usually spliced into normal belt sections. For example, three rows of EC acetal for every 2 ft (0.61 m) of belt for Series 100 and Series 900, or five rows for every 2 ft (0.61 m) of belt for Series 1100), though entire belts can be made from EC acetal.

- The same chemical resistance and friction factors as regular acetal.
- EC acetal has a surface resistivity of 1000 Ohms according to IEC 60093.
- The specific gravity is 1.40.
- EC acetal is only available in Series 100 Flush Grid, Series 400 Flush Grid and Flat Top, Series 900 Flush Grid, Flat Top and Raised Rib, Series 1100 Flush Grid, and Series 1400 Flat Top belt styles.

Enduralox Polypropylene

A specially formulated material designed to maximize the life of Intralox belts in a pasteurizer environment. Enduralox™ polypropylene protects the molecular structure of polypropylene from environmental factors such as temperature cycling, bromine, and chlorine.

- Same physical properties as standard polypropylene.

Flame Retardant Thermoplastic Polyester (FR-TPES)

This material is V-0 rated (UL94 @ 1/32 in), and does not sustain a flame. Though the material does not actively burn, it does blacken and melt in the presence of flame. FR-TPES is stronger than polypropylene, but not as strong as acetal.

- V-0 rated (UL94 @ 1/32 in).
- FR-TPES temperature range is 40°F (4°C) to 150°F (66°C).
- FR-TPES has a specific gravity of 1.45.
- FR-TPES is available in Series 1100 Flush Grid, Series 900 Flush Grid, Series 900 Flush Grid ONEPIECE Live Transfer and Series 900 Perforated Flat Top.

Heat Resistant (HR) Nylon

This material is available for dry, elevated-temperature applications. It complies with FDA regulations for use in food processing and packaging applications.

- UL94 flammability rating of V-2.
- Upper, continuous temperature limit of 240°F (116°C). For intermittent exposure, HR nylon has a rating limit of 270°F (132°C).
- The specific gravity is 1.13.
- This material absorbs water in wet environments, causing belts to expand. Belts also expand due to the temperature change. The thermal expansion coefficient is 0.00054 in/ft/°F (0.081 mm/m/°C).

Hi-Impact

This material is available only for S800 Tough Flat Top. It was developed for applications in the food-processing industry, where extreme impacts are a concern.

- Temperature range is 0°F (-18°C) to 120°F (49°C).
- Specific gravity of 1.18
- The thermal expansion coefficient is 0.001 in/ft/°F (0.156 mm/m/°C)
- Greater impact resistance than acetal and polypropylene

High Heat Resistant (HHR) Nylon

HHR nylon is appropriate for dry, elevated-temperature applications. This material complies with FDA regulations for use in food processing and packaging applications and is USDA-FSIS accepted (meat and poultry).

- UL94 flammability rating of V-2.
- Upper, continuous temperature limit of 310°F (154°C). For intermittent exposure, HHR nylon is rated at 360°F (182°C).
- The specific gravity is 1.13.
- This material absorbs water in wet environments, causing belts to expand. Belts also expand due to the temperature change. The thermal expansion coefficient is 0.00054 in/ft/°F (0.081 mm/m/°C).

Nylon

This material is appropriate for applications that require good dry abrasion and chemical resistance. The two limitations to nylon are that it absorbs water and is more susceptible than acetal to cuts and gouges. Because of material expansion caused by water absorption, nylon is not recommended for very wet applications. For example, at 100% relative humidity, the expansion is close to 3% (at equilibrium), making a 24 in (610 mm) wide belt expand to 24.75 in (629 mm).

- Abrasion resistant in dry applications.
- Good chemical resistance and low temperature performance.
- Stronger than polypropylene.
- Temperature range is -50°F (-46°C) to 180°F (82°C).
- Good fatigue resistance.
- Specific gravity of 1.13.

Polypropylene Composite

A standard material for use in applications where both high strength and chemical resistance are required.

- Excellent strength and stiffness.
- Specific gravity of 1.12.
- Good chemical resistance to acids, bases, salts, and alcohol.
- Temperature range is -20°F (-29°C) to 220°F (104°C).
- An EC (Electrically Conductive) PP Composite can be used to help dissipate built-up static charges. The EC PP Composite is available in Series 1200 Non Skid.
- The thermal expansion coefficient is 0.0004 in/ft/°F (0.06 mm/m/°C).

PK

- Chemically resistant
- Impact resistant
- Tough
- Abrasion resistant
- Temperature range: -40°F to 200°F (-40°C to 93°C)
- Thermal expansion coefficient: 0.00073 in/ft/°F (0.11 mm/m/°C)
- Specific gravity: 1.24
- For specific chemical resistance applications, contact Intralox Customer Service or Product Stewardship for a list of chemicals

PVDF

A specialty material with excellent chemical resistance to a wide variety of acids and bases.

- Excellent resistance to acids, bases, salts, and alcohol.
- Specific gravity of 1.78.
- Temperature range is -34°F (1°C) to 200°F (93°C).
- PVDF is available in Series 9000 Flush Grid.
- V-0 rated (UL94 @ 1/32 in)
- Stronger than polypropylene.
- The thermal expansion coefficient is 0.00087 in/ft/°F (0.13 mm/m/°C).

Self Extinguishing Low Moisture (SELM)

This material is a polymer engineered for use in Spiral belts. Self-extinguishing characteristics are important to customers who want to reduce the risk of fires in their plants. Low moisture-absorption characteristics are particularly important to customers who want a material that performs in humid conditions and applications that require cleaning.

- Continuous temperature range is -50°F (-46°C) to 240°F (116°C).
- UL94 V-2 flammability rating
- Specific Gravity is 1.06
- Uses the same temperature factor table as regular nylon.

UVFR

This material does not sustain a flame.

- Excellent resistance to ultraviolet radiation.
- Specific gravity of 1.78
- Temperature range is -34°F (1°C) to 200°F (93°C).
- UVFR is available in Series 1100 Flush Grid and Series 900 Perforated Flat Top.
- V-O rated (UL94 @ 0.03125 in)
- The thermal expansion coefficient is 0.00087 in/ft/°F (0.13 mm/m/°C).

UV Resistant

UV resistant acetal and black polypropylene are available for applications that require UV protection.

- UV resistant acetal temperature range is -50°F (-46°C) to 200°F (93°C).
- UV resistant polypropylene temperature range is 34°F (1°C) to 220°F (104°C).

X-Ray Detectable Acetal

This material is specifically designed for detection by X-ray machines. Developed for applications in the food-processing industry where product contamination is a concern.

- To be used upline from an X-ray detector.
- Temperature range is -50°F to 200°F (-46°C to 93°C).
- Stronger than polypropylene and polyethylene, with a good balance of mechanical, thermal, and chemical properties.
- Has the same chemical resistance as regular acetal.
- The thermal expansion coefficient is 0.0007 in/ft/°F (0.10 mm/m/°C).
- Testing the material with an X-ray detector in a production environment is the best method for determining detection sensitivity.
- Available in Series 800 SeamFree Open Hinge Flat Top and Series 1500 Flush Grid.
- Contact Intralox Customer Service for conveyor design recommendations when using X-ray detectable material.

Belt Material Properties

Specific Gravity

This value is the ratio of the material density to the density of water at normal pressures and temperatures. A specific gravity greater than 1.0 means the material is heavier than water. A specific gravity less than 1.0 means the material is buoyant in water.

Material	Specific Gravity
Polypropylene	0.90
Polypropylene composite	1.12
Polyethylene	0.95
Acetal	1.40
EC acetal	1.40
FR-TPES	1.45
Nylon	1.13
HR & HHR nylon	1.13

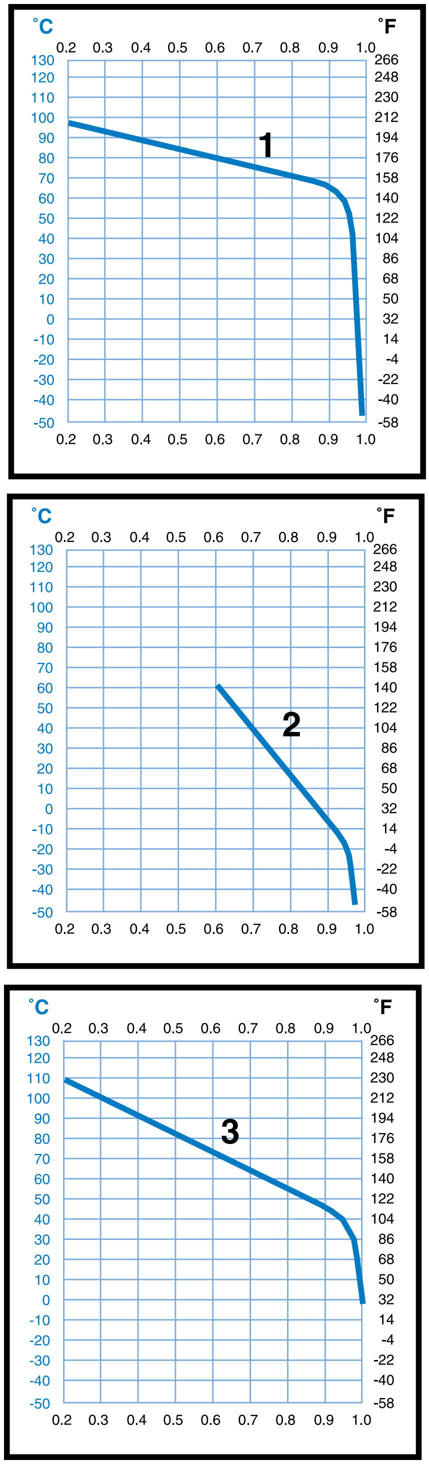
Friction Factors

Friction factors determine the amount of drag induced by the belt sliding on the conveyor frame or sliding under the conveyed product. Lower friction factors lead to lower line pressures, less product marring, and lower belt pull and power requirements. Higher friction is sometimes required for gradual inclines or declines, or for higher line pressures needed for feed other equipment. The friction factors generally refer to "clean" systems that have little wear or abrasive material present. For conveyor belt strength analysis, use a higher friction factor than normal if any abrasive material, such as flour, sand, cardboard dust, glass, or similar are present.[1] Very abrasive conditions can require friction factors that are two to three times higher than recommended for clean conditions.

Temperature

Temperature affects the physical properties of thermoplastic materials. Generally, as the operating temperature increases, belts weaken in strength, but become tougher and more impact-resistant. In colder applications, belts become stiffer and sometimes become brittle. The temperature factor (T) curve shows the effect of temperature on belt strength. This graph can be used to manually calculate the conveyor belt analysis. The *Intralox Engineering Program* calculates the temperature factor automatically, based on the operating temperature of the application. For a complete listing of temperature factors, see *Table 7*.

Standard Material Temperature Factors (T)



1 Acetal and EC acetal
2 Polyethylene
3 Polypropylene

[1] Use either the Intralox Engineering Program, or the manual calculations provided in *Belt Selection Instructions* to perform a conveyor belt strength analysis.

Friction Factors

Friction Factors[1]		Friction Between Wearstrip and Belt Wearstrip Material				Friction Between Product & Belt Product Material (used in product accumulation)[2]				
Belt Material		**UHMW Wet (Dry)**	**HDPE Wet (Dry)**	**Nylatron Wet (Dry)**	**Steel (CS & SS) Wet (Dry)**	**Glass Wet (Dry)**	**Steel Wet (Dry)**	**Plastic Wet (Dry)**	**Cardboard Wet (Dry)**	**Aluminum Wet (Dry)**
Polypropylene (S)		0.11 (0.13)	0.09 (0.11)	0.24 (0.25)	0.26 (0.26)	0.18 (0.19)	0.26 (0.32)	0.11 (0.17)	— (0.21)	0.40 (0.40)
Polypropylene (A)		NR	NR	0.29 (0.30)	0.31 (0.31)	0.18 (0.19)	0.26 (0.32)	0.11 (0.17)	— (0.21)	0.40 (0.40)
PP composite (S)		0.30 (0.35)	—	—	0.31 (0.37)	0.24 (0.23)	0.36 (0.32)	0.17 (0.21)	—	0.55 (0.45)
Polyethylene[3](S)		0.24 (0.32)	NR	0.14 (0.13)	0.14 (0.15)	0.08 (0.09)	0.10 (0.13)	0.08 (0.08)	— (0.15)	0.20 (0.24)
Detectable PP		0.24 (0.27)	NR	0.28 (0.29)	0.26 (0.30)	0.18 (0.20)	0.26 (0.30)	0.26 (0.29)	— (0.37)	0.40 (0.40)
Detectable nylon max. temp	(S)	— (0.19)	— (0.11)	— (0.24)	— (0.31)	—	—	—	— (0.22)	— (0.31)
	(A)	— (0.32)	— (0.22)	— (0.36)	— (0.30)	—	—	—	— (0.22)	— (0.31)
Acetal (S)		0.10 (0.10)	0.09 (0.08)	0.13 (0.15)	0.18 (0.19)	0.13 (0.14)	0.13 (0.13)	0.13 (0.16)	— (0.18)	0.33 (0.27)
HSEC acetal (S)		0.10 (0.10)	0.09 (0.08)	0.13 (0.15)	0.18 (0.19)	0.13 (0.14)	0.19 (0.20)	0.13 (0.16)	— (0.18)	0.33 (0.27)
FR TPES (S)		— (0.13)	—	—	—	—	— (0.18)	—	—	— (0.30)
HR nylon 72°F (22°C)	(S)	— (0.18)	— (0.13)	— (0.17)	— (0.27)	— (0.16)	— (0.27)	— (0.16)	— (0.19)	— (0.28)
	(A)	— (0.30)	— (0.25)	— (0.26)	— (0.26)	— (0.16)	— (0.27)	— (0.16)	— (0.19)	— (0.28)
HR nylon max. temp.	(S)	NR	NR	— (0.18)	— (0.27)	— (0.19)	— (0.27)	— (0.47)	— (0.23)	— (0.25)
	(A)	NR	NR	— (0.32)	— (0.39)	— (0.19)	— (0.27)	— (0.47)	— (0.23)	— (0.25)
AR nylon max. temp	(S)	— (0.19)	— (0.11)	— (0.24)	— (0.31)	—	—	—	— (0.22)	— (0.31)
	(A)	— (0.32)	— (0.22)	— (0.36)	— (0.30)	—	—	—	— (0.22)	— (0.31)
UV Resistant PP		0.11 (0.13)	0.09 (0.11)	0.24 (0.25)	0.26 (0.26)	0.18 (0.19)	0.26 (0.32)	0.11 (0.17)	— (0.21)	0.40 (0.40)
PVDF		-	-	-	0.20 (0.20)	-	0.20 (0.20)	-	-	0.15 (0.15)
Hi-Impact		0.23 (0.21)	-	-	0.31 (0.33)	-	— (0.64)	-	-	-
Easy Release PLUS	(S)	0.11 (0.13)	0.09 (0.11)	0.24 (0.25)	0.26 (0.26)	—	—	—	—	—
SELM	(S)	— (0.19)	— (0.11)	— (0.24)	— (0.31)	—	—	—	— (0.22)	— (0.31)
	(A)	— (0.32)	— (0.22)	— (0.36)	— (0.30)	—	—	—	— (0.22)	— (0.31)
(S) = smooth, clean conditions. (A) = abrasive, dirty conditions. NR = not recommended.										

[1] Friction factor values are highly dependent on environmental conditions. The low value of the friction factor range is an experimentally derived friction factor for new belts on new wearstrip. Only use this value in the cleanest environments, or where water or other lubricating agents are present. Most friction factors must be adjusted based on the environmental conditions surrounding the conveyor.

[2] Friction factors for friction between product and belt only apply for Flat Top, Perforated Flat Top, Mesh Top, Flush Grid and Raised Rib belts.

[3] Polyethylene is not recommended for container handling.

Belt Material Compliance

FDA Compliant

The material meets the FDA requirements described in the applicable Code of Federal Regulations, Chapter 21, Part 177 as noted. The material is chemically acceptable to the USDA for repeat use applications in slaughtering, processing, transporting, and storage areas in direct contact with meat or poultry products.

EU Compliant

The material complies with the framework regulation 1935/2004/EC. The monomers and additives used to make the plastic are listed in the Union List. When tested to the criteria described in EU Regulation 10/2011, the finished article did not exceed the overall migration limit (OML) and any applicable specific migration limits (SML).

3A Dairy Tested

This test is based on materials, not product design. In accelerated use testing, the materials show that when they are cleaned and sanitized they maintain essential functional properties and surface finish.

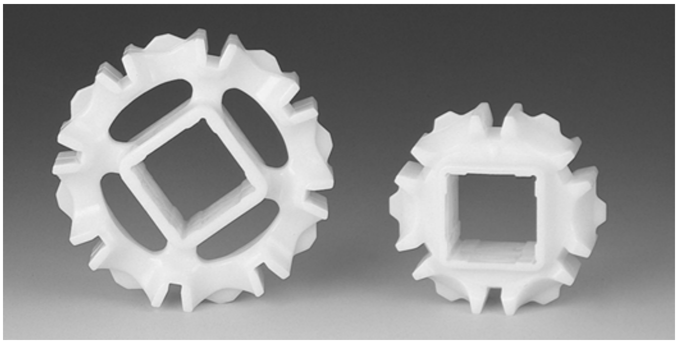
Belt Material Compliance[1]			
Material Name	**FDA Compliant**	**EU Compliant**	**3-A Dairy Tested**
Acetal	FCN 1573	1935/2004/EC Regulation 10/2011	20-27
AR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
CRFR	21 CFR 177.2510	1935/2004/EC Regulation 10/2011	Not tested
Detectable acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	20-25
Detectable nylon	21 CFR 177.1500	Not compliant due to sizing agent	Not tested
Detectable polypropylene A22	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-27
Enduralox polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
HR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	20-27 (white)
HHR nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Hi-Impact	21 CFR 177.2600	1935/2004/EC Regulation 10/2011	Not tested
Hi-Temp	21 CFR 177.2415	1935/2004/EC Regulation 10/2011	Not tested
Nylon	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
Polyethylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-23 (blue, natural, red)
Polypropylene	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	20-25 (blue, white, natural)
Polypropylene composite	21 CFR 177.1520	1935/2004/EC Regulation 10/2011	Not tested
PK	FCN 1847	1935/2004/EC Regulation 10/2011	Not tested
SELM	21 CFR 177.1500	1935/2004/EC Regulation 10/2011	Not tested
X-Ray Detectable Acetal	21 CFR 177.2470	1935/2004/EC Regulation 10/2011	Not tested

General Application Sprocket Material

Acetal

These sprockets are used for most general-purpose applications. This material is considerably stronger than polypropylene and polyurethane, and has a good balance of mechanical, thermal, and chemical properties.

- Acetal has good fatigue endurance and resilience.
- Acetal has good non-abrasive wear characteristics.
- The temperature range of acetal is -50°F (-46°C) to 200°F (93°C).
- This material complies with FDA regulations for use in food processing and packaging applications.



[1] Contact Intralox Customer Service to verify compliance for specific belt series, styles, and material color combinations.

Special Application Sprocket Material

Abrasion Resistant Nylon

These sprockets are used in abrasive applications.

- Temperature range is -50 °F (-46 °C) to 240°F (116°C).

Glass Filled Nylon

These sprockets are available for Series 900, Series 1100, Series 1400, Series 2400, Series 4000, and Series 4500. This material is more abrasion resistant than acetal but not as abrasion resistant as stainless steel. Temperature range of glass filled nylon is -51°F (-46°C) to 240°F (116°C). This material is not chemical resistant.

Glass Filled Nylon with Polypropylene Joining Plate

These sprockets are available in Series 900. The glass filled nylon tooth plate is assembled with a Polypropylene joining plate that forms the hub of the sprocket. The temperature range for the two material sprocket is 34 °F (1 °C) to 220 °F (104 °C). A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45 °F (7 °C).

Polyurethane Composite Split

These sprockets are available in Series 400. The polyurethane composite split sprocket consists of one polyurethane composite tooth plate assembled between polypropylene joining plates that form the hub of the sprocket. The temperature range for polyurethane composite is -50°F (-46°C) to 240°F (116°C). This sprocket is recommended for drive shafts only. The sprocket is split into two pieces for easy assembly onto and off the shaft. A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).

Polyethylene

These sprockets are available for the Series 3000 and some Series 2600 sprockets.

Note: Not all sprocket pitch diameters, bore sizes and material combinations are available in all series. Those that are available can either be stocked or made to order. Contact Intralox Customer Service for availability and lead-times (some available combinations can be long lead time items).

Polypropylene

These sprockets are used for applications where chemical resistance can be required.

- Polypropylene (PP) has good chemical resistance to many acids, bases, salts, and alcohols.
- The temperature range of PP is 34°F (1°C) to 220°F (104°C).
- A relatively strong material in normal use, PP exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- This material complies with FDA regulations for use in food processing and packaging applications.
- Contact Intralox Customer Service for PP sprocket availability.

Polypropylene Composite

This is a standard material for use in applications where both high strength and chemical resistance may be required.

- Excellent strength and stiffness.
- Specific gravity of 1.12.
- Good chemical resistance to acids, bases, salts and alcohol.
- Temperature range is -20 °F (-29 °C) to220 °F (104 °C).
- The thermal expansion coefficient is 0.0004 in/ft/ °F (0.06 mm/m/ °C).

Polyurethane

These sprockets are used for applications where abrasive wear is common.

- The temperature range of polyurethane is 0°F (-18°C) to 120°F (49°C). Polyurethane becomes soft and flexible at high temperatures and has good chemical resistance.
- Series 800, 1600, 2200, and 2400 have a lower rating when using polyurethane sprockets. See the individual belt data pages for these ratings.

Polyurethane Composite

These sprockets are standard for Series 1200 and for 31-tooth Series 1400. This material is extremely rigid and can handle a large range of chemicals and temperatures. The temperature range for polyurethane composite is -50°F (-46°C) to 240°F (116°C).

Stainless Steel

These split sprockets are used in applications with abrasive wear, or when shaft removal is not practical. There are two types of stainless steel sprockets. The all-metal abrasion resistant sprockets are available in a many series and pitch diameters. The stainless steel split consists of one to three stainless steel tooth plates assembled between polypropylene joining plates that form the hub of the sprocket.

- The sprocket is split into two pieces for easy assembly on and off a shaft.
- Stainless steel split sprockets have good chemical resistance.
- The temperature range for polypropylene is 34°F (1°C) to 220°F (104°C).
- A relatively strong material in normal use, polypropylene exhibits a somewhat brittle quality at low temperatures. It is not recommended in high impact conditions below 45°F (7°C).
- These materials are FDA-compliant for use in food processing and packaging applications.
- These sprockets are built standard with 304 stainless steel plates and can be specially ordered with 316 stainless steel plates.
- Contact Intralox Customer Service for availability.

Ultra Abrasion Resistant Polyurethane

These sprockets are available for Series 400 and Series 1700.

- For abrasive, heavy-duty applications.
- For non-FDA applications.
- Temperature range -40°F to 160°F (-40°C to 70°C).
- Series 400 has a lower rating when using ultra abrasion resistant polyurethane sprockets.

Sprocket Material Availability

The following table lists the materials available for each Intralox sprocket by Series and pitch diameter. Note: not all sprockets of each pitch diameter are available in all listed materials. A material available for one bore type or bore size is not always available for other bore types and/or bore sizes of the same Series and pitch diameter sprocket. Sprockets can be either stocked or made-to-order, and can have long lead times. Lead times vary by sprocket. Some make-to-order sprockets also have set up charges. Contact Intralox Customer Service for specific lead-times and availability.

		Sprocket Materials[1]										
Pitch Diameter in (mm)	No. Teeth	Acetal	Poly-propylene	Split Metal	AR[2] Metal	AR[2] Nylon	Polyurethane	Glass Filled Nylon	Polyethylene	Polyurethane Composite	Ultra AR[2] Polyurethane	Poly-propylene Composite
S100												
2.0 (51)	6	•	•									
3.5 (89)	11	•	•	•			•					
6.1 (155)	19	•	•	•			•					
S200												
4.0 (102)	6	•	•				•					
6.4 (163)	10	•	•		•		•					
10.1 (257)	16	•	•		•							
S400												
4.0 (102)	6	•	•	•		•	•					
5.2 (132)	8	•	•	•								
5.8 (147)	9			•[3]								
6.4 (163)	10	•	•	•	•	•				•	•	
7.8 (198)	12	•	•	•	•	•				•	•	
8.4 (213)	13			•[3]								
10.1 (257)	16	•	•	•	•	•				•	•	
S550												
2.4 (61)	24	•										
3.2 (81)	32	•										
S800												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•			•					
6.5 (165)	10	•	•	•[4]			•				•	
7.7 (196)	12	•	•	•[4]			•				•	
10.3 (262)	16	•	•	•[4]							•	
S850												
4.0 (102)	6	•	•				•					
5.2 (132)	8	•	•	•[4]			•					
6.5 (165)	10	•	•	•[4]			•					
7.7 (196)	12	•	•	•[4]			•					
10.3 (262)	16	•	•	•[4]								
S888												
6.5 (165)	10	•				•						
7.7 (196)	12	•				•						
S900												
2.1 (53)	6	•	•									
3.1 (79)	9	•	•									

Pitch Diameter in (mm)	No. Teeth	Sprocket Materials[1] Acetal	Poly-propylene	Split Metal	AR[2] Metal	AR[2] Nylon	Polyurethane	Glass Filled Nylon	Polyethylene	Polyurethane Composite	Ultra AR[2] Polyurethane	Poly-propylene Composite
3.5 (89)	10	•	•	•								
4.1 (104)	12	•	•	•	•		•					
5.1 (130)	15			•				•				
5.8 (147)	17	•	•	•	•			•				
6.1 (155)	18	•	•	•	•		•	•				
6.8 (173)	20	•	•	•	•		•	•				
9.8 (249)	28			•								
S1100												
1.6 (41)	8				•							
2.3 (58)	12	•			•							
3.1 (79)	16	•	•									
3.5 (89)	18	•	•	•								
3.8 (97)	20	•	•									
4.6 (117)	24	•	•	•				•				
5.1 (130)	26	•	•	•								
6.1 (155)	32	•	•	•				•				
S1200												
5.6 (142)	12			•								
6.5(165)	14			•						•		
7.4 (188)	16									•		
7.9 (201)	17									•		
10.2 (258)	22			•						•		
S1400												
3.9 (99)	12	•				•						
4.9 (124)	15	•										
5.1 (130)	16					•		•				
5.7 (145)	18	•				•		•				•
6.7 (170)	21							•				•
7.7 (196)	24	•				•						
9.9 (251)	31									•		•
S1500												
1.9 (48)	12	•										
2.3 (58)	14	•										
2.7 (69)	17	•										
3.8 (97)	24	•				•						
5.7 (145)	36	•				•						
S1600												
2.0 (51)	6	•										
3.2 (81)	10	•					•					
3.9 (99)	12	•					•					
6.4 (163)	20	•					•					
S1650												
2.0 (51)	6	•										
3.2 (81)	10	•										
3.9 (99)	12	•										
6.4 (163)	20	•										
S1700												
5.8 (147)	12										•	
6.7 (170)	14										•	
7.7 (196)	16										•	
10.5 (267)	22										•	
S1750												
6.8 (173)	14										•	
7.8 (198)	16										•	
10.6 (269)	22										•	
S1800												
5.0 (127)	6	•										
6.5 (165)	8	•										
8.1 (206)	10	•										
10.5 (267)	13	•										
S1900												
6.7 (170)	10			•								
10.0 (254)	15			•								
10.6 (269)	16			•								
S2100												
2.3-6.9 (58-175)	12					•						
S2200												
3.9 (99)	8	•	•									
5.3 (135)	11	•	•				•					
6.3 (160)	13	•	•									

		Sprocket Materials[1]										
		Acetal	Poly-propylene	Split Metal	AR[2] Metal	AR[2] Nylon	Polyurethane	Glass Filled Nylon	Polyethylene	Polyurethane Composite	Ultra AR[2] Polyurethane	Poly-propylene Composite
Pitch Diameter in (mm)	No. Teeth											
7.7 (196)	16	•	•									
S2300												
3.9 (99)	12					•						
5.1 (130)	16					•						
5.8 (147)	18					•						
6.4 (163)	20					•						
S2400												
2.0 (51)	6	•										
2.9 (74)	9	•										
3.9 (99)	12	•	•				•	•				
5.1 (130)	16	•	•			•	•	•			•	
6.4 (163)	20	•	•					•			•	
S2600												
5.2 (132)	8	•							•			
6.5 (165)	10	•							•			
S2700												
5.2 (132)	8	•										
6.5 (165)	10	•										
S2800												
6.3 (160)	13	•										
S2850												
6.2 (157)	13	•										
S2900												
6.2 (157)	13	•										
S2950												
6.2 (157)	13	•										
S3000												
5.2 (132)	8								•			
6.5 (165)	10								•			
7.7 (196)	12								•			
S4000												
3.9 (99)	12	•										
4.9 (124)	15	•										
5.1 (130)	16							•				
5.7 (145)	18	•						•				
6.7 (170)	21							•				
9.9 (251)	31									•		•
S4400												
4.0 (102)	6					•						
5.3 (135)	8					•						
6.5 (165)	10							•				
7.8 (198)	12							•				
10.3 (262)	16					•		•				
S4500												
6.5 (165)	10							•				•
7.8 (198)	12							•				•
10.3 (262)	16					•		•				•
S9000												
3.3 (84)	10					•						
4.2 (107)	13					•						
6.1 (155)	19					•						
6.5 (165)	20	•		•								•
8.1 (206)	25			•								•
12.9 (328)	40								•			•
S10000												
9.9 (251)	10					•						
11.8 (300)	12					•						
13.7 (348)	14					•						
15.7 (399)	16					•						

0

SECTION 2

[1] All Intralox sprockets can be classified either as stock items or as make-to-order items. Some make-to-order items incur special setup charges. Contact Intralox Customer Service for pricing, lead times, and availability.

[2] Abrasion resistant

[3] For use with Series 400 Flush Grid acetal and EC acetal only.

[4] Available in three-plate, abrasion resistant split design.

Belt Selection Instructions

To determine if a belt is suitable for a particular application, the operating load versus operating strength must be identified. Use the following steps to calculate this comparison:

Step 1: Calculate the Belt Tension Load or Belt Pull (BP) LB/FT (KG/M)

$$BP = [(M + 2W) \times Fw + M_p] \times L + (M \times H)$$

where:

M = Product loading, lb/ft^2 (kg/m^2)

W = Belt weight, lb/ft^2 (kg/m^2) (found on the belt data page)

L = Length of conveyor, ft (m), centerline (℄) to ℄

H = Elevation change of conveyor, ft (m)

F_w = Wearstrip to belt friction coefficient

M_p = **M** × (**F_p** × % belt backed-up), loading due to backed-up product

Obtain F_w and F_p from the belt data table of the belt style you are considering. If products are not backed up on belt, ignore M_p.

Step 2: Adjust the Calculated BP for Specific Service Conditions

Since the belt can experience various conditions, adjust the BP by applying an appropriate Service Factor (SF).

Determine SF:

Service Factor (SF)		
Starts under no load, with load applied gradually		1.0
Frequent starts under load (more than once per hour)	Add 0.2	______
At speeds greater than 100 FPM (feet per minute) (30 meters/min)	Add 0.2	______
Elevating conveyors	Add 0.4	______
Pusher conveyors	Add 0.2	______
	Total	

Note: At speeds greater than 50 FPM (15 m/min) on conveyors that are started with backed-up lines, consider soft-start motors.

Determine the adjusted belt pull (ABP):

$$ABP = BP \times SF$$

Determine the adjusted belt pull (ABP) for bi-directional and pusher conveyors:

$$ABP = BP \times SF \times 2.2$$

where:

ABP = **ADJUSTED BELT PULL**, lb/ft (kg/m) of belt width

Step 3: Calculate Allowable Belt Strength, ABS LB/FT (KG/M) of Belt Width

The allowable belt strength (ABS) may, because of specific operating conditions, be less than the rated belt strength shown on the belt data page. Therefore, the ABS is calculated from:

$$ABS = BS \times T \times S$$

where:

BS = **BELT STRENGTH** from the belt data page.

T = **TEMPERATURE FACTOR** from *Temperature*.

S = **STRENGTH FACTOR** from belt data page. The strength factor is found at the intersection of the speed/length ratio and the appropriate sprocket line. To get the speed/length ratio, divide the belt speed (ft/min) by the shaft centerline distance (ft). The strength factor adjusts the belt rating to account for wear caused by the combination of high speed, short conveyor lengths, and small sprocket sizes.

Step 4: Compare ABP with ABS

If the ABS exceeds ABP, this belt is strong enough for your application. Proceed to the next steps to determine drive shaft sprocket spacing, shaft strength, and horsepower required.

If the ABS is less than ABP and you are able to change some application parameters (for example, product load distribution or belt speed), the recalculated ABP may be acceptable.

Step 5: Determine Maximum Spacing of Drive Shaft Sprockets

Determine the percentage of allowable belt strength utilized (ABSU):

$$ABSU = (ABP \div ABS) \times 100\%$$

Using the ABSU, find the maximum sprocket spacing from the graph on the sprocket data page of the series you are considering. The spacing of sprockets on idler shafts may, under some circumstances, be greater than drive spacing. Do not exceed 6.0 in (152 mm) sprocket spacing on idler shafts for all series (except Series 200, where maximum spacing can never exceed 7.5 in [191 mm]). If the calculated ABSU is above 75%, contact Intralox Customer Service Sales Engineering to run the Intralox Engineering Program and verify your results.

Step 6: Confirm Drive Shaft Strength

Drive shafts must be stiff enough to resist excessive bending or deflecting under the belt pull, and strong enough to transmit the required torque from the driver. To ensure adequate shaft selection, determine both the drive shaft deflection and torque.

Select a shaft size which fits your sprocket of choice from the sprocket data page.

Note: Most sprockets have more than one available bore size. The shaft deflects under the combined loads of the adjusted belt pull and its own weight. The total shaft load (w) is found from:

$$w = (ABP + Q) \times B$$

where:

Q = **SHAFT WEIGHT**, lb/ft (kg/m), from the shaft data table

B = **BELT WIDTH**, ft (m)

For shafts supported by two bearings, the deflection (D), is calculated from:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

where:

Ls = **LENGTH OF SHAFT** between bearings, in (mm)

E = **MODULUS OF ELASTICITY** from *Table 8*.

I = **MOMENT OF INERTIA** from *Table 8*.

Note: For shafts supported by three bearings, see *Deflections with Intermediate Bearings*.

If the calculated deflection is less than the recommended maximum of 0.10 in (2.5 mm) for standard conveyors or 0.22 in (5.6 mm) for bi-directional conveyors, calculate the required torque. If not, use a larger size shaft, a stronger material, or a shorter span between bearings, and recalculate the deflection.

The Torque (T_o), to be transmitted is determined from:

$$T_o = ABP \times B \times \frac{PD}{2}$$

where:

PD = **PITCH DIAMETER OF SPROCKET** from the sprocket data page

Now compare T_o with the maximum recommended torque on the drive shaft (see *Tables*) for the shaft journal sizes shown. Using a journal diameter which can be machined on the selected shaft, determine its maximum recommended torque. This value should exceed T_o. If not, try a stronger material or larger shaft.

Step 7: Determine the Power Needed to Drive the Belt

Drive horsepower (HP) is found from:

$$HP = \frac{ABP \times B \times V}{33000}$$

where:

ABP = **ADJUSTED BELT PULL**, lb/ft of belt width

B = **BELT WIDTH**, ft

V = **BELT SPEED**, ft/min

Power in watts is found from:

$$WATTS = \frac{ABP \times B \times V}{6.12}$$

1 HP = 745.7 WATTS

where:

ABP = **ADJUSTED BELT PULL**, lb/ft of belt width

B = **BELT WIDTH**, ft

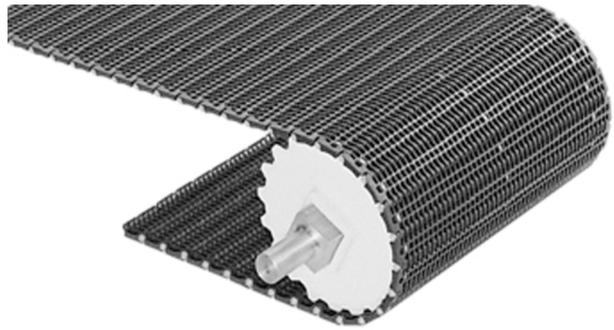
V = **BELT SPEED**, ft/min

To obtain the required motor power, add expected power losses in the drive train between drive shaft and motor to the calculated power. See *Design Guidelines* for recommendations. Having determined the suitability of this belt, the sprocket spacing, the drive shaft size, and the power requirements, you are now ready to select accessories and design the conveyor assembly.

STRAIGHT-RUNNING BELTS

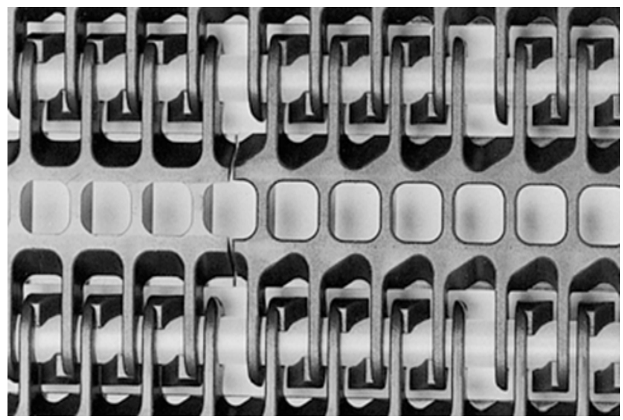
Flush Grid

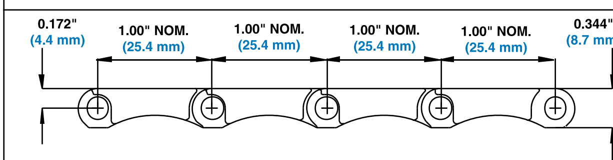
	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth upper surface.
- Smaller pitch reduces chordal action and transfer dead plate gap.
- For more material selections and stronger belt performance, see Series 900 *Flush Grid* and Series 1100 *Flush Grid*.



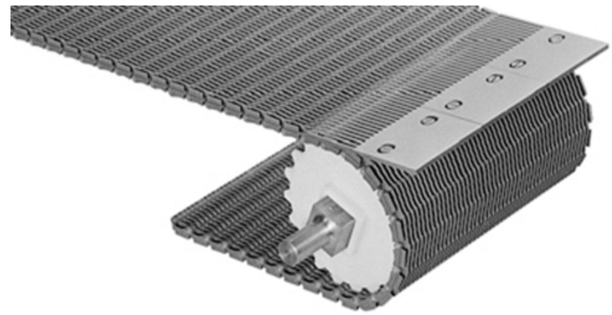


Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	0.54	2.64
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	0.58	2.83
Acetal	Polypropylene	600	890	34 to 200	1 to 93	0.78	3.81
HSEC acetal	Polypropylene	400	595	34 to 200	1 to 93	0.78	3.81
Acetal[1]	Polyethylene	550	820	-50 to 70	-46 to 21	0.78	3.81

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

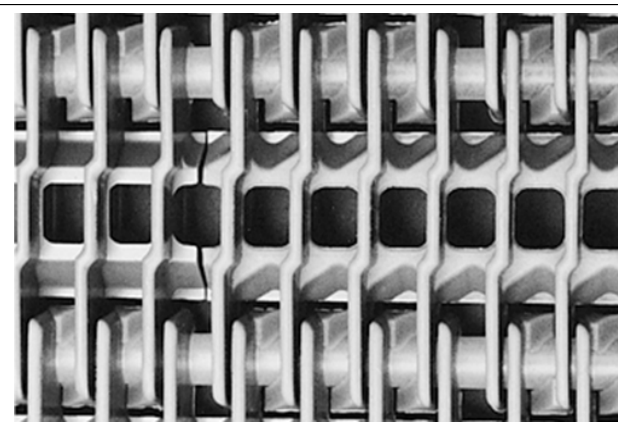
Raised Rib

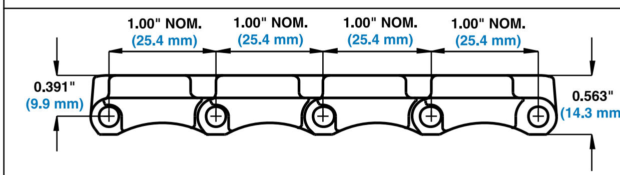
	in	mm
Pitch	1.00	25.4
Minimum Width	1.5	38
Width Increments	0.25	6.4
Opening Size (approximate)	0.2 × 0.2	5 × 5
Open Area	31%	
Product Contact Area	28%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with closely spaced ribs
- Can be used with finger transfer plates to eliminate product tipping and hang-up.
- For more material selections and stronger belt performance, see Series 900 *Raised Rib*.



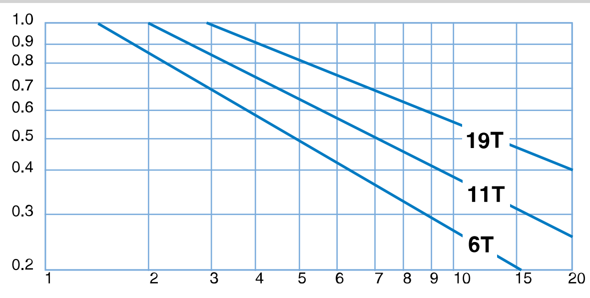


Belt Data							
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	0.82	4.00
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	0.88	4.29
Acetal	Polypropylene	600	890	34 to 200	1 to 93	1.20	5.86
Acetal[1]	Polyethylene	550	820	-50 to 70	-46 to 21	1.20	5.86

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	13	13	7
84	2134	15	15	8
96	2438	17	17	9
120	3048	21	21	11
144	3658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

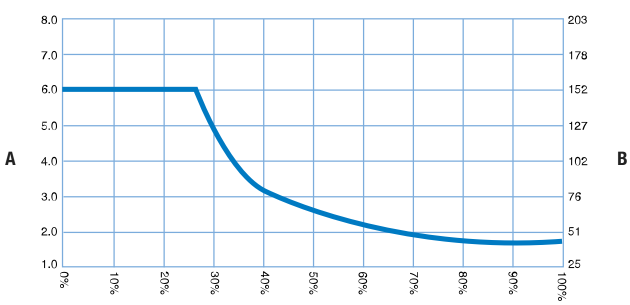


Speed/length ratio (V/L)

Divide belt speed "V" by the shaft centerline distance "L". Strength Factor is found at intersection of speed/length ratio and appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min) T = number of teeth L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



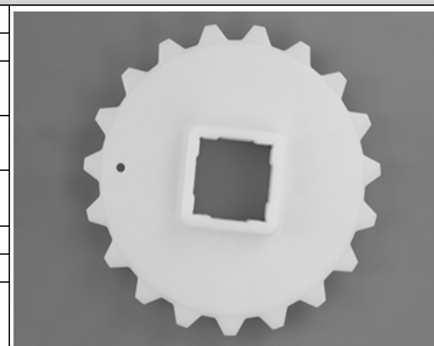
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.25 in (6.4 mm) increments beginning with minimum width of 1.5 in (38 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

Molded Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
6 (13.40%)	2.0	51	2.1	53	0.75	19		1.0		
11 (4.05%)	3.5	89	3.7	94	0.75	19		1.0		40
								1.5		
19 (1.36%)	6.1	155	6.3	160	1.25	32		1.5		40
								2.5		60
										65



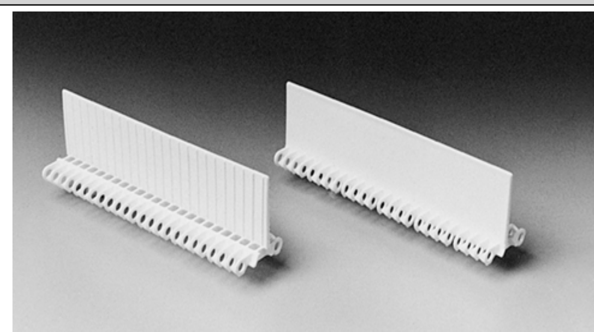
Split Metal Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
11 (4.05%)	3.5	89	3.7	94	1.5	38		1.5		40
19 (1.36%)	6.1	155	6.3	160	1.5	38		1.5		40
								2.5		60
										65

Streamline/No-Cling Flights

Available Flight Height		Available Materials
in	mm	
1.5	38	Polypropylene, polyethylene, acetal

- No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Available in linear increments of 1 in (25 mm).
- Minimum indent without sideguards: 0.5 in (13 mm).



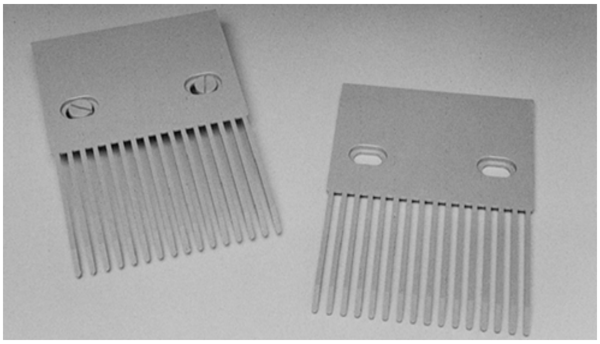
Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal

- Sideguards are used with Flush Grid belts to ensure product containment, they are of the standard overlapping design. Sideguards are an integral part of the belt, fastened by the hinge rods.
- When going around the 6 and 11 tooth sprockets, the sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 19 tooth sprocket.
- Standard sideguard orientation is angled inward toward the product. If needed, sideguards can be angled outward toward the conveyor.
- Minimum indent: 0.75 in (19 mm).
- Standard gap between the sideguards and the edge of a flight: 0.06 in (2 mm).

Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
4	102	16	Acetal



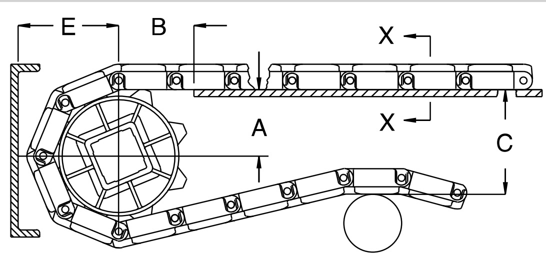
- Designed for use with Series 100 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

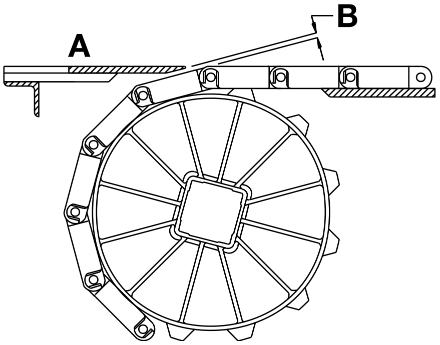
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 100 Flush Grid										
2.0	51	6	0.69-0.83	18-21	1.30	33	2.10	53	1.24	31
3.5	89	11	1.53-1.60	39-41	1.70	43	3.60	91	2.01	51
6.1	155	19	2.82-2.87	72-73	2.20	56	6.20	157	3.30	84
Series 100 Raised Rib										
2.0	51	6	0.69-0.83	18-21	1.30	33	2.10	53	1.45	37
3.5	89	11	1.53-1.60	39-41	1.70	43	3.60	91	2.23	57
6.1	155	19	2.82-2.87	72-73	2.20	56	6.20	157	3.52	89

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



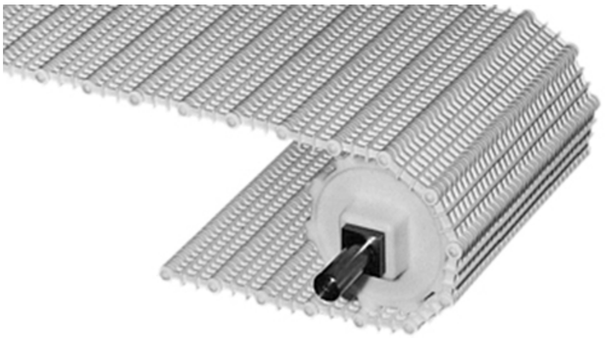
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.5	89	11	0.073	1.9
6.1	155	19	0.041	1.0

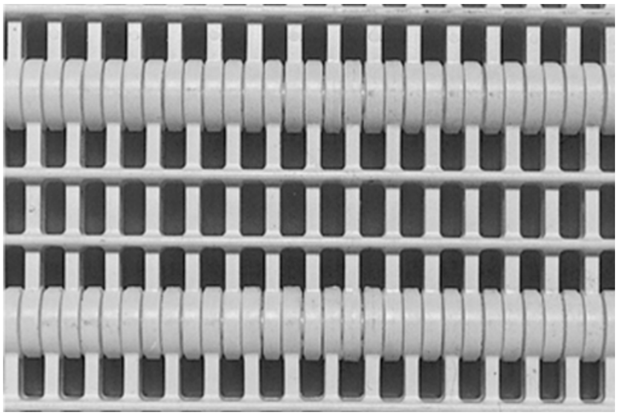
Open Grid

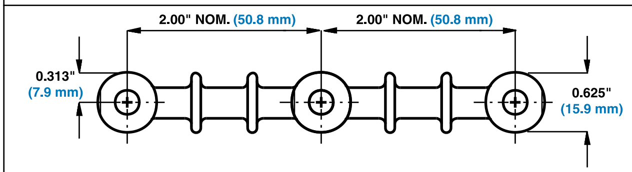
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.23 × 0.48	5.8 × 12.3
Open Area	33%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area allows excellent drainage.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Low-profile, transverse ridges help move products up or down inclines.
- Flights and sideguards are available.



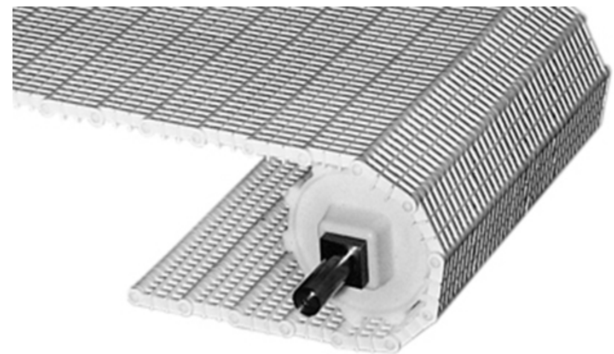


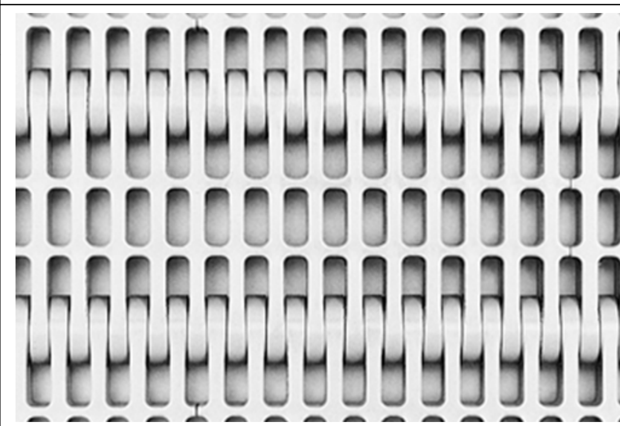
Belt Data

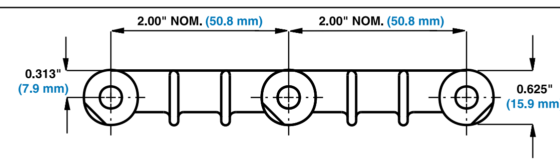
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1400	2080	34 to 220	1 to 104	1.24	6.05
Polyethylene	Polyethylene	900	1340	-100 to 150	-73 to 66	1.26	6.15

Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.22 × 0.49	5.5 × 12.5
Open Area	33%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Second headed; headed	







Product Notes

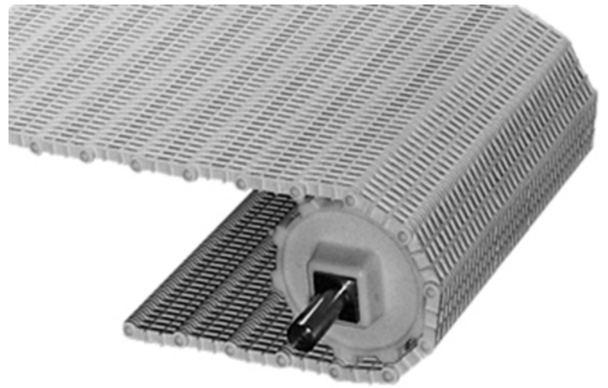
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush Grid pattern with smooth upper surface
- Provides excellent lateral movement of containers
- One of the strongest S200 belt styles
- Uses double-headed hinge rods, so the belt edge is not fully flush
- For more material selections, see Series 400, Series 900, Series 1100, and Series 2200 belt styles.
- Flights and sideguards are available.

Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1800	2680	34 to 220	1 to 104	1.40	6.83
Polyethylene	Polyethylene	1200	1790	-100 to 150	-73 to 66	1.44	7.03

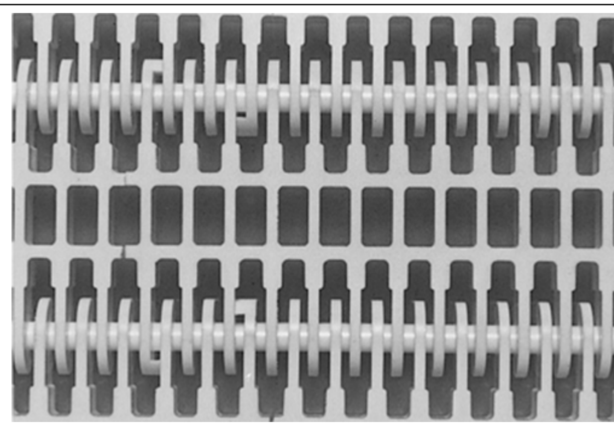
Open Hinge

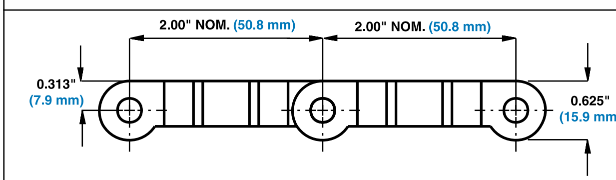
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.36	9.1
Opening Size (approximate)	0.26 × 0.48	6.7 × 12.3
Open Area	45%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Provides a smooth surface and a generous open area for food handling.
- Uses double-headed hinge rods, so the belt edge is not fully flush.
- Ideal where air cooling, washing, or drying is required.
- For stronger belt performance, see *Series 400 Open Hinge*.
- Flights and sideguards are available.

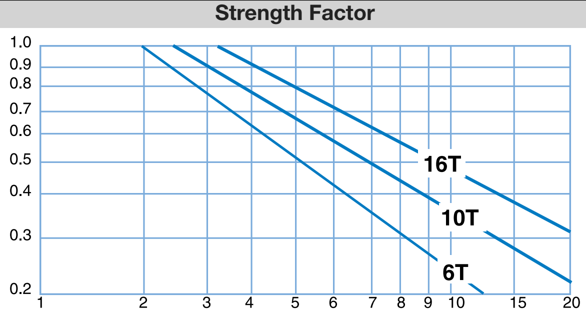




Belt Data							
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	300	450	34 to 220	1 to 104	1.04	5.08
Polyethylene	Polyethylene	200	300	-50 to 150	-46 to 66	1.12	5.47

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	5	5	4
42	1067	7	6	5
48	1219	7	7	5
54	1372	9	7	6
60	1524	9	8	6
72	1829	11	9	7
84	2134	13	11	8
96	2438	13	12	9
120	3048	17	15	11
144	3658	21	17	13
For other widths, use an odd number of sprockets at maximum 7.5 in (191 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

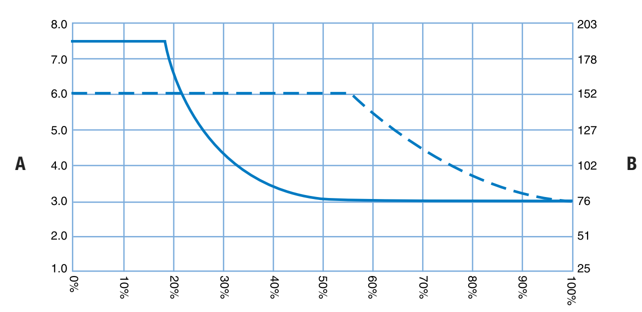


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

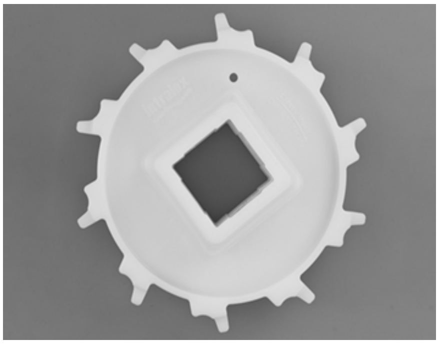
A Sprocket spacing, in
B Sprocket spacing, mm

Dashed line: double-wide sprocket
Solid line: all other sprockets

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.36 in (9.1 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

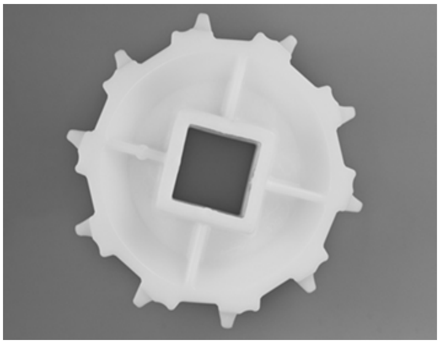
Molded Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
6 (13.40%)	4.0	102	3.9	99	1.5	38		1.5		40
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5		40
								2.5		60
16 (1.92%)	10.1	257	10.3	262	2.5	64		1.5		40
								2.5		



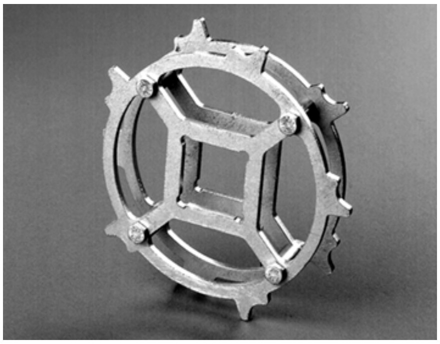
Double Wide Rim Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.4	163	2.5	64		1.5		40



Metal Abrasion Resistant Sprocket

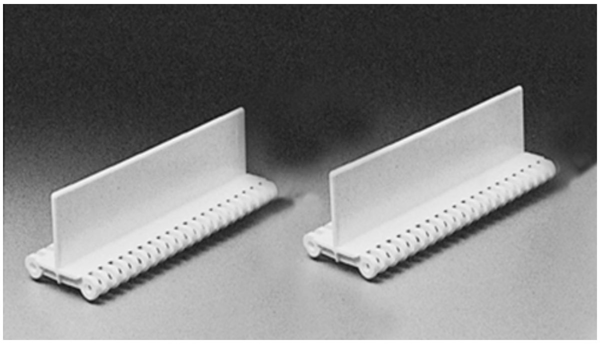
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.4	163	1.1	28		1.5		40
								2.5		60
16 (1.92%)	10.1	257	10.3	262	1.1	28		1.5		40
								2.5		60
										65



Streamline Flights

Available flight height in	Available flight height mm	Available Materials
1	25	Polypropylene, polyethylene
2	51	
3	76	

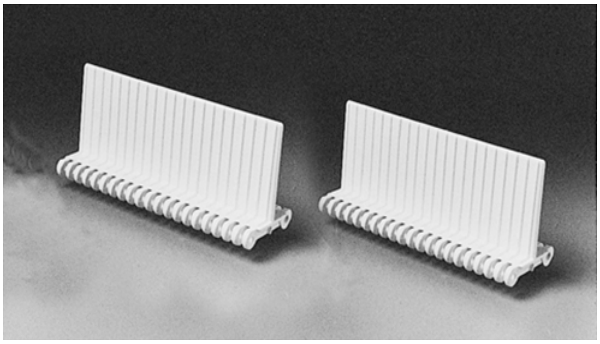
- Each flight rises out of the center of its supporting Flat Top module, molded as an integral part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards: 0.7 in (18 mm).
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



Double No-Cling Flights

Available Flight Height		Available Materials
in	mm	
3	76	Polypropylene, polyethylene

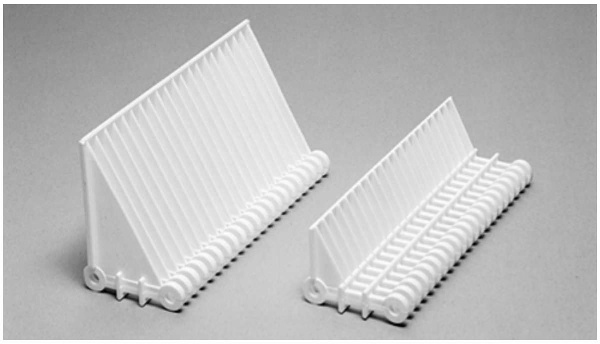
- Vertically ribbed for product release.
- Each flight rises out of the center of its supporting Flat Top module, molded as an integral part. No fasteners are required.
- An extension can be welded at a 45-degree angle to create a bent flight. Contact Intralox Customer Service for availability.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards is 0.7 in (18 mm).
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



Ribbed Flights

Available Flight Height		Available Materials
in	mm	
1.25	32	Polypropylene, polyethylene
3	76	

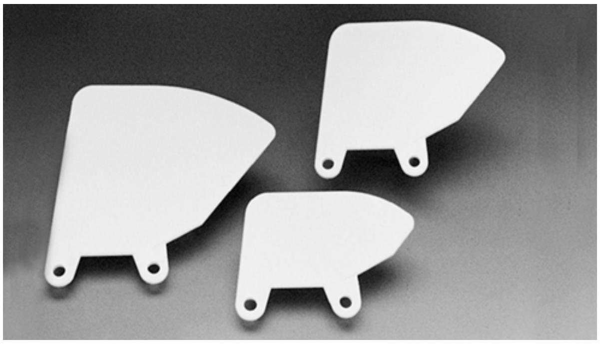
- Each flight rises out of an Open Grid module and has a triangular-shaped buttress on the back side. No fasteners are required.
- Can be enlarged to 6 in (152 mm) high with a welded extension.
- Minimum indent without sideguards: 0.7 in (18 mm).
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene
3	76	
4	102	
6	152	

- Standard sideguard orientation is angled inward toward the product. If needed, sideguards can be angled outward toward the conveyor.
- Minimum indent: 0.7 in (18 mm).
- Normal gap between the sideguards and the edge of a flight: 0.3 in (8 mm).

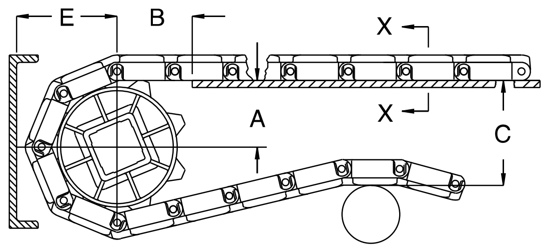


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

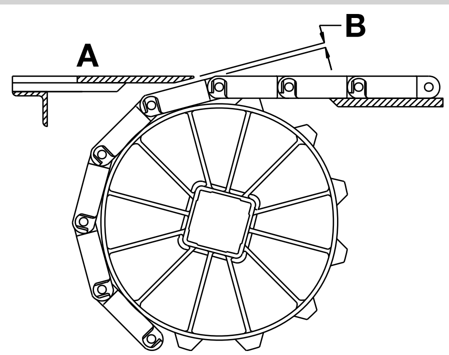
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 200 Flush Grid, Open Grid, Open Hinge										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.38	60
6.4	163	10	2.77-2.92	70-74	3.00	76	6.50	165	3.61	92
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.50	140

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

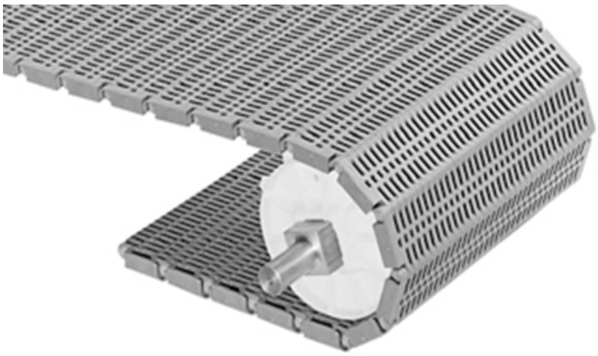
Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate
B Dead plate gap

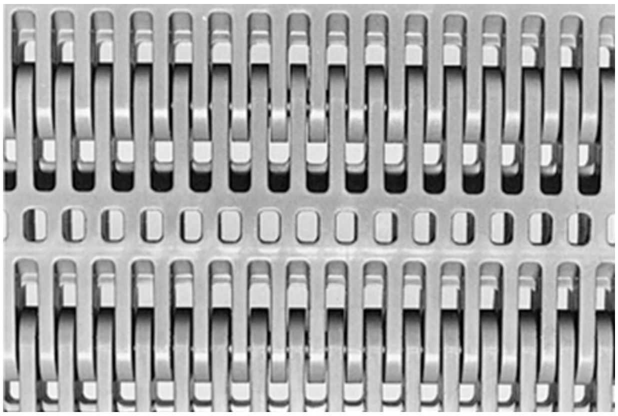
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
4.0	102	6	0.268	6.8
6.4	163	10	0.160	4.1
10.1	257	16	0.100	2.5

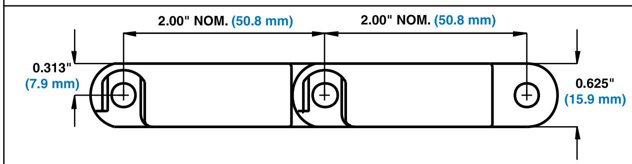
Flush Grid		
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.25 × 0.18	6.4 × 4.6
Open Area	17%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	See Product Notes.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Uses headed rods for belts without Slidelox rod retention. Uses unheaded rods for belts with Slidelox rod retention.
- Flights and sideguards are available.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider.



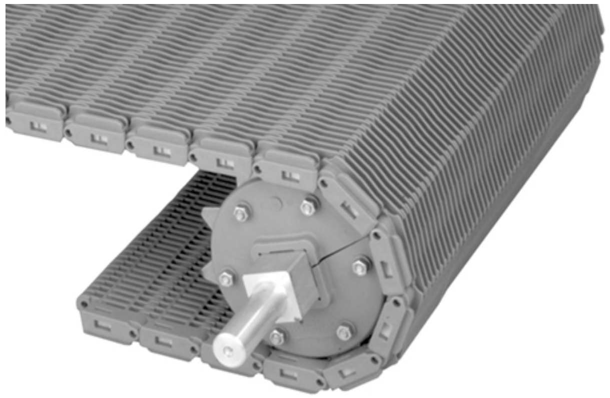


Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.82	8.89
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3200	4760	34 to 200	1 to 93	2.77	13.51
Acetal[1]	Polyethylene	3000	4460	-50 to 70	-46 to 21	2.77	13.51

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

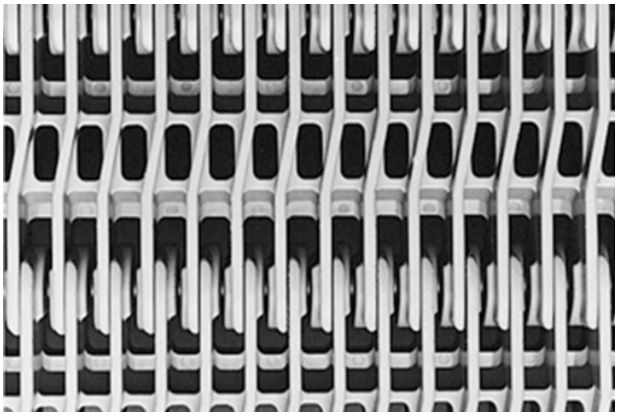
Raised Rib

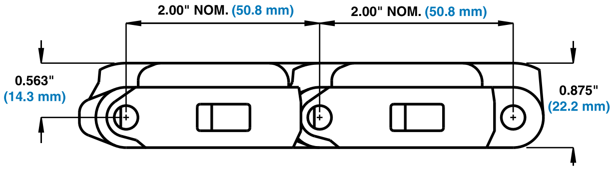
	in	mm
Pitch	2.00	50.8
Minimum Width	See Product Notes.	
Width Increments		
Opening Size (approximate)	0.25 × 0.24	6.4 × 6.1
Open Area	26%	
Product Contact Area	36%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	See Product Notes.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- All S400 Raised Rib polyethylene belts use headed rods.
- All S400 Raised Rib polypropylene belts use the Slidelox rod retention system and unheaded rods. Slidelox are glass-reinforced polypropylene. For improved chemical resistance, Slidelox are also available in polyvinylidene (PVDF) for Enduralox polypropylene belts.
- Use with finger transfer plates to reduce tippage at infeed and discharge.
- Raised Ribs extend 0.25 in (6.4 mm) above basic module.
- Custom-built in widths from 1.8 in (47 mm) and up for polyethylene and 3.5 in (89 mm) and up for polypropylene, in 0.33 in (8.4 mm) increments.



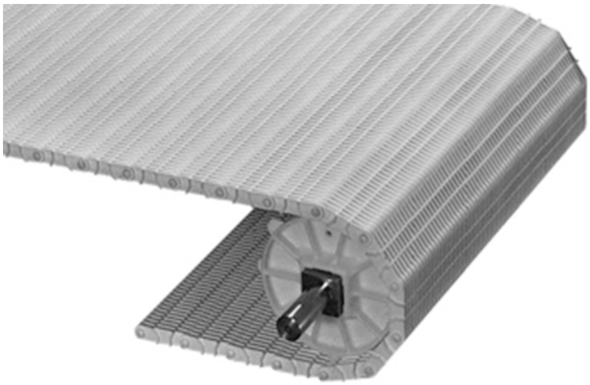


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.95	9.52
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.98	9.67
Enduralox polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.95	9.52

SECTION 2
400

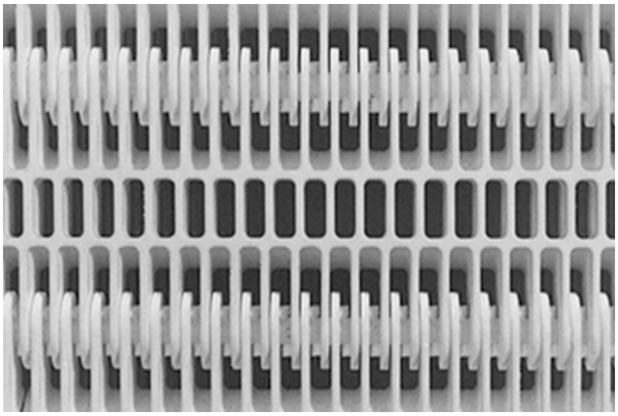
Open Hinge

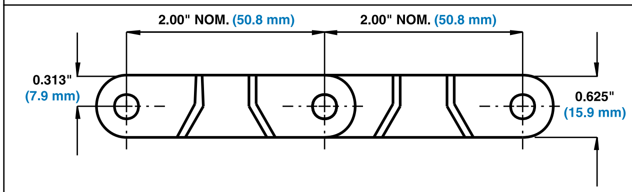
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.25	6.4
Opening Size (approximate)	0.47 × 0.18	11.9 × 4.6
Open Area	30%	
Product Contact Area	40%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Second headed; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area improves airflow, drainage, and cleanability.
- Shares heavy-duty rating with other belts in this series.
- Has double-headed hinge rods, so the belt edge is not fully flush.
- Flights and sideguards are available.



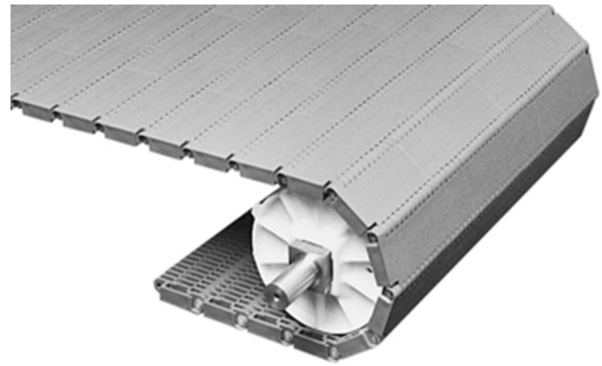


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1550	2300	34 to 220	1 to 104	1.16	5.66
Polyethylene	Polyethylene	950	1400	-50 to 150	-46 to 66	1.24	6.06

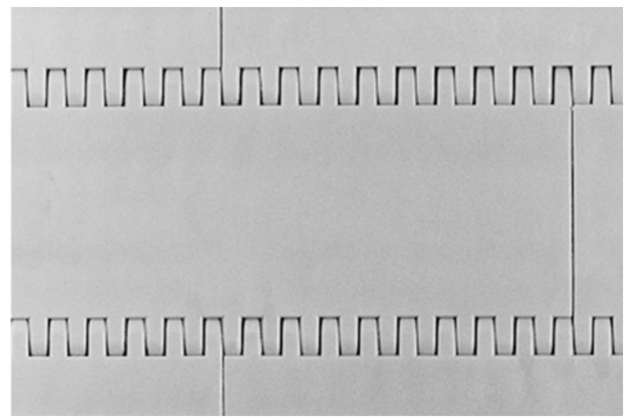
Flat Top

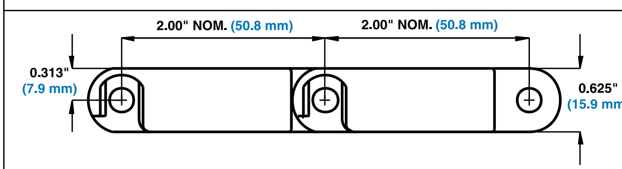
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	See Product Notes.	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface and straightforward design provide free product movement.
- Use abrasion resistant split sprockets with acetal Series 400 Flat Top.
- Use headed rods for belts without Slidelox rod retention. Use unheaded rods with Slidelox rod retention.
- Flights and sideguards are available.
- Slidelox rod retention is recommended for belts 6.0 ft (1829 mm) wide and wider. All S400 Flat Top with abrasion resistant rods are available with Slidelox rod retention.



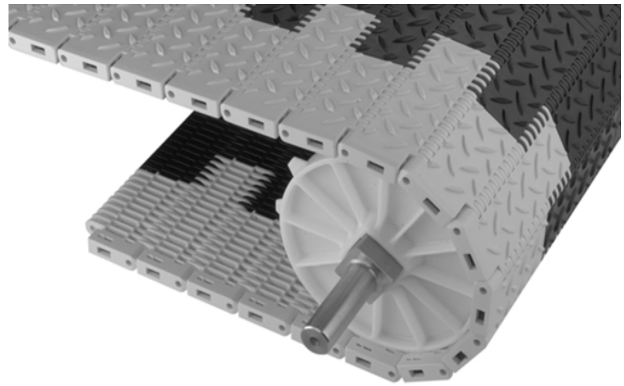


Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	2400	3570	34 to 220	1 to 104	1.81	8.82
Polyethylene	Polyethylene	1800	2680	-100 to 150	-73 to 66	1.90	9.28
Acetal	Polypropylene	3200	4760	34 to 200	1 to 93	2.74	13.38
Acetal[1]	Polyethylene	3000	4460	-50 to 70	-46 to 21	2.74	13.38

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

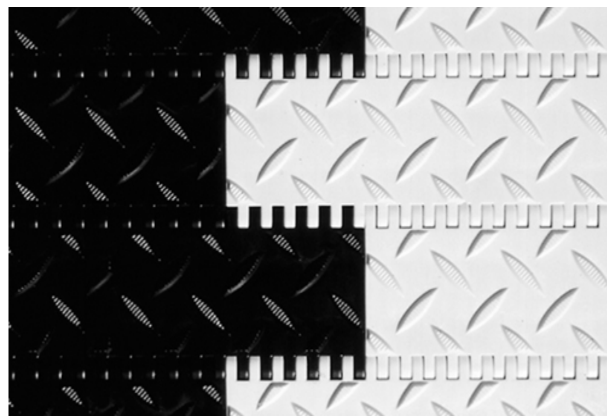
Non Skid

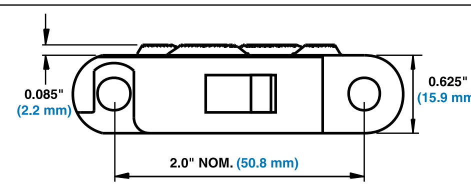
	in	mm
Pitch	2.00	50.8
Minimum Width	3.5	89
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Among highest strength rating of all Intralox belts.
- Slidelox are glass-reinforced polypropylene.
- Contact Intralox Customer Service for flight availability.



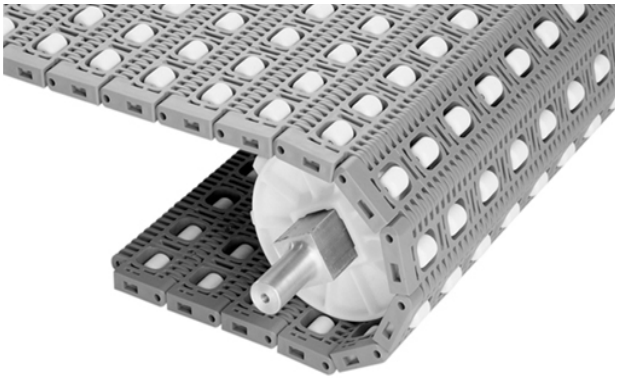


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	2720	4040	-50 to 200	-46 to 93	2.88	14.09
Polypropylene	Polypropylene	2400	3571	-34 to 220	1 to 104	1.81	8.84

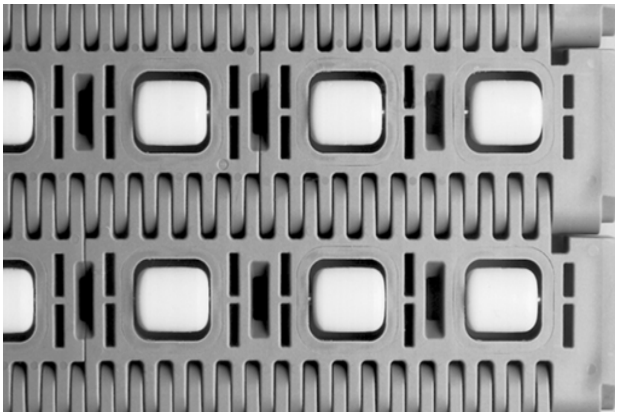
Roller Top

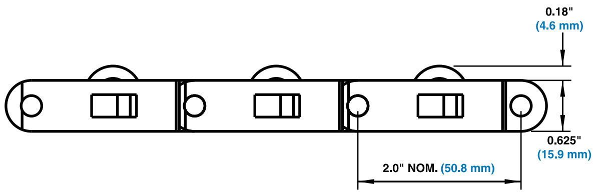
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	18%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Uses stainless steel axles.
- Flush edges.
- Slidelox are glass-reinforced polypropylene.
- Allows for low back pressure accumulation.
- Roller diameter - 0.70 in (17.8 mm). Roller length - 0.825 in (20.9 mm).
- Standard roller indent is 0.90 in (23 mm)
- Distance to centerline of first roller is 1.3 in (33 mm), spacing between first and second roller is 1.8 in (46 mm). Spacing between all other rollers is 2 in (50.8 mm).



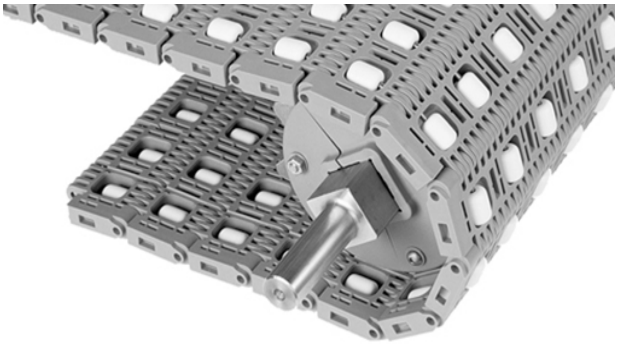


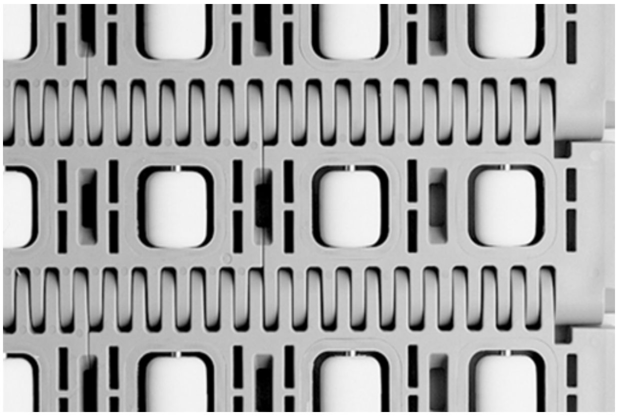
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.44	11.94

Transverse Roller Top™ (TRT™)

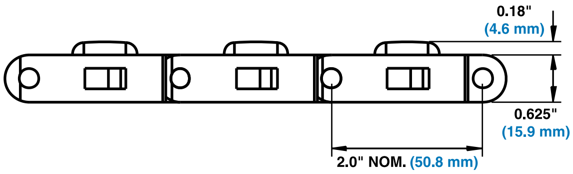
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	18%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Slidelox are glass-reinforced polypropylene.
- Stainless steel axles provide durability and long-lasting performance.
- Designed for 90-degree transfers.
- Roller diameter: 0.70 in (17.8 mm).
- Roller length: 0.825 in (20.9 mm).
- Roller spacing: 2 in (50.8 mm).
- Standard roller indent: 0.90 in (23 mm).
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).

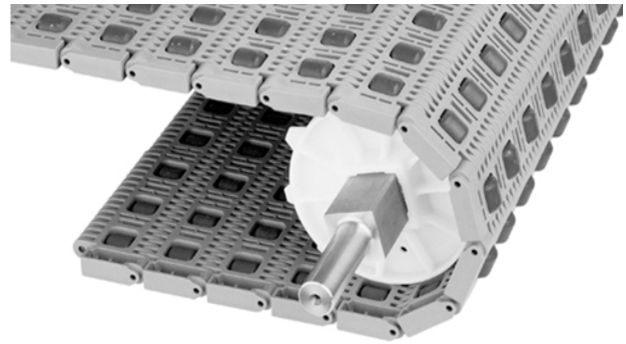


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.44	11.94

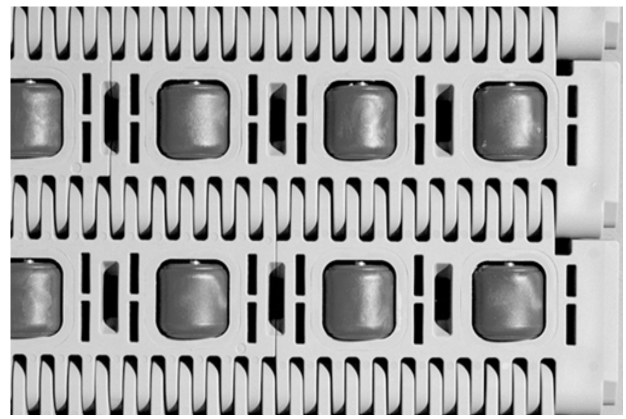
0.85-in Diameter Transverse Roller Top™ (TRT™)

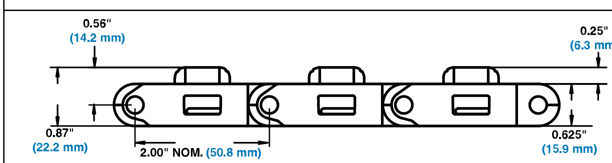
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	18%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Uses stainless steel axles.
- Slidelox flush edges.
- Slidelox are glass-reinforced polypropylene.
- Stainless steel axles provide durability and long-lasting performance.
- Designed for 90-degree transfers.
- Roller diameter: 0.85 in (21.6 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.90 in (23 mm)
- Distance to centerline of first roller: 1.3 in (33 mm).
- Spacing between first and second roller: 1.8 in (46 mm).
- Spacing between all other rollers: 2 in (50.8 mm).

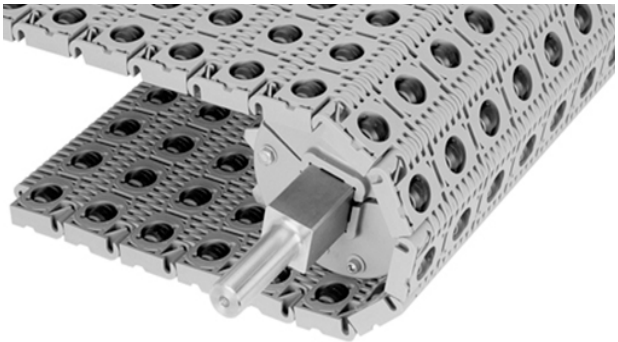


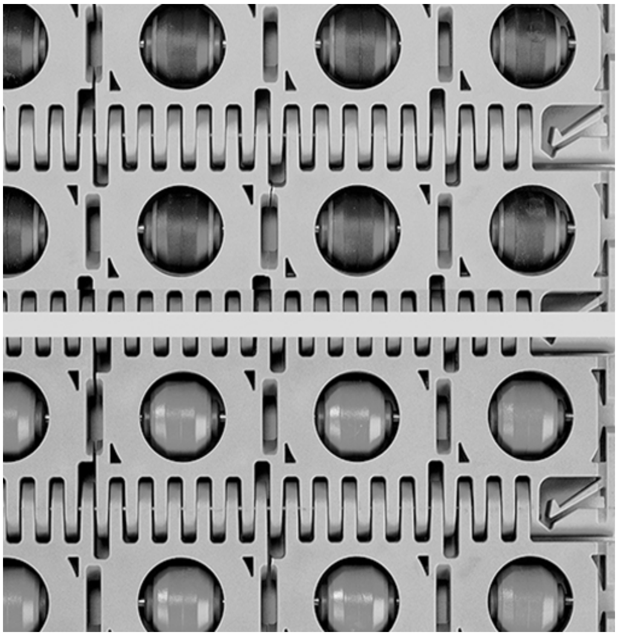


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.81	13.71

0-Degree Angled Roller™

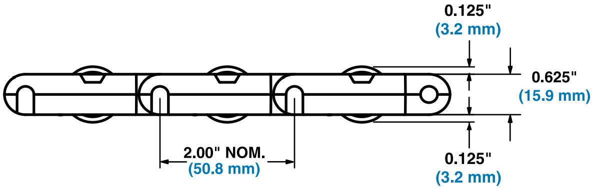
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt™ (ARB ™) technology.
- Black or gray polyurethane rollers are available.
- Black polyurethane rollers are not recommended for product accumulations.
- All rollers have an acetal core.
- Axles are stainless steel.
- Rollers are inline with the direction of belt travel.
- Can run on a standard flat continuous carryway. A chevron carryway is not recommended.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers are not in motion, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed.
- Intralox can help you reach a more accurate estimate of product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- 2.0 in (50.8 mm) roller spacing.
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket or all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60-mm square bores.



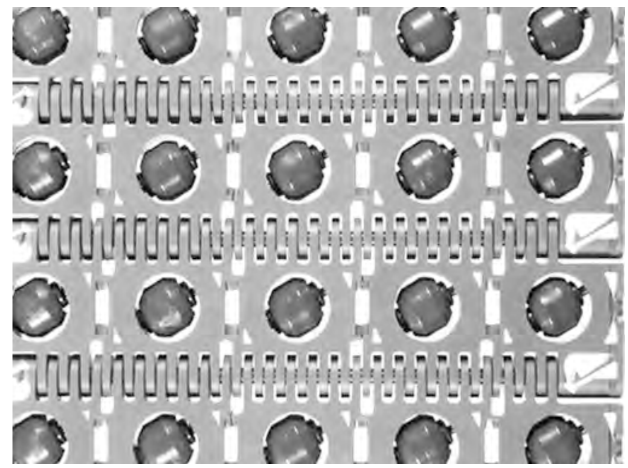
Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/Black Polyurethane	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94
Polypropylene/Gray Polyurethane	Nylon	1600	2381	34 to 120	1 to 49	2.73	13.33

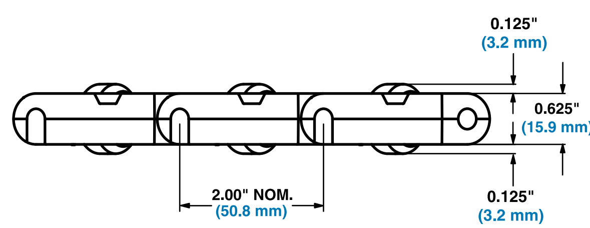
30-Degree Angled Roller™

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses Activated Roller Belt (ARB) technology.
- Rollers are skewed 30 degrees from the direction of belt travel.
- Gray polyurethane rollers with an acetal core are available.
- Gray polyurethane rollers can run on a standard flat continuous carryway. A chevron carryway is not recommended.
- Uses stainless steel axles.
- When belt rollers are in motion, product moves faster than the speed of the belt. When belt rollers do not rotate, product travels at belt speed.
- Product behavior varies depending on shape and weight of product, conveyor design, and belt speed. Intralox can help you estimate product behavior based on product and conveyor characteristics. Contact Intralox Customer Service for more information.
- Centering configuration is possible using two belts with rollers oriented towards the center of the conveyor.
- Custom belts with any combination of 0-degree, 30-degree, 45-degree, or 60-degree angled rollers are available. Custom belts can also include rollers oriented in different directions. Contact Intralox Customer Service for more information.
- Belt can be supported using parallel wearstrips placed in between belt rollers. Contact Intralox Customer Service for more information.
- Alignment belts on a flat, continuous carryway require a side wearstrip. Install the belt to run flush along this wearstrip.
- Polyethylene belts require ultra abrasion resistant polyurethane sprocket on the drive shaft. Any sprocket can be used on the idle shaft except for sprockets with low back tension teeth.
- 2 in (50.8 mm) roller spacing.
- Minimum belt width for polyethylene is 8 in (203 mm).
- Polyethylene belts between 8 in (203 mm) to 10 in (254 mm) wide must be derated to 450 lb/ft. (670 kg/m).
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in or 60 mm square bores.
- If any moisture is present, the low-temperature limit of the polyethylene belt is 34° F (1° C).

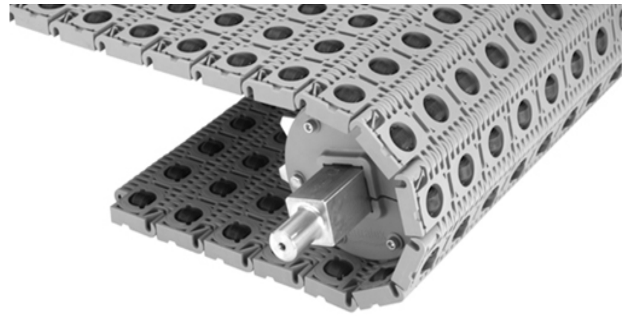




Belt Data

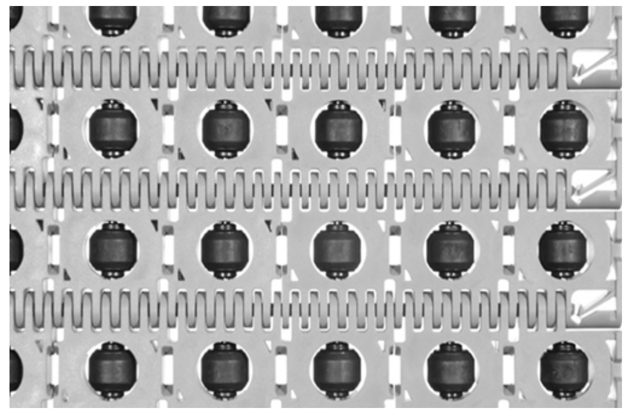
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/Gray Polyurethane	Nylon	1600	2381	34 to 120	1 to 49	2.64	12.89
Polyethylene/Gray Polyurethane	Nylon	500	744	17 to 150	-8 to 65	2.93	14.31

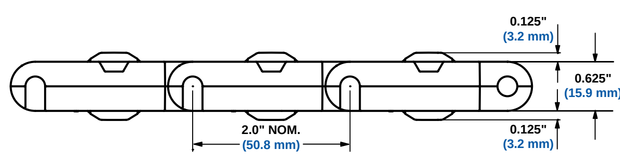
90-Degree Angled Roller™		
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black polyurethane rollers with an acetal core are available.
- Black polyurethane rollers are not recommended for product accumulation conditions.
- Do not allow black polyurethane rollers to contact flat, continuous carryways or chevron carryways.
- Axles are stainless steel.
- Belt can be supported using parallel wearstrips placed between belt rollers. Contact Intralox Customer Service for more information.
- Roller spacing is 2.0 in (50.8 mm).
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and 60-mm square bores.

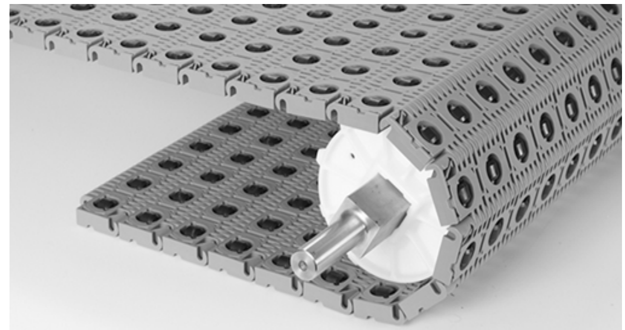




Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/Black polyurethane	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94

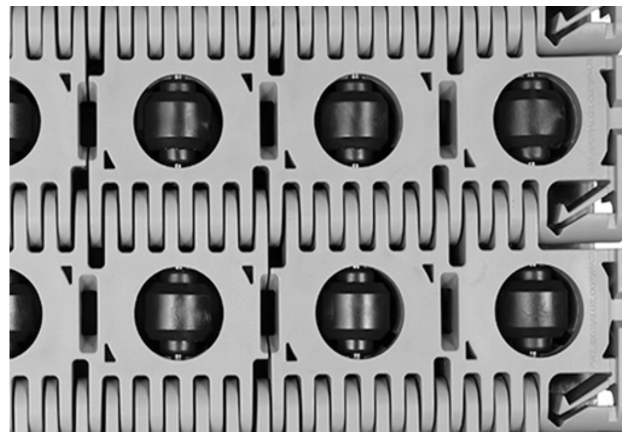
0.78-in Diameter 90-Degree Angled Roller™

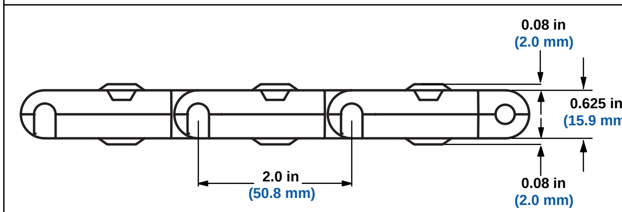
	in	mm
Pitch	2.0	50.8
Minimum Width	6	152.4
Width Increments	2.0	50.8
Opening Size (approximate)	-	-
Open Area	11%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Black acetal rollers are available.
- Axles are stainless steel.
- Roller spacing is 2.0 in (50.8 mm).
- Not compatible with the 4.0 in (102 mm) pitch diameter split sprocket.
- Not compatible with all 5.2 in (132 mm) pitch diameter sprockets with 2.5 in and (60 mm) square bores.

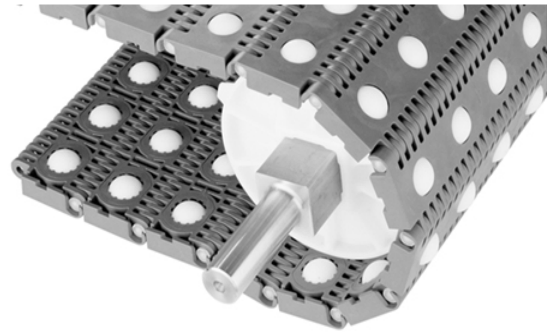


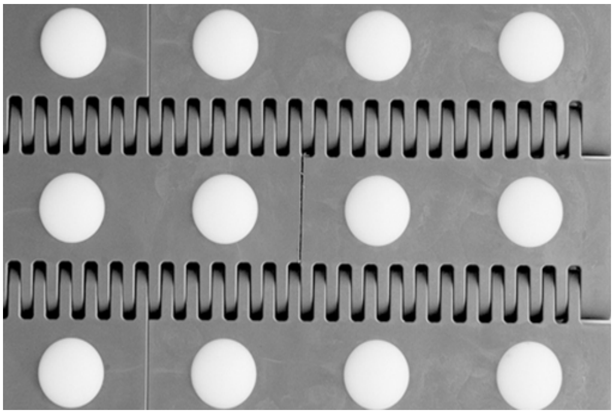


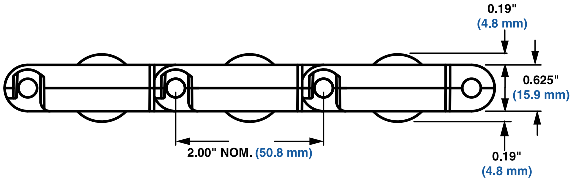
Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene/Black acetal	Nylon	1600	2381	34 to 200	1 to 93	2.65	12.94

Ball Belt

	in	mm
Pitch	2.00	50.8
Minimum Width	10	254
Width Increments	2.00	50.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal balls.
- Balls protrude beyond top and bottom of belt. Module does not contact carryway.
- Product movement is controlled by driving balls with a perpendicular secondary conveyor, underneath the main belt.
- Product moves faster than belt speed.
- Product speed varies, depending on shape and weight of product.
- A flat continuous carryway is required.
- For applications requiring product redirection, alignment, transfer, diverting, palletizing, orientation, accumulation, or justification.
- Install alignment configurations to run flush along the side wearstrip.
- Self-set retaining rings for locking sprockets are not recommended.
- Ball diameter: 1.0 in (25.4 mm).
- Space between balls: 2 in (50.8 mm).
- Standard ball indent: 1.1 in (27.9 mm).
- Rod centerline to top or bottom of module: 0.313 in (7.9 mm).
- Rod centerline to top or bottom of ball: 0.50 in (12.7 mm).

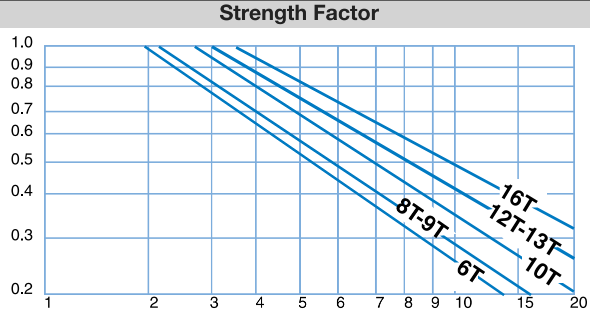
Belt Data

Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	2400	3571	34 to 200	1 to 93	3.71	18.11

[1] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing[4]	Maximum 12 in (305 mm) centerline spacing.

Strength Factor

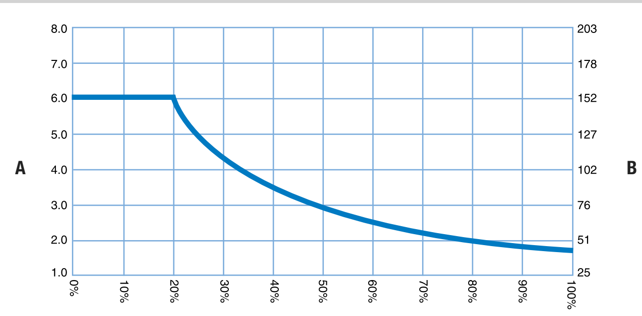


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized

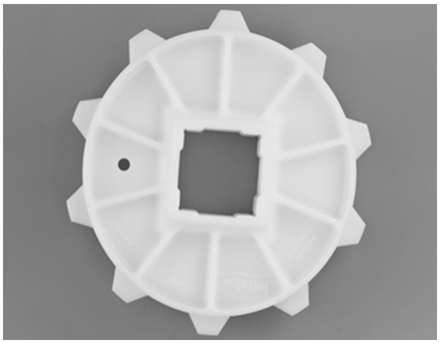


Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Flat Top, Flush Grid, and Raised Rib belts are available in 0.33 in (8.4 mm) increments beginning with a minimum width of 2 in (51 mm). The increment for Open Hinge belts is 0.25 in (6 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.
[4] Ball Belt and some Angled Roller belts require a flat continuous carryway.

Molded Sprocket[1]										
For all belts except Flush Grid acetal										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	U.S. Square in	Metric Round mm[2]	Metric Square mm
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5 2.5		40 60
10 (4.89%)	6.4	163	6.3	160	1.5	38	2.0	1.5 2.5	82	40 60 70
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5 2.5		40 60
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5 2.5 3.5		40 60 90



Split Low Back Tension Ultra Abrasion Resistant Polyurethane Sprocket[3]										
For all belts except Flush Grid acetal, Open Hinge, and roller belts										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5 2.5		40
12 (3.41%)	7.8	198	7.7	196	1.5	38		2.5		
16 (1.92%)	10.1	257	10.2	259	1.5	38		2.5		

Split Ultra Abrasion Resistant Polyurethane Sprocket[4]										
No. of teeth (chordal action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available bore sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5 2.5		40

[1] Contact Customer Service for lead times.
[2] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.
[3] Contact Customer Service for lead times. When using these sprockets, the maximum Belt Strength for all styles and materials is 1000 lb/ft (1490 kg/m), and the sprocket temperature range is -40 °F (-40 °C) to 160°F (71°C).
[4] Contact Intralox Customer Service for lead times. When using ultra abrasion resistant polyurethane split sprockets, the maximum belt strength for all styles and materials is 1000 lb/ft (1490 kg/m), and the temperature range for the sprocket is -40°F (-40°C) to 160°F (71°C).

Molded Tooth Plate Split Low Back Tension Polyurethane Composite Sprocket[1]

For all belts except Open Hinge and roller belts

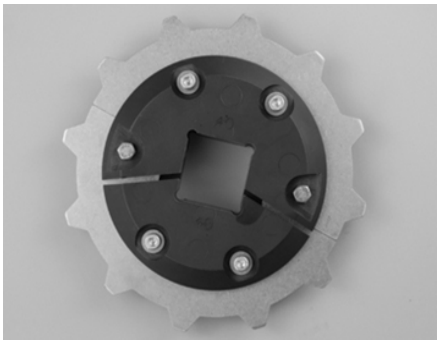
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.3	160	1.70	43		1.5		40
								2.5		60
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5		40
								2.5		60
16 (1.92%)	10.1	257	10.2	259	1.5	38	3.5	1.5		
								2.5		
								3.5		90

Molded Tooth Plate Split Polyurethane Composite Sprocket[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.4	163	6.3	160	1.7	43		1.5		40
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5		40
16 (1.92%)	10.1	257	10.2	259	1.5	38	4.0	3.5		90

Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprocket[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5		40
								2.5		60
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5		40
								2.5		60



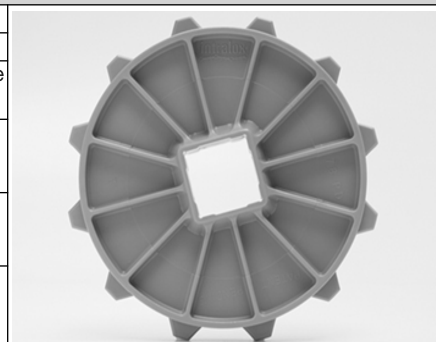
[1] Contact Intralox Customer Service for lead times. Recommended for drive shaft only. There is very little belt tension when a belt engages the idle sprockets. In some applications, the belt may not have enough tension to engage the added low back tension teeth, causing the belt to disengage on the idle sprockets.
[2] Contact Intralox Customer Service for lead times.
[3] Contact Intralox Customer Service for lead times.

HR Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
16 (1.92%)	10.1	257	10.2	196	2.0	51		2.5		60

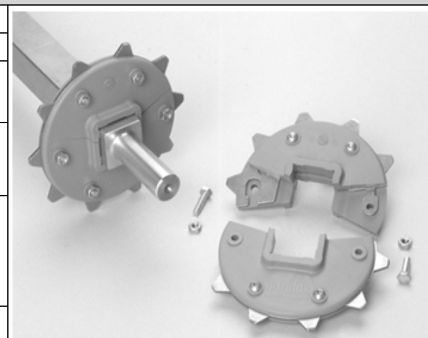
HR Nylon Sprockets[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[3]	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm[2]	Available Bore Sizes Metric Square mm
10 (4.89%)	6.4	163	6.3	160	1.5	38		1.5 2.5		
12 (3.41%)	7.8	198	7.7	196	1.5	38		1.5 2.5		40 60
16 (1.92%)	10.1	257	10.2	259	1.5	38		1.5 2.5 3.5		60 90



Split Metal Sprocket[4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[5]	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm[4]	Available Bore Sizes Metric Square mm
6 (13.40%)	4.0	102	3.6	91	1.5	38		1.5		40
8 (7.61%)	5.2	132	5.0	127	1.5	38	1, 1-3/16, 1-1/4, 1-7/16	1.5	20 30 40	40 60
10 (4.89%)	6.4	163	6.3	160	1.5	38	1, 1-3/16, 1-1/4, 1-3/8, 1-7/16, 1-1/2, 1-15/16	1.5 2.5	20 40	40 60
12 (3.41%)	7.8	198	7.7	196	1.5	38	1-7/16, 1-15/16	1.5 2.5	40	40 60
16 (1.92%)	10.1	257	10.2	259	1.5	38	1-7/16, 1-15/16	1.5 2.5 3.5		40 60 90



[1] **Contact Intralox Customer Service for lead times. For wet applications, contact Sales Engineering.**
[2] **Contact Intralox Customer Service for lead times.**
[3] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[4] **Contact Intralox Customer Service for lead times.**
[5] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.

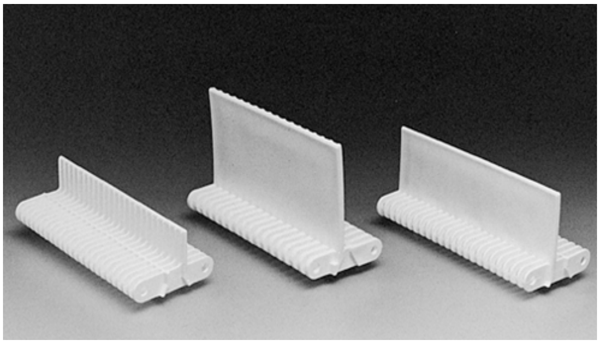
Split Support Wheel

Available Pitch Dia.		Available Bore Sizes			
		U.S.		Metric	
in	mm	Round in	Square in	Round mm	Square mm
6.4	163	1	1.5		
			2.5		

Flush Grid Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene
2	51	
3	76	

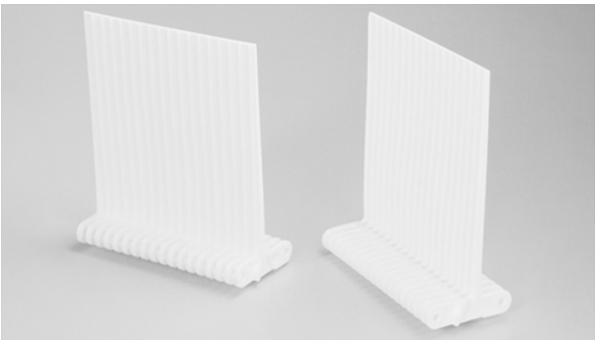
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- An extension can be welded at a 45-degree angle for a bent flight.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 0.8 in (20 mm) and the minimum indent for a Slidelox edge (without sideguards) is 1.4 in (36 mm).



Flush Grid Base Flights (Double No-Cling)

Available Flight Height		Available Materials
in	mm	
6	152	Polypropylene, polyethylene

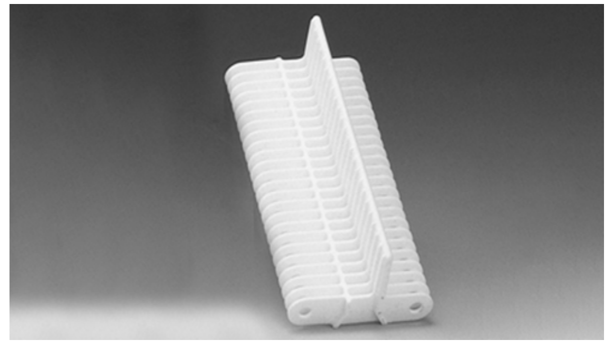
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 0.8 in (20 mm).
- Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).
- 45-degree bent flights are available in polypropylene with a 3 in (76 mm) tall base and with a 1 in (25 mm) or 2 in (51 mm) extension.



Open Hinge Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene
2	51	
3	76	

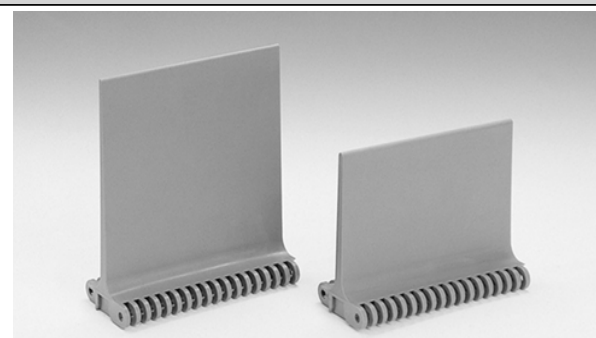
- Flights rise out of the center of the supporting module, molded as an integral part. No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Flights can be extended to 6 in (152 mm) high (welded extension). The extension can also be welded at a 45° angle for a bent flight.
- Minimum indent without sideguards: 0.6 in (15 mm).



Flat Top Base Flights (Streamline)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal
6	152	

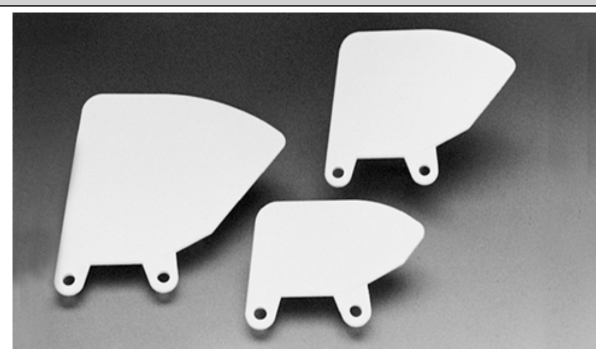
- Flat Top flight is smooth (streamlined) on both sides.
- Flat Top-based flights cannot be used with Flush Grid belts.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 0.8 in (20 mm) Minimum indent for a Slidelox edge without sideguards: 1.4 in (36 mm).



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene
3	76	
4	102	
6	152	

- Sideguards use a standard overlapping design and are an integral part of the belt, with no fasteners required.
- When going around the 6 and 8 tooth sprockets, sideguards fan out, opening a gap at the top of the sideguard that can allow small products to fall out. The sideguards stay completely closed when going around the 10, 12 and 16 tooth sprockets.
- Standard sideguard orientation is angled inward toward the product. If needed, sideguards can be angled outward toward the conveyor.
- Minimum indent is 0.8 in (20 mm).
- Normal gap between the sideguards and the edge of a flight is 0.4 in (10 mm).



SECTION 2

400

Hold Down Tabs

- Available on Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- A carryway radius should be designed at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize hold down tabs.
- Tabs can be spaced along the length of the belt at either4 in (101.6 mm) or 6 in (152.4 mm). Tab spacings greater than 6 in (152.4 mm) should be avoided due to the potential of mistracking.
- Strength rating for each hold down tab: 100 lb (45.4 kg) of force perpendicular to the hold down surface.

Insert Nuts

Available Base Belt Style - Material		Available Insert Nut Sizes	
Flat Top - Acetal, polypropylene		5/16" - 18 (8 mm - 1.25 mm)	

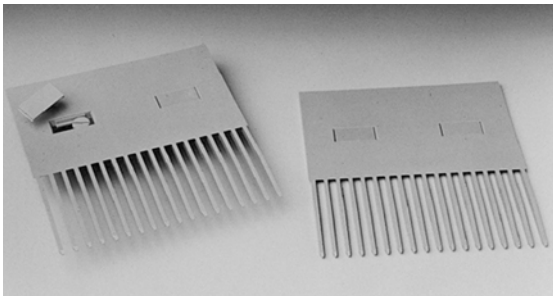
Belt Material	Maximum Fixture Weight		Fastener Torque Specification	
	lb/nut[1]	kg/nut[1]	in-lb	N-m
Acetal	200	91	120	13.5
Polypropylene	175	79	65	7.3

- Insert Nuts allow easy attachment of fixtures to the belt.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Do not place sprockets in-line with insert nuts.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for application.
- Minimal indent from the edge of the belt: 2 in (50 mm).
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 2 in (50 mm) increments.

Finger Transfer Plates

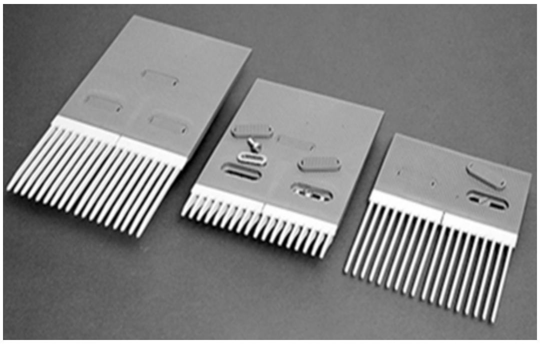
Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Polypropylene

- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- The finger transfer plates for Series 400 are the same for Series 1200.



[1] Fixture weight only. Product weight need not be included.

<table>
<tr><th colspan="4">Two-Material Finger Transfer Plates</th></tr>
<tr><td colspan="2">Available Widths</td><td rowspan="2">No. of Fingers</td><td rowspan="2">Available Materials</td></tr>
<tr><td>in</td><td>mm</td></tr>
<tr><td>6</td><td>152</td><td>18</td><td>Glass-filled thermoplastic fingers, acetal backplate</td></tr>
<tr><td colspan="4">Available Configurations</td></tr>
<tr><td>Standard</td><td>Standard Extended Back</td><td colspan="2">Glass-Handling</td></tr>
<tr><td>Long fingers with a short backplate</td><td>Long fingers with an extended backplate</td><td colspan="2">Short fingers with extended backplate; short fingers with short backplate[1]; mid-length fingers with a short backplate; mid-length fingers with extended backplate</td></tr>
</table>

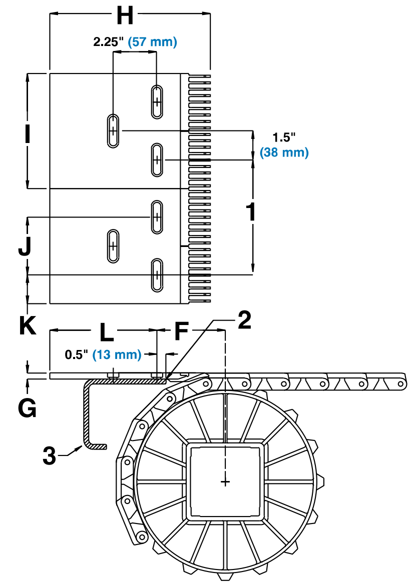


- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Introlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- Series 400 and Series 1200 use the same FTPs.
- For best product transfer with the glass-handling finger transfer plates, use 10.1 in (257 mm) PD, 16-tooth sprockets.

[1] Contact Intralox Customer Service for lead times.

Dimensional Requirements for Finger Transfer Plate Installations

	Two-Material							
	Standard Long Fingers - Short Back		Standard Long Fingers - Extended Back		Glass Handling Short Fingers - Extended Back		Glass Handling Mid Length Fingers - Extended Back	
	in	mm	in	mm	in	mm	in	mm
F	3.50	89	3.50	89	3.50	89	3.50	89
G	0.31	8	0.31	8	0.31	8	0.31	8
H	7.2	183	10.75	273	8.26	210	9.04	230
I	5.91	150	5.91	150	5.91	150	5.91	150
J	3.00	76	3.00	76	3.00	76	3.00	76
K	1.45	37	1.45	37	1.45	37	1.45	37
L	2.00	51	5.50	140	5.50	140	5.50	140



Spacing at Ambient Temperature			
PP	5.952 in	151.2 mm	
PE	5.933 in	150.7 mm	

Two-Material Finger Transfer Plates

Two-material glass handling finger transfer plate shown

1 Spacing

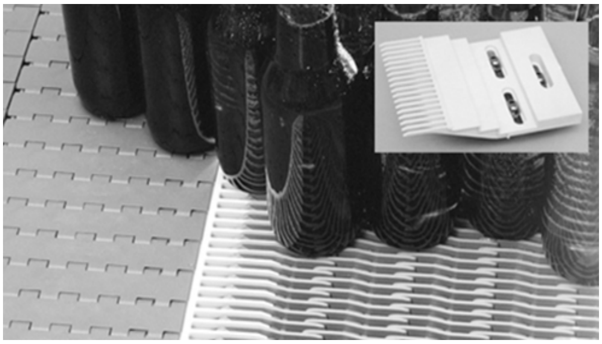
2 0.5 in (13 mm) Radius (leading edge of frame member)

3 Frame member

Self-Clearing Finger Transfer Plates[1]

Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic

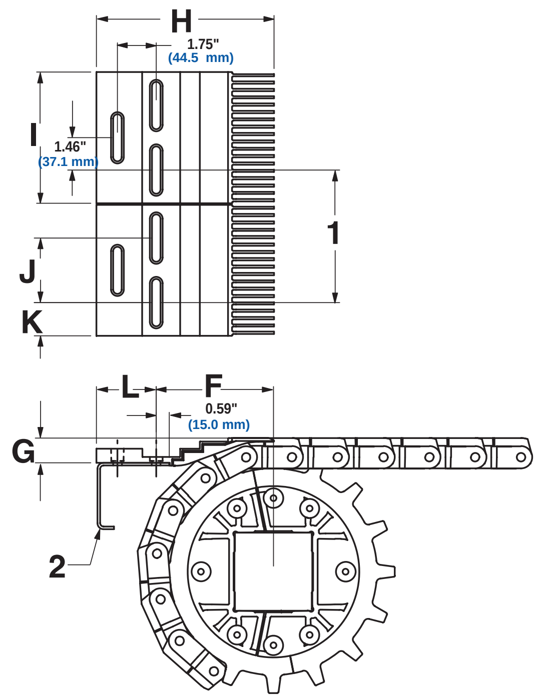
- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with the belt expansion and contraction.
- Stainless steel hardware is sold separately.



[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for Self-Clearing Finger Transfer Plate[1] Installations

	Self-Clearing	
	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.89	149.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8



Spacing at ambient temperature

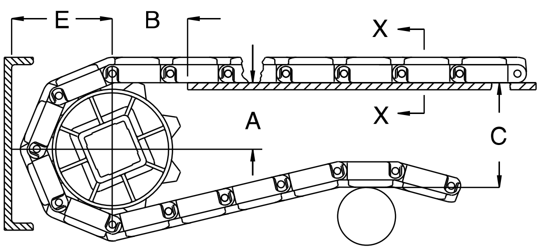
PP	5.952 in	151.2 mm	**1** Spacing
PE	5.933 in	150.7 mm	**2** Frame member

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

SECTION 2

[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 400 Flat Top, Flush Grid, Open Hinge										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.38	60
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	2.99	76
5.8	147	9[1]	2.44-2.61	62-66	2.70	69	5.95	151	3.49	89
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.61	92
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.24	108
8.4	213	13[1]	3.75-3.87	95-98	3.22	82	8.46	215	4.74	120
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.50	140
Series 400 Raised Rib										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.75	70
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.24	82
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.99	101
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.49	114
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.88	149
Series 400 Non Skid										
4.0	102	6	1.42-1.69	36-43	1.60	41	4.09	104	2.46	62
5.2	132	8	2.10-2.30	53-58	1.98	50	5.31	135	3.07	78
5.8	147	9	2.43-2.61	62-66	2.31	59	5.93	151	3.38	86
6.4	163	10	2.77-2.92	70-74	2.26	57	6.56	167	3.70	94
7.8	198	12	3.42-3.55	87-90	2.60	66	7.81	198	4.32	110
8.4	213	13	3.74-3.87	95-98	2.84	72	8.44	214	4.64	118
10.1	257	16	4.71-4.81	120-122	2.97	75	10.34	263	5.59	142
Series 400 Roller Top, Transverse Roller Top										
4.0	102	6	1.42-1.69	36-43	2.20	56	4.10	104	2.56	65
5.2	132	8	2.10-2.30	53-58	2.60	66	5.30	135	3.17	81
6.4	163	10	2.77-2.92	70-74	2.77	70	6.50	165	3.79	96
7.8	198	12	3.42-3.55	87-90	3.00	76	7.90	201	4.42	112
10.1	257	16	4.72-4.81	120-122	3.20	81	10.20	259	5.68	144
Series 400 0.85-in Diameter Transverse Roller Top										
4.0	102	6	1.27-1.54	32-39	1.72	44	3.96	101	2.48	63
5.2	132	8	1.95-2.15	50-55	2.13	54	5.18	132	3.09	78
6.4	163	10	2.62-2.77	67-70	2.43	62	6.42	163	3.71	94
7.8	198	12	3.27-3.40	83-86	2.78	71	7.68	195	4.34	110
10.1	257	16	4.56-4.66	116-118	3.20	81	10.20	259	5.60	142
Series 400 Angled Roller (0-, 30-, 45-, 60-, and 90-degree)[2]										
4.0	102	6	1.29-1.56	33-40	1.70	43	4.00	102	2.50	64
5.2	132	8	1.98-2.18	50-55	2.11	53	5.23	133	3.11	79
6.4	163	10	2.64-2.80	67-71	2.40	61	6.47	164	3.74	95
7.8	198	12	3.29-3.43	84-87	2.75	70	7.73	196	4.36	111
10.1	257	16	4.59-4.69	117-119	3.16	80	10.25	260	5.63	143
Series 400 Ball Belt[2]										
4.0	102	6	1.23-1.50	31-38	1.75	44	4.00	102	2.56	65
5.2	132	8	1.91-2.11	49-54	2.16	55	5.23	133	3.18	81
6.4	163	10	2.58-2.74	65-69	2.47	63	6.47	164	3.80	96
7.8	198	12	3.23-3.36	82-85	2.82	72	7.73	196	4.43	112
10.1	257	16	4.53-4.63	115-117	3.25	82	10.25	260	5.69	144

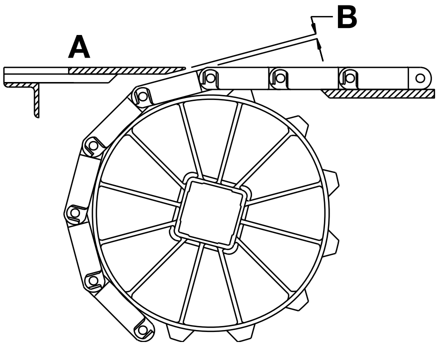
[1] Flush Grid acetal only.
[2] To establish dimensions, use the top of the roller as the top of the belt and the bottom of the roller as the bottom of the belt.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



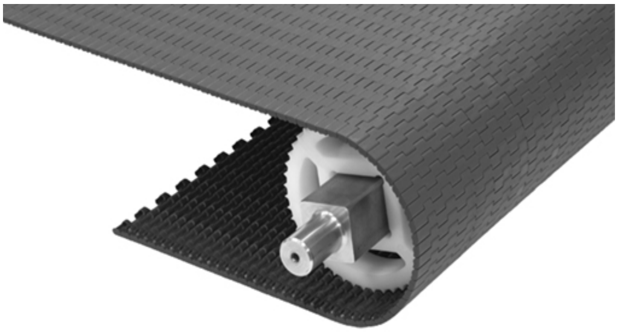
A Top surface of dead plate

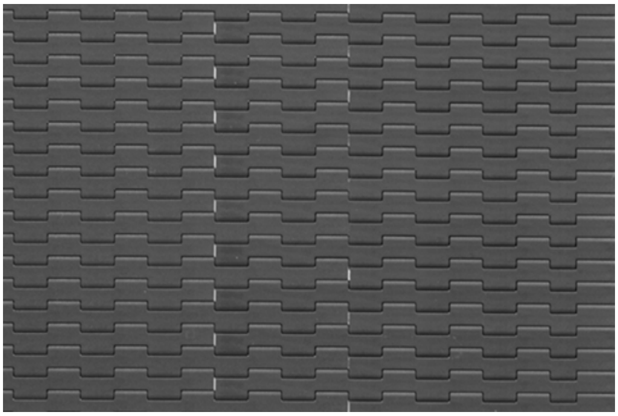
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
5.8	147	9 (Flush Grid acetal)	0.178	4.5
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
8.4	213	13 (Flush Grid acetal)	0.121	3.1
10.1	257	16	0.100	2.5

Tight Transfer Flat Top

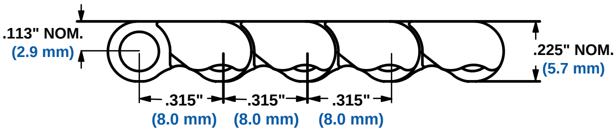
	in	mm
Pitch	0.315	8.0
Minimum Width	8	203.2
Width Increments	1	25.4
Open Area	0%	
Hinge Style	Open	
Drive Method	Center/hinge	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Designed for orientation-sensitive transfers.
- Reduced noise at higher speeds, when compared to S1100 Flat Top in acetal and S1500 Flush Grid in acetal.
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners.
- Conveys product over 0.25 in (6.4 mm) diameter nosebar.
- Back tension required: 12 lb./ft. of belt width (17.9 kg/m).
- Standard stainless steel retainer rings are recommended for use with 2.4 in and 3.2 in PD sprockets; corresponding heavy-duty retainer rings can also be used.

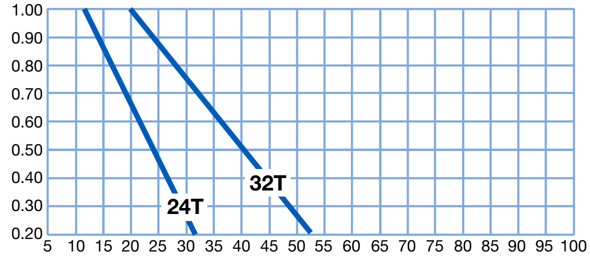


Belt Data

Base belt material	Standard rod material Ø 0.14 in (3.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	150	220	-50 to 200	-46 to 93	1.10	5.37
HHR nylon	Nylon	85	126	-50 to 240	-46 to 116	0.85	4.15

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
8	203	3	3	3
9	229	3	3	3
10	254	4	3	3
11	279	4	4	3
12	305	4	4	3
13	330	4	4	4
14	356	4	4	4
15	381	5	4	4
16	406	5	5	4
17	432	5	5	4
18	457	5	5	4
19	483	5	5	5
20	508	6	5	5
24	610	6	6	5
30	762	8	7	6
36	914	9	9	7
42	1067	10	10	8
48	1219	11	11	9
54	1372	12	12	10
60	1524	14	13	11
66	1676	15	15	12
72	1829	16	16	13
78	1981	17	17	14
84	2134	18	18	15
90	2286	20	19	16
96	2438	21	21	17
120	3048	26	25	21
156	3962	33	33	27
For other widths, use an odd number of sprockets[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

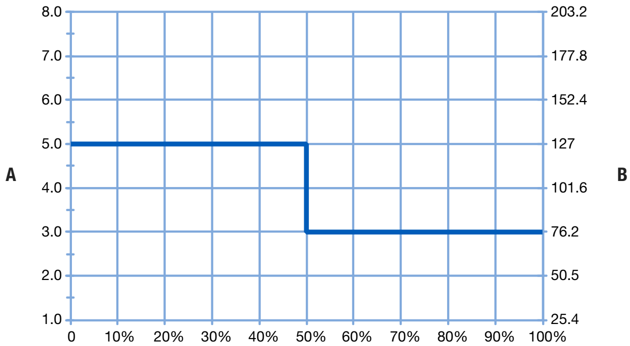


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of speed/length ratio and appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



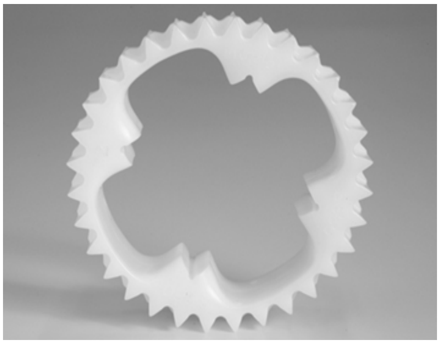
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with a minimum width of 8 in (203.2 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprockets. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

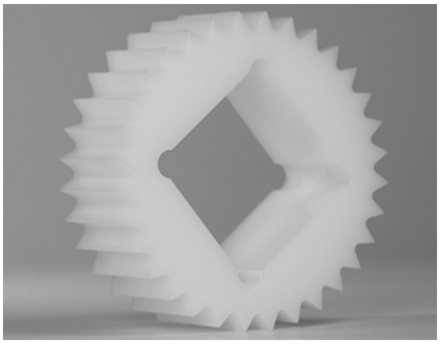
EZ Clean™ Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[1]	U.S. Square in	Metric Round mm	Metric Square mm
24 (0.86%)	2.4	61	2.4	61	1	25	1	1	25	
32 (0.48%)	3.2	81	3.2	81	1	25		1.5		40



Non-Tracking Sprocket

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
24 (0.86%)	2.4	61	2.4	61	1.48	38	1	1	25	
32 (0.48%)	3.2	81	3.2	81	1.48	38		1.5		40

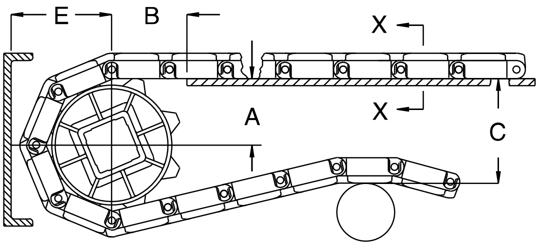


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description: Pitch Diameter in	Pitch Diameter mm	No. Teeth	A Range (Bottom to Top) in	A Range (Bottom to Top) mm	B in	B mm	C in	C mm	E in	E mm
Series 550 Tight Transfer Flat Top										
2.4	61	24	1.09	28	1.27	32	2.41	61	1.38	35
3.2	81	32	1.49	38	1.51	38	3.21	82	1.78	45

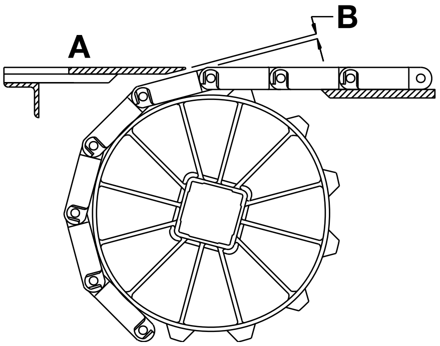
[1] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967(R1989) and metric key sizes conform to DIN standard 6885.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



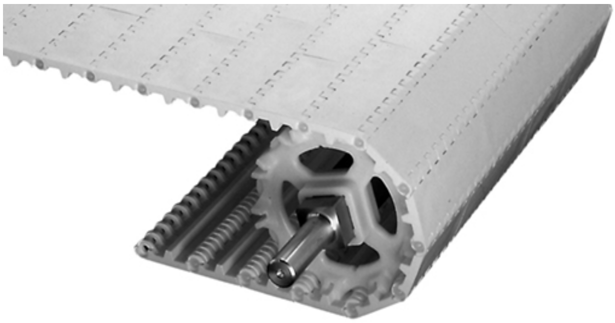
A Top surface of dead plate

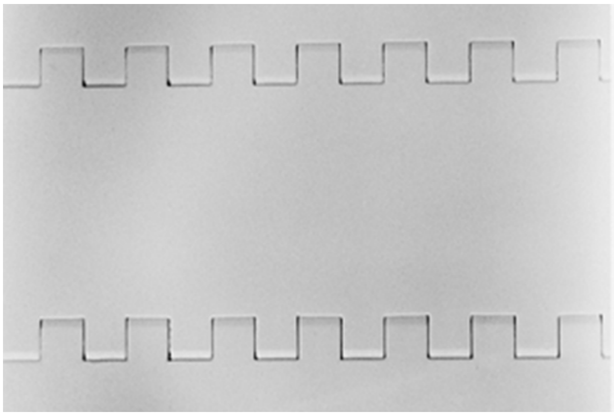
B Dead plate gap

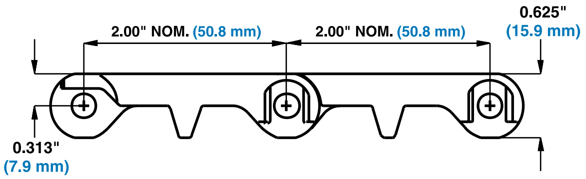
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.4	61	24	0.028	0.7
3.2	81	32	0.021	0.5

Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

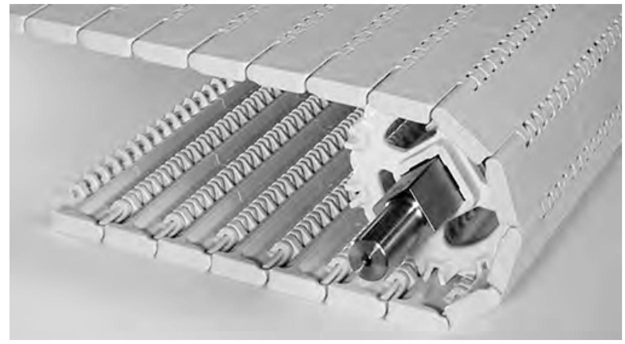
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough meat industry applications.
- Flights and sideguards are available.

Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.75	13.43
Nylon	Polyethylene	1200	1780	-50 to 150	-46 to 66	2.32	11.33
Detectable polypropylene A22	Polyethylene	650	967	34 to 150	1 to 66	2.21	10.79

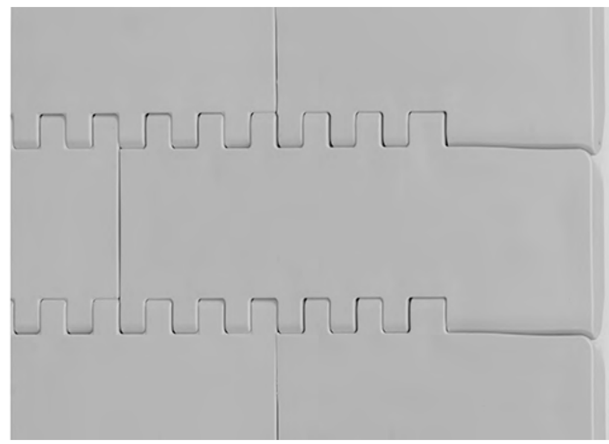
Flat Top with Heavy-Duty Edge

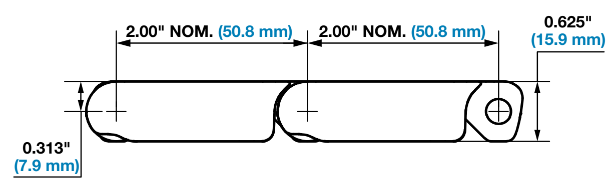
	in	mm
Pitch	2.00	50.8
Minimum Width	10	254.0
Width Increments	0.66	16.8
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact-resistant belt designed for tough, meat-industry applications.
- Closed flush edge provides belt robustness and no catch points.
- Fully sculpted and radiused corners, with no pockets or sharp corners that can catch and hold debris.
- Like Series 1600 and Series 1800, the drive bar on the underside of this belt style channels water and debris to the outside of the belt for easier, faster cleanup. The drive bar sweeps into the closed edge to further aid in washing away debris. Drive bar effectiveness is proven both in-house and in field tests.
- Streamlined flights are available.
- For flight options, contact Intralox Customer Service.

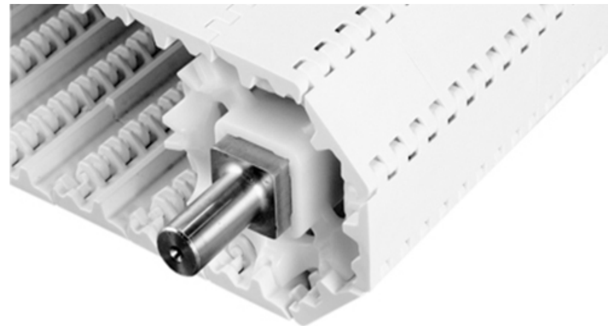




Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
PK	PK	900	1340	-40 to 220	-40 to 93	2.46	12.01

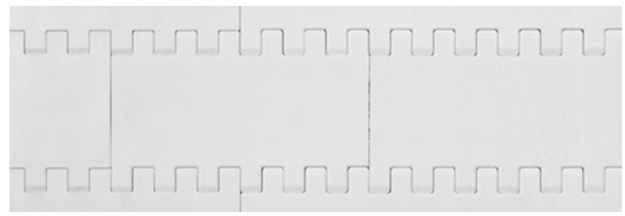
Open Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

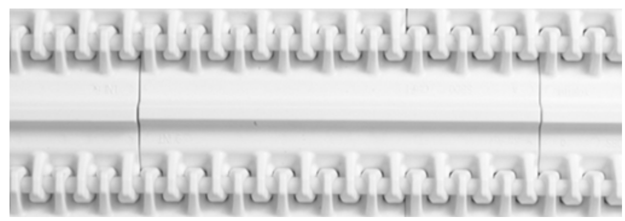


Product Notes

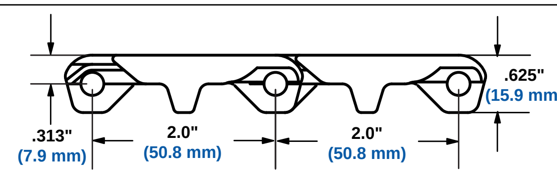
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Like Series 1600 and Series 1800, the drive bar channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness has been proven both in-house and in field tests.
- Compatible with industry-proven Series 800 Flat Top. Can be spliced directly into Series 800 Flat Top, using the same sprockets and accessories.
- Streamlined flights are available. Standard height is 6 in (152.4 mm). Flights can also be cut down to custom heights.



Top Side



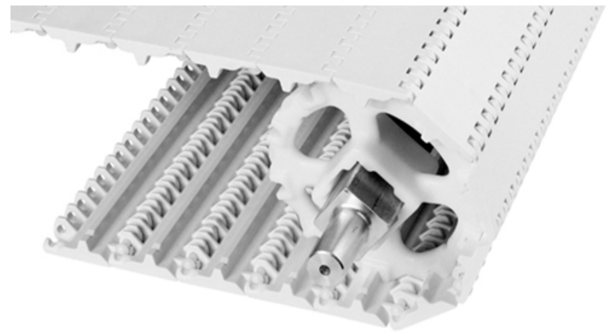
Under Side

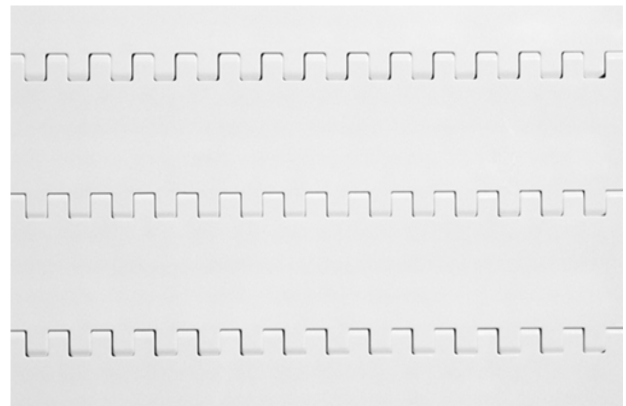


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	1340	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3
PK	PK	900	1340	-40 to 220	-40 to 93	2.46	12.01
X-Ray Detectable Acetal	X-Ray Detectable Acetal	900	1339	-50 to 200	-46 to 93	3.06	14.94

SeamFree™ Open Hinge Flat Top

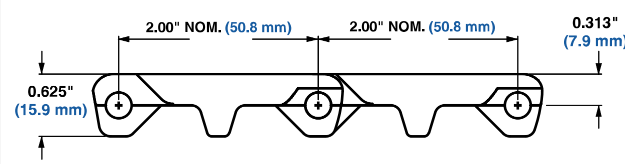
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Fully sculpted and radiused corners, so there are no pockets or sharp corners to catch and hold debris.
- Like Series 1600 and Series 1800, the drive bar channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness has been proven both in-house and in field tests.
- Compatible with industry-proven Series 800 Flat Top. Can be spliced directly into Series 800 Flat Top, using the same sprockets and accessories.
- Belts over 36 in (914 mm) are built with multiple modules per row, but seams are minimized.
- Streamlined flights are available. Standard height is 6 in (152.4 mm). Flights can also be cut down to custom heights.



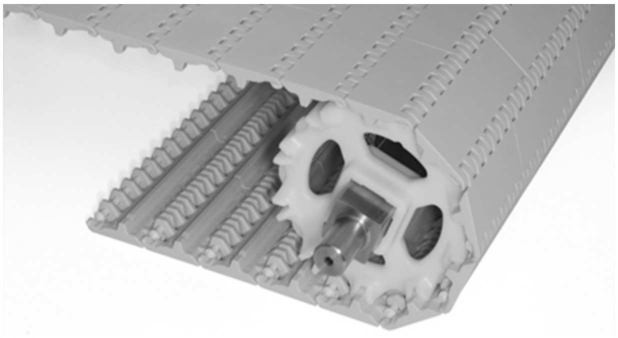
Belt Data

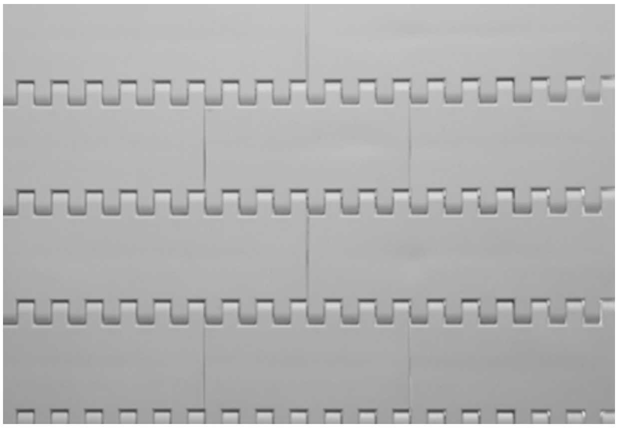
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3
X-Ray Detectable Acetal[1]	Blue polyethylene	900	1340	-50 to 150	-46 to 66	2.98	13.67

[1] Designed specifically for detection by X-ray machines.

Tough Flat Top

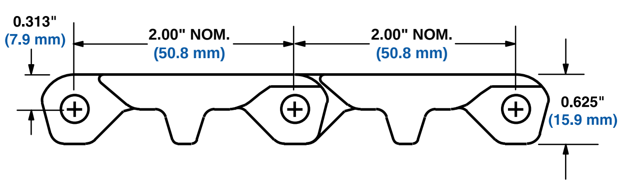
	in	mm
Pitch	2.00	51.0
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

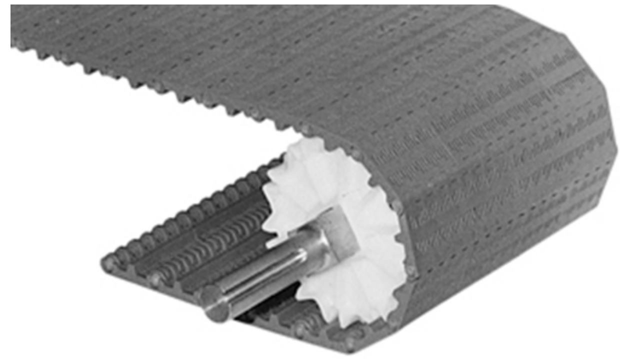
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- White and gray material is fully Food and Drug Administration (FDA) and EU MC compliant.
- Smooth, closed upper surface with fully flush edges.
- Withstands extreme impact in food processing applications.
- Cam-link designed hinges expose more hinge and rod area as the belt goes around the sprocket. This exclusive Intralox® feature allows unsurpassed cleaning access to this area.
- Like Series 1600 and Series 1800, the drive bar channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness has been proven both in-house and in field tests.
- Compatible with industry-proven Series 800 Flat Top and Series 800 Open Hinge. Can be spliced directly into both styles, using the same sprockets and accessories.
- Easy retrofit from Series 1800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of Series 1800.
- Streamlined Tough flights are available. Standard height is 4 in or (101.6 mm) or 6 in (152.4 mm). Flights can be cut down to custom heights. A molded-in indent 1.3 in (33 mm) from the edge is available.



Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Hi-Impact	Acetal	500	744	0 to 120	-18 to 49	2.26	11.03
Hi-Impact	Polyethylene	450	670	0 to 120	-18 to 49	2.26	11.03

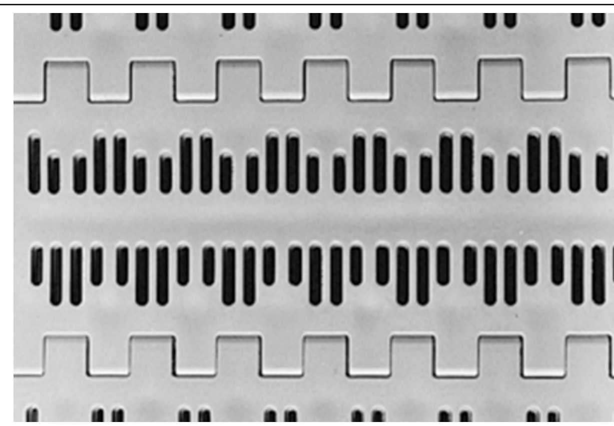
Perforated Flat Top

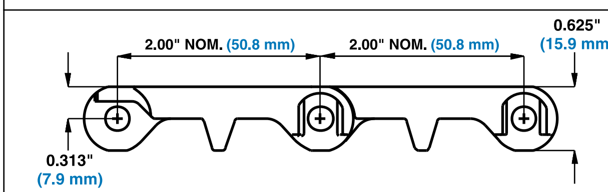
	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Min. Opening Size (approx.)	0.29 × 0.08	7.4 × 1.9
Max Opening Size (approx.)	0.44 × 0.08	11.1 × 1.9
Open Area	18%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Perforated version of Series 800 Flat Top.
- Flights and sideguards are available.

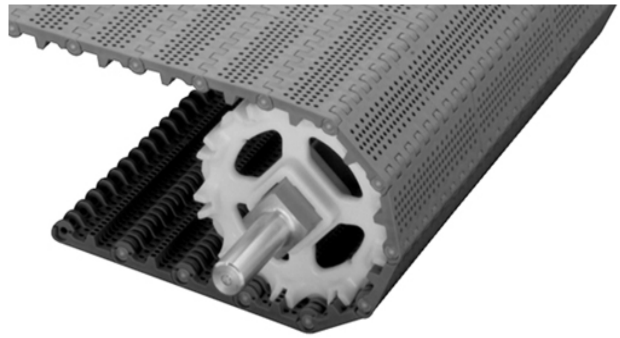




Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.54	7.25
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.28	11.15

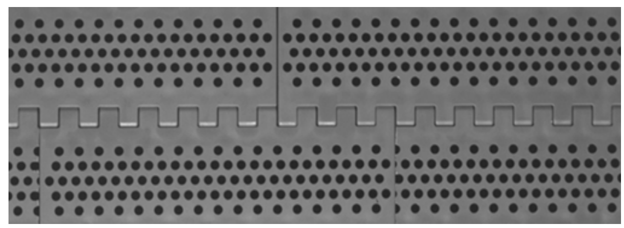
Perforated Flat Top Round Hole

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	See photos on right.	
Open Area	See photos on right.	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

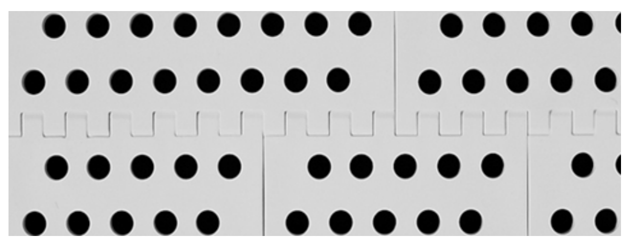


Product Notes

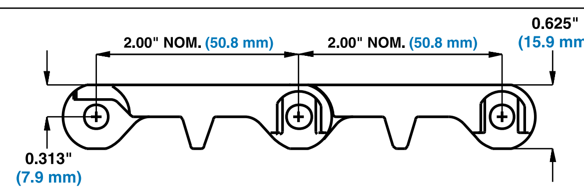
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Round hole versions of Series 800 Perforated Flat Top.
- Stainless steel split sprockets are not recommended.
- For abrasive applications, use with Series 800 polyurethane sprockets.



5/32 in (4 mm) - 20% open area



11/32 in (8.7 mm) - 14% open area

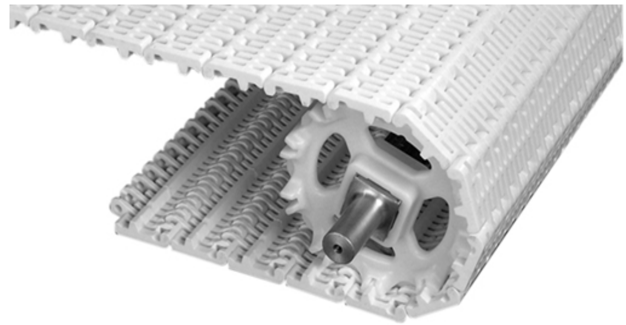


Belt Data								
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.54	7.52
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.59	7.76
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.28	11.15
CRFR[1]	CRFR	900	1339	0 to 150	-18 to 66	2.87	14.01

[1] Only available in 11/32 in (8.73 mm)

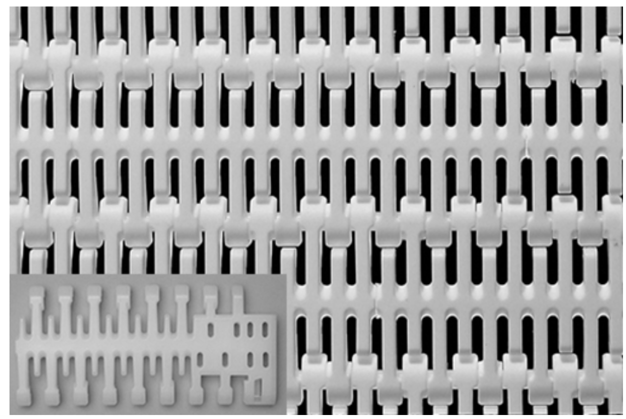
Flush Grid

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	73%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

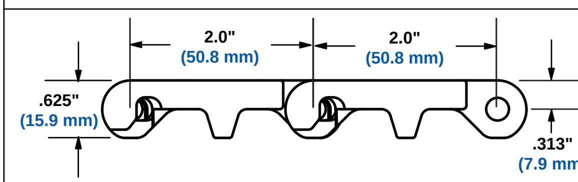


Product Notes

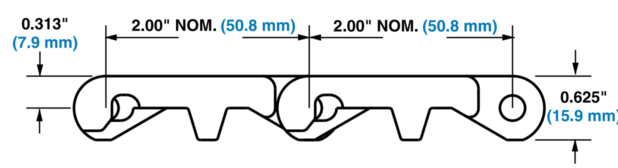
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Open slots improve drainage and cleanability.
- Perforations on polyethylene edge modules are slightly different. See inset photo on right.
- Provides excellent drainage during production and cleanup. Hole design eliminates water collecting on belt surface and being carried throughout processing line.
- Bi-directional belt design allows sprockets to drive or idle belt in both directions. Reduces chances of installation error.
- Complete range of accessories available, including round-top flights, flights with drainage bases, and sideguards.



Inset: Polyethylene edge module



Drawing for polyethylene



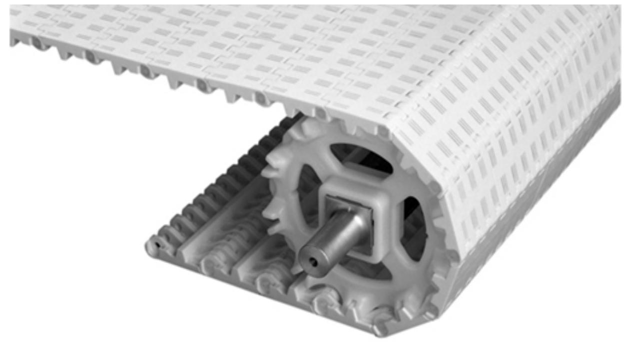
Drawing for all other materials

Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.45	7.08
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.63	7.96
Acetal	Polyethylene	1000	1490	-50 to 150	-46 to 66	2.25	10.99
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	2.25	10.99
Detectable polypropylene A22	Polypropylene	500	744	34 to 150	1 to 66	1.71	8.35
CRFR	CRFR	1000	1488	0 to 150	-18 to 66	2.83	13.82

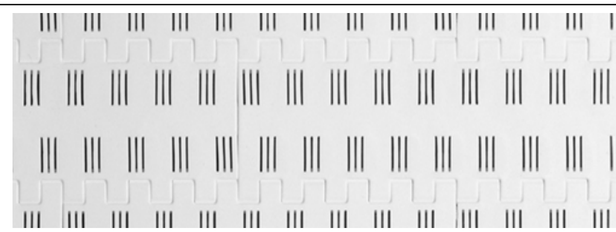
Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	0.50 × 0.04	12.7 × 1.0
Open Area	9%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

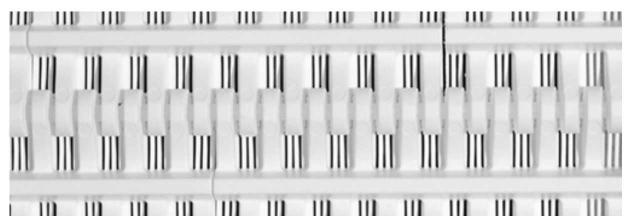


Product Notes

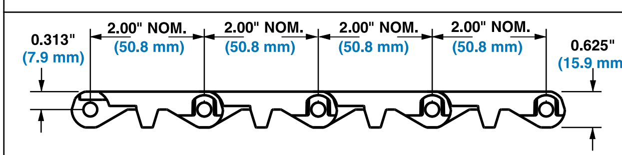
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Flights are available.
- Not compatible with sideguards.



Top surface



Underside surface



Belt Data

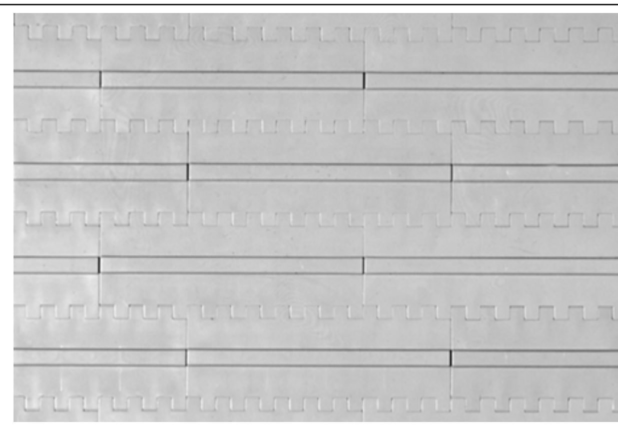
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.60	7.86

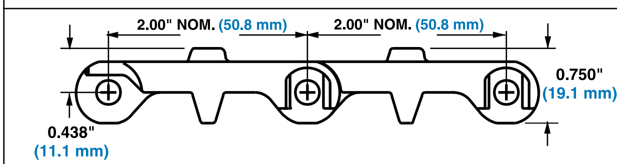
Mini Rib

	in	mm
Pitch	2.00	50.8
Minimum Width	2	51
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed surface with fully flush edges.
- Impact resistant belt designed for tough meat industry applications.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Sales Engineering.
- 0.125 in (3 mm) Mini Rib on surface accommodates gradual inclines and declines.





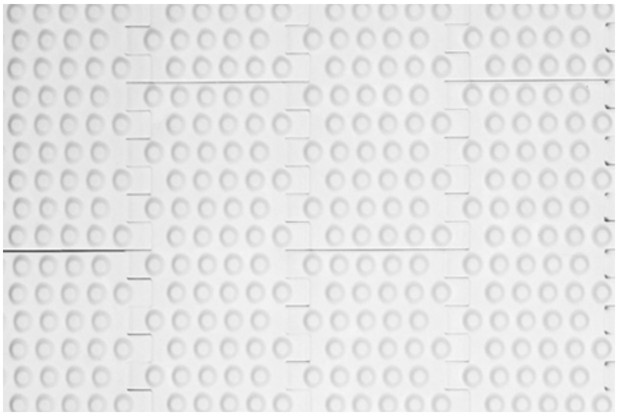
Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.77	8.66
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.87	9.13
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.92	14.26

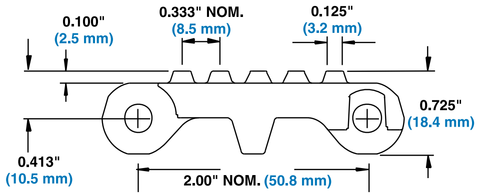
Nub Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Open Area	0%	
Product Contact Area	15%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Sales Engineering.
- Standard flights and sideguards (without nubs) are available.
- Nub standard indent is 1.3 in (33.0 mm).

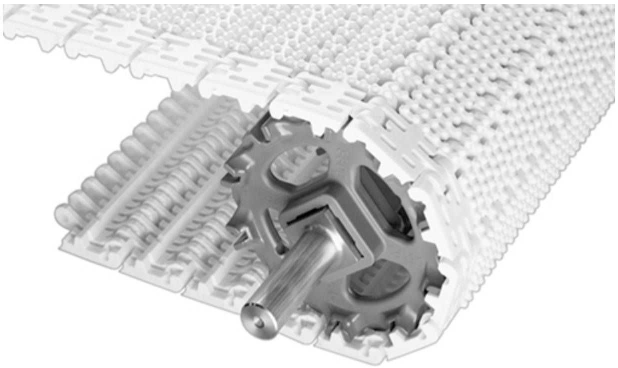




Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.90	9.26
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	2.01	9.80
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.95	14.40

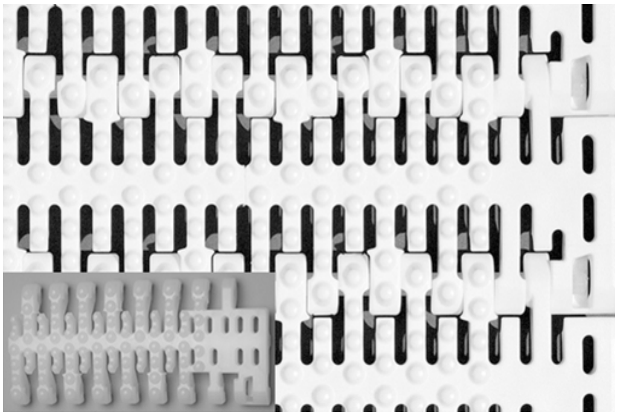
Flush Grid Nub Top

	in	mm
Pitch	2.00	50.8
Minimum Width	4.6	117
Width Increments	0.66	16.8
Opening Size (approximate)	0.15 × 0.90	3.8 × 22.9
Open Area	27%	
Product Contact Area	15%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge, unheaded	

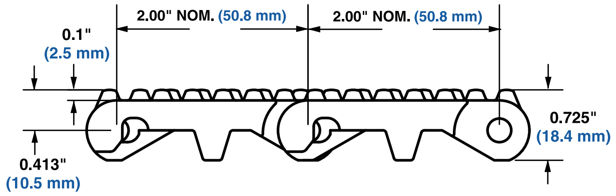


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Manufactured in acetal and polypropylene.
- Perforations on polyethylene edge modules are slightly different. See inset photo.
- Nub pattern reduces contact between belt surface and product.
- Nub pattern is continuous over the surface of the belt, even over the hinges.
- Recommended for products large enough to span the distance between the nubs.
- Compatible with Series 800 Flush Grid flights only.
- Standard Nub indent is 1.3 inches (33.0 mm).



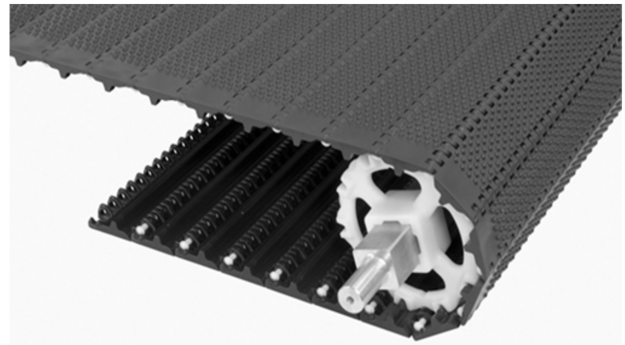
Inset: polyethylene edge module

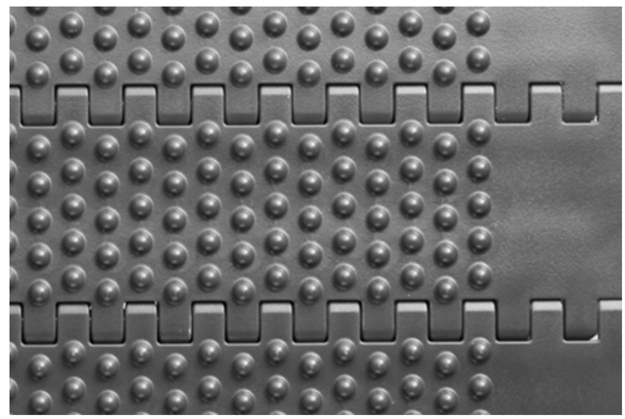


Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.56	7.62
Acetal	Polyethylene	1000	1490	-50 to 150	-46 to 66	2.36	11.52
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	2.36	11.52
Polyethylene	Polyethylene	500	750	-50 to 150	-46 to 66	1.85	9.03

SeamFree™ Open Hinge Nub Top™

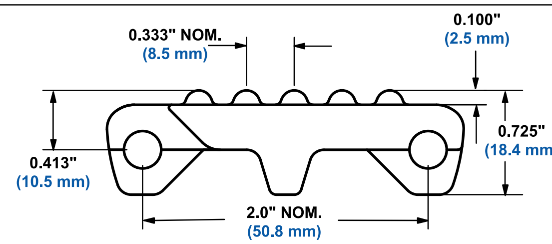
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

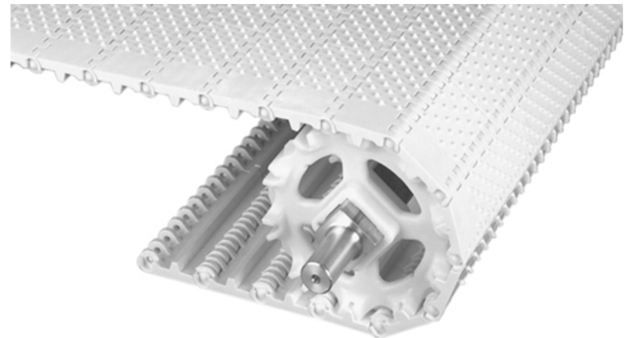
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for more information
- Nub height: 0.100 in (2.5 mm).
- Nub spacing: 0.333 in (8.5 mm).
- Standard nub indent: 1.3 in (33.0 mm).



Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.72	13.26

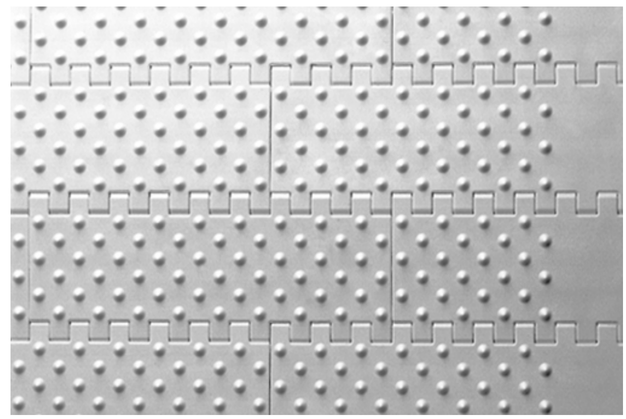
Cone Top™

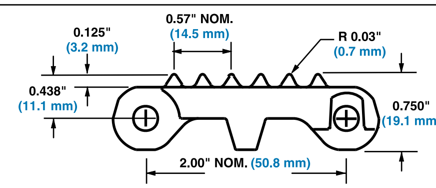
	in	mm
Pitch	2.00	50.8
Minimum Width	4	102
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Not recommended for product accumulation conditions. If values are required, contact Intralox Sales Engineering.
- Standard flights and sideguards (without cones) are available.
- Cone standard indent is 1.3 in (33.0 mm).

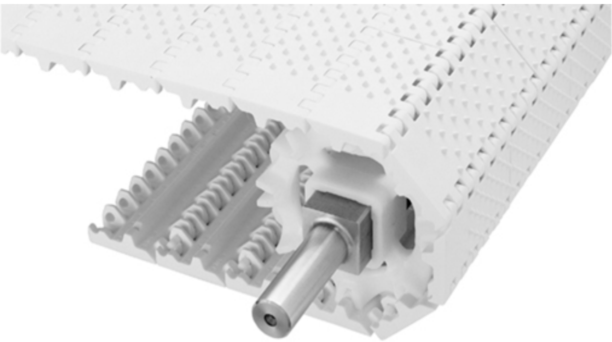


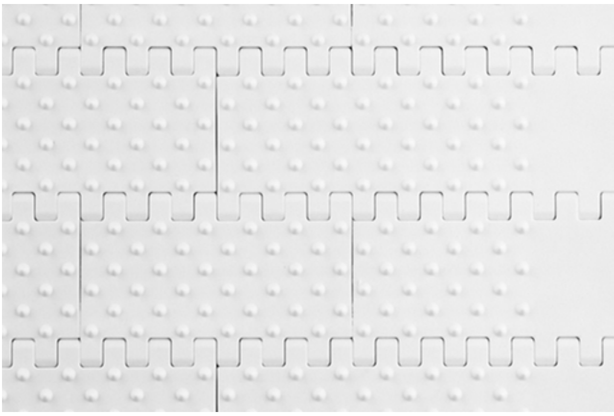


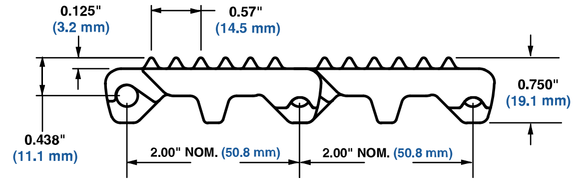
Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.84	13.89

Open Hinge Cone Top™

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

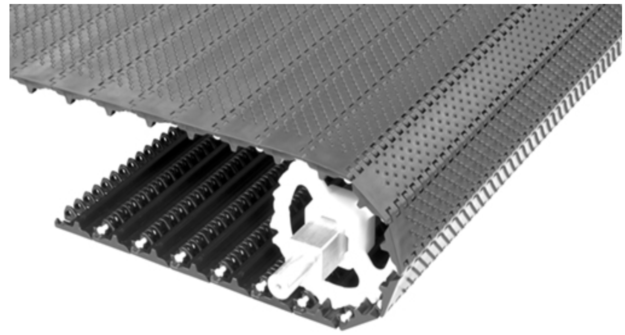
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners, with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for more information.
- Standard flights and sideguards (without cones) are available.
- Standard cone indent: 1.3 in (33.0 mm).

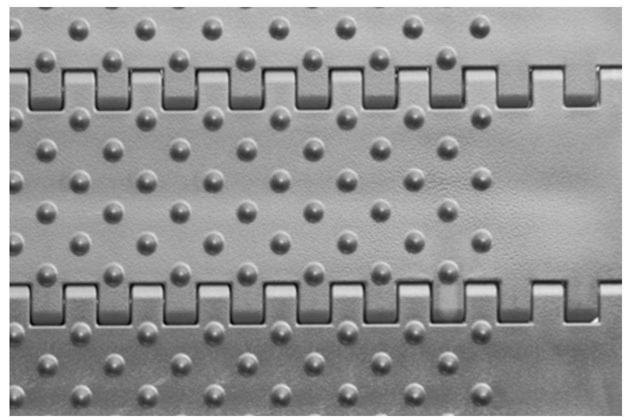
Belt Data

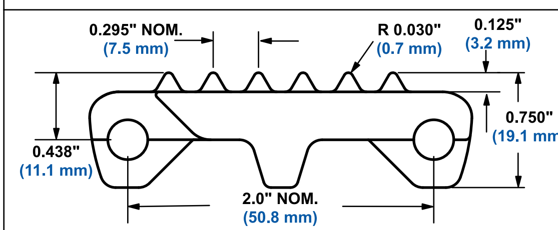
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	900	1340	34 to 220	1 to 104	1.63	7.96
Polyethylene	Polyethylene	500	740	-50 to 150	-46 to 66	1.70	8.30
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.52	12.3

SeamFree™ Open Hinge Cone Top™

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	0.66	16.8
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







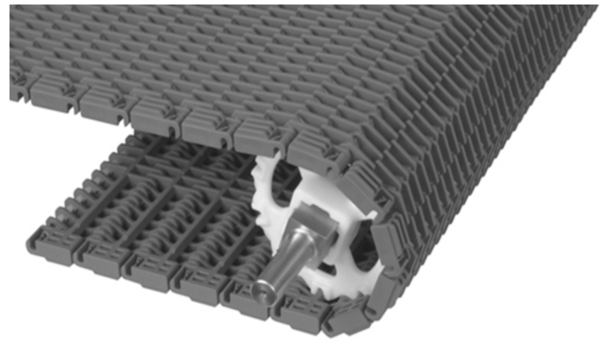
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact the Intralox Technical Support Group for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.295 in (7.5 mm).
- Standard cone indent: 1.3 in (33 mm).

Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polyethylene	900	1340	-50 to 150	-46 to 66	2.61	12.72

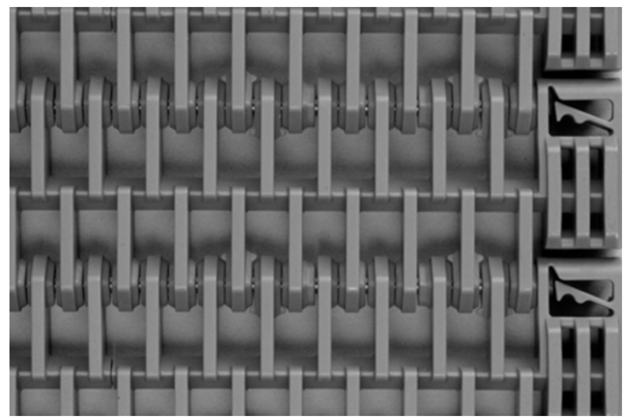
Raised Rib

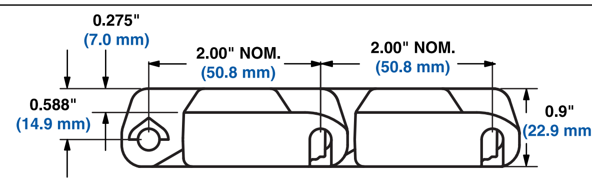
	in	mm
Pitch	2.00	50.8
Minimum Width	14	356
Width Increments	2.00	50.8
Opening Sizes (approx.)	0.51 x 0.49	12.9 x 12.4
Open Area	40%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open slots improve drainage and cleanability.
- Cam-link design hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Fully compatible with Series 800 EZ Clean™ angled sprockets.
- Finger transfer plates are available.
- Raised Ribs extend 0.275 in (7.0 mm) above basic module with fully flush edges.



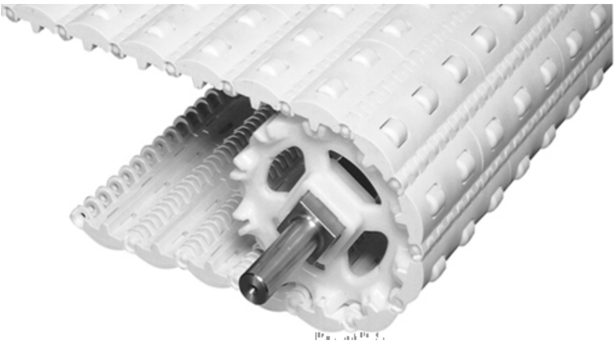


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.48	7.23
Enduralox PP	Polypropylene	1000	1490	34 to 220	1 to 104	1.48	7.23

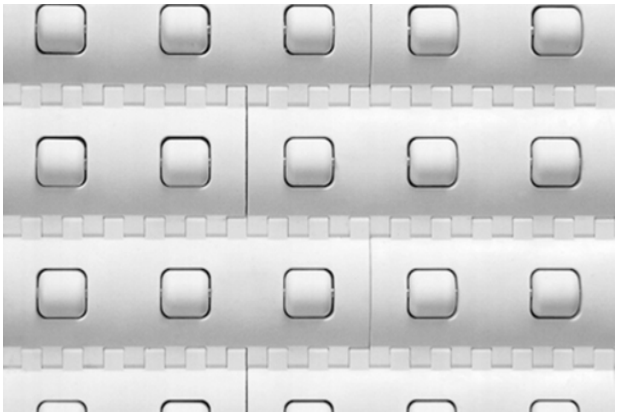
Roller Top

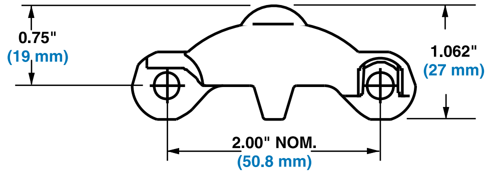
	in	mm
Pitch	2.00	50.8
Minimum Width	See Product Notes	
Width Increments		
Opening Size (approximate)	-	-
Open Area	3%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges.
- Uses acetal rollers.
- Uses stainless steel axles.
- Impact resistant belt designed for tough box and package, low back-pressure applications.
- Back-up load is 5–10% of product weight.
- Roller diameter: 0.70 in (17.8 mm). Roller length - 0.825 in (20.9 mm).
- Roller spacing: 2.0 in (50.8 mm).
- Standard roller indent: 0.60 in (15 mm).
- Custom widths of 4 in (102 mm) and 6 in (152 mm) and from 10 in (254 mm) and up, in 2.00 in (50.8 mm) increments.



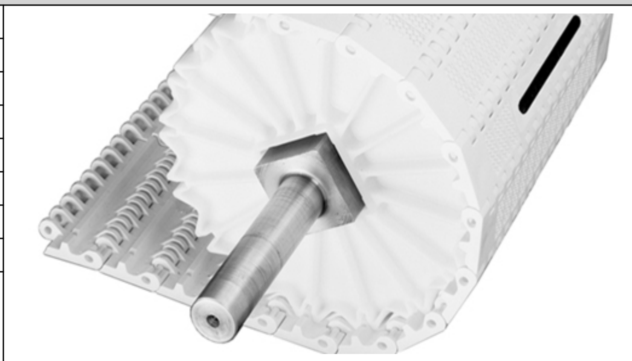


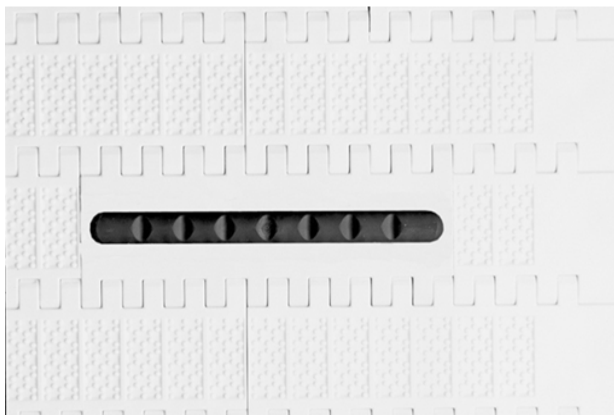
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1000	1490	34 to 200	1 to 93	2.93	14.34
Polyethylene	Acetal	500	750	-50 to 150	-46 to 66	2.99	14.62
Acetal	Acetal	900	1340	-50 to 150	-46 to 66	4.11	20.10

Rounded Friction Top

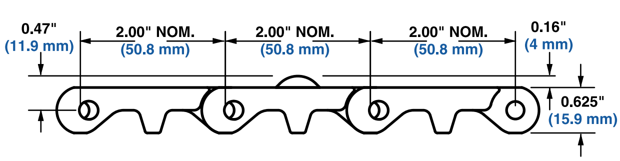
	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

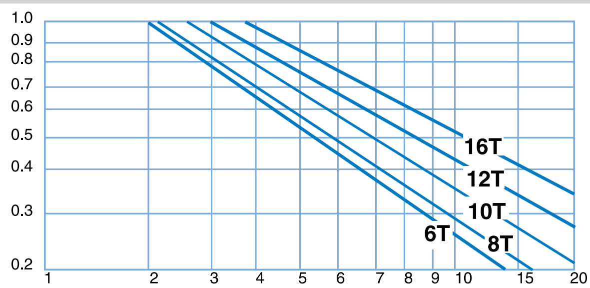
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- The Rounded Friction Top module is black rubber on a white PP composite base module.
- No mistracking or stick-slip effect, even on long runs. Belt is positively tracked by the sprocket drive system instead of unreliable friction rollers.
- Thermally bonded rubber does not peel off. Friction Top surface is co-molded (thermally bonded) with the plastic base instead of glued on or mechanically fastened.
- Rounded Friction Top module can be used with other S800 styles. Use the belt strength rating of the accompanying modules.
- Easy to maintain and repair: Intralox reusable unheaded rods are quickly removed and installed with only minimal tools, so one can replace individual modules in minutes.
- No tensioning required, which eliminates expensive tensioning systems.
- Lower construction cost: Intralox sprocket drive requires far less space than a friction roller system, allowing shallow, less expensive trench construction.
- Lower wearstrip replacement cost: Flat Top edge modules prevent premature wearstrip erosion. The smooth surface spans 1.5 in (38.1) mm from the outer edge.



Belt Data									
Base belt material	Base/ friction color	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top hardness
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²	
Polypropylene Composite	White/ Black	Acetal	2500	3713	-50 to 150	-46 to 66	2.3	11.25	-

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

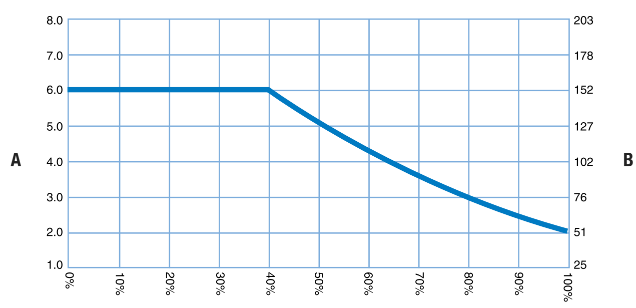


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.

[2] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.

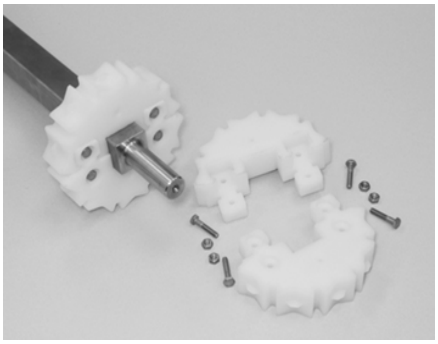
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

EZ Clean™ Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	U.S. Square in	Metric Round mm[2]	Metric Square mm
6 (13.40%)	4.0	102	3.8	97	1.5	38	1.0	1.5	30	40
8 (7.61%)	5.2	132	5.0	127	1.5	38	1.0	1.5	30	40
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40

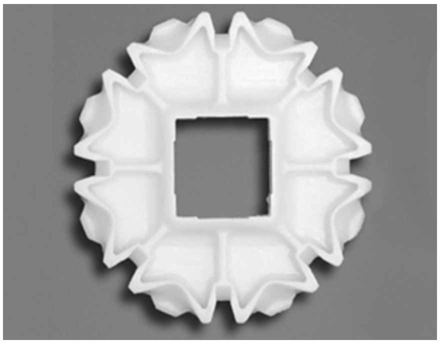
Split Ultra Abrasion Resistant Polyurethane (FDA) Sprocket[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[4]	U.S. Square in	Metric Round mm[4]	Metric Square mm
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5		40
								2.5		60
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40
								2.5		60



Molded Sprocket[5]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
8 (7.61%)	5.2	132	5.0	127	1.5	38		1.5		40
10 (4.89%)	6.5	165	6.2	157	1.5	38		1.5		40
								2.0		
								2.5		60
12 (3.41%)	7.7	196	7.5	191	1.5	38		1.5		40
								2.5		60
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40
								2.5		60



1 Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

2 U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885

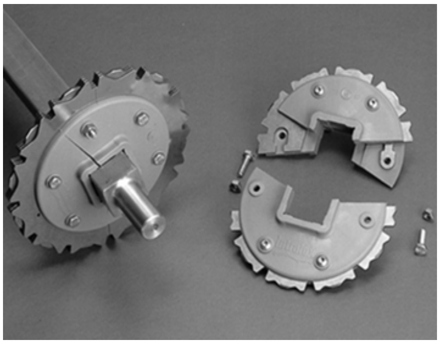
3 Contact Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets. These sprockets are FDA approved.

4 U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885

5 Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0° F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

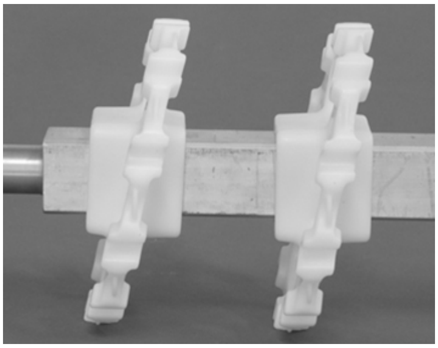
Abrasion Resistant Split Metal Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.0	127	1.7	43		1.5		40
								2.5		60
10 (4.89%)	6.5	165	6.2	157	1.7	43		1.5		40
								2.5		60
12 (3.41%)	7.7	196	7.5	191	1.7	43		1.5		40
								2.5		60
16 (1.92%)	10.3	262	10.1	257	1.7	43		1.5		40
								2.5		60



Angled EZ Clean™ Sprocket[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	2.0	50.8		1.5		40
								2.5		60



Sprocket Spacer[3]

Nom. Sprocket Spacer Width in	Nom. Sprocket Spacer Width mm	Available Bore Sizes			
		U.S. Sizes		Metric Sizes	
		Round in	Square in	Round mm	Square mm
1.0	25		1.5		40
1.5	38		1.5		40
2.0	51		1.5		40
4.0	102		1.5		

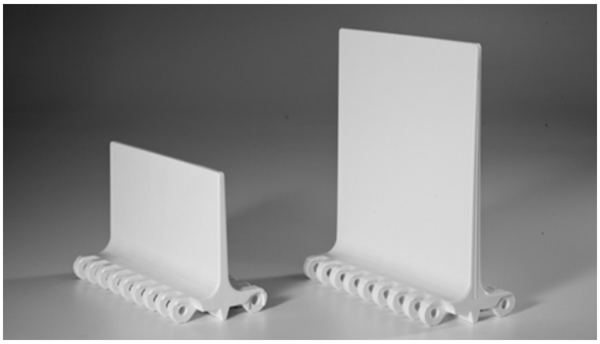
[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times. Do not use Angled EZ Clean Sprockets with Series 800 Mesh Top.
[3] Contact Intralox Customer Service for available materials.

SECTION 2
800

Streamline Flights[1]

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal, nylon
2	51	
3	76	
4	102	
6	152	

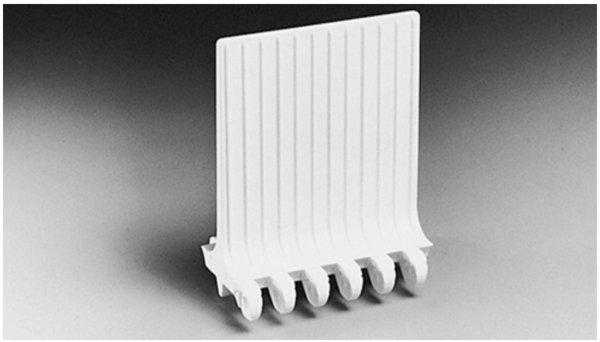
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flat Top flight is smooth (streamlined) on both sides.
- An extension can be welded at a 45-degree angle to create a bent flight.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



Flat Top Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

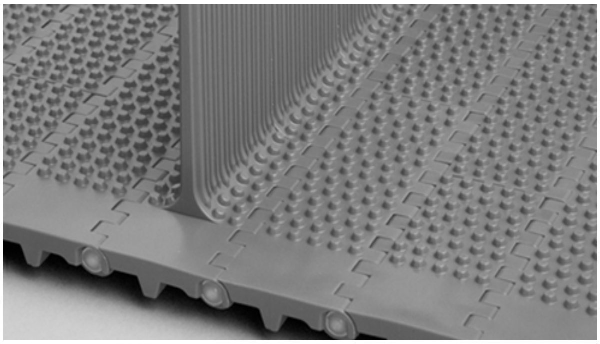
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



Nub Top Base Flights (Double No-Cling)

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).

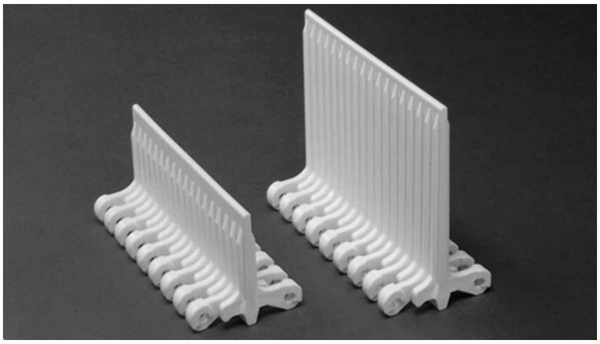


[1] Contact Intralox Customer Service for availability.

Flush Grid Base Flight (No-Cling)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal, CRFR, Detectable Polypropylene A22
4	102	

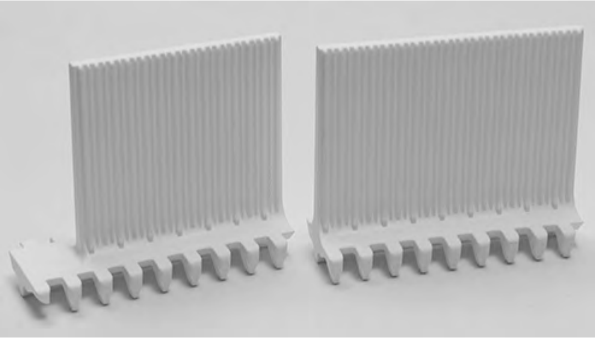
- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- These flights cannot be used with the S800 Perforated Flat Top (Slotted version with 18% open area).
- Molded 1.3 in (33 mm) indent available.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



No-Cling Impact Resistant Open Hinge Flights

Available Flight Height		Available Materials
in	mm	
4	102	Acetal, polypropylene, polyethylene

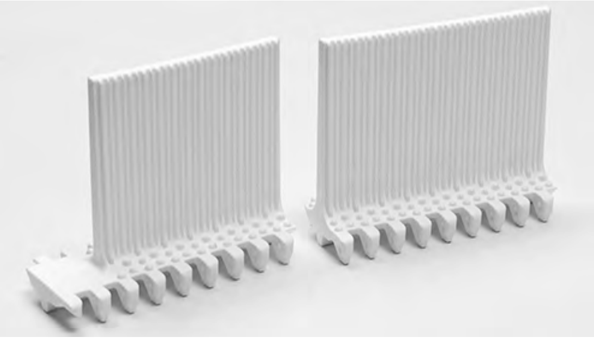
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



No-Cling Impact Resistant Open Hinge Nub Top Flights

Available Flight Height		Available Materials
in	mm	
4	102	Acetal, polypropylene

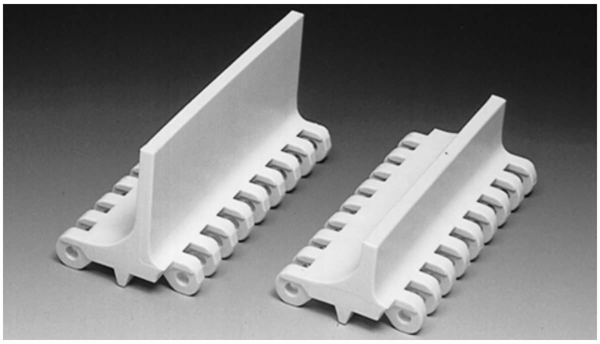
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Available with a 1.3 in (33 mm) molded indent.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



Impact Resistant Flights

Available Flight Height		Available Materials
in	mm	
1	25	Acetal, X-Ray Detectable Acetal
2	51	
3	76	
4	102	

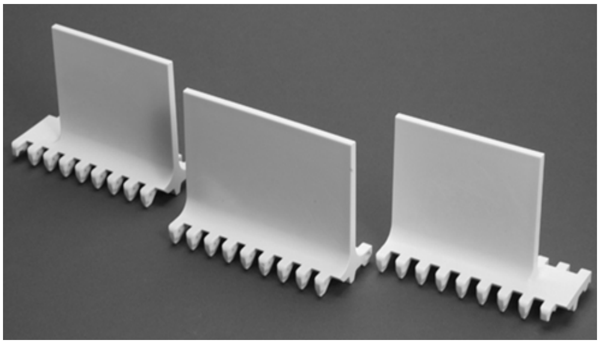
- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 1.3 in (33 mm).



Open Hinge Impact Resistant Flights

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal, X-ray detectable acetal, CRFR, PK
6	152	

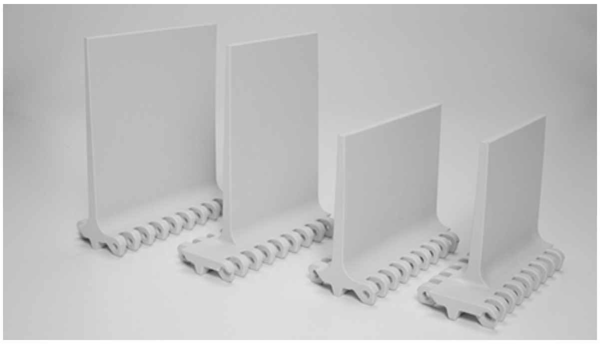
- Each flight rises out of the center of its supporting module. No fasteners are required.
- Standard 4 in (102 mm) height can be cut to suit application.
- Available with 1.3 in (33 mm) and 2 in (51 mm) molded indent.
- Minimum indent without sideguards: 1.3 in (33 mm).



Tough Flights

Available Flight Height		Available Materials
in	mm	
4	102	Hi-Impact
6	152	

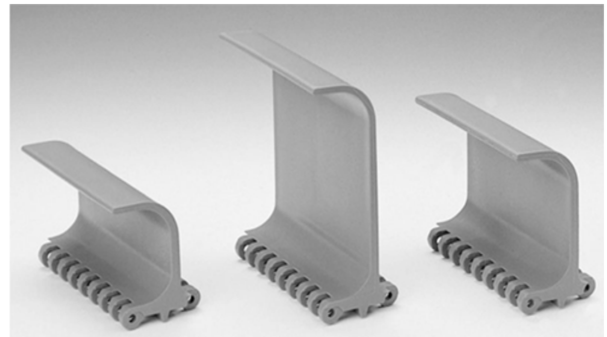
- Each flight rises out of the center of its supporting module. No fasteners are required.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Molded 2 in (51 mm) indent available.
- Minimum indent without sideguards: 1.3 in (33 mm).



Scoop Flights[1]

Available Flight Height		Available Materials
in	mm	
3	76	Polypropylene, polyethylene, acetal, nylon, CRFR
4	102	
6	152	

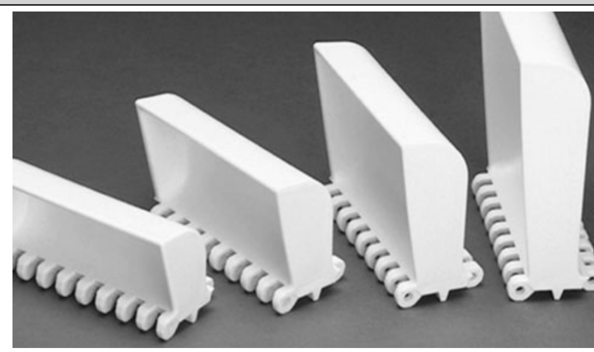
- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards:1.3 in (33 mm).



Bucket Flights[2]

Available Flight Height		Available Materials
in	mm	
2.25[3]	57[4]	Polypropylene, polyethylene, acetal
3	76	
4	102	
6	152	

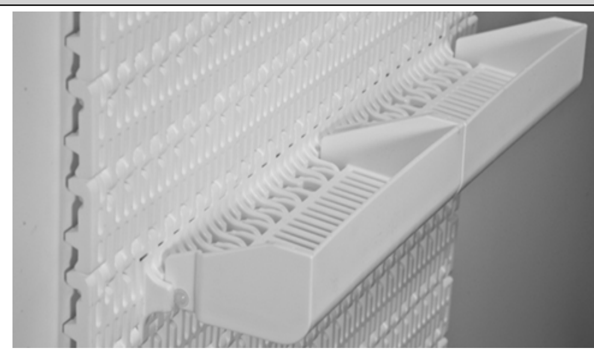
- Each flight rises out of its supporting module, molded as an integral part. No fasteners are required.
- Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Minimum indent without sideguards:1.3 in (33 mm).



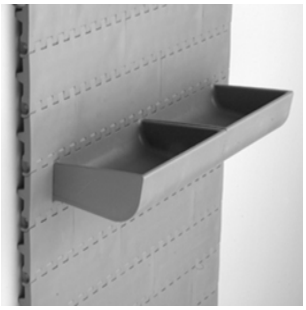
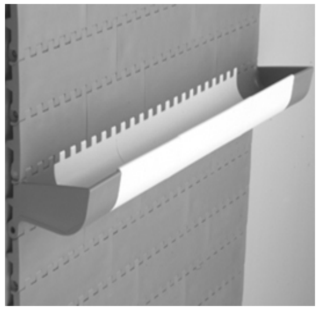
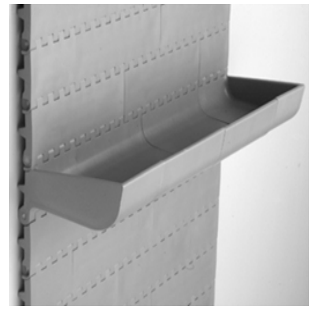
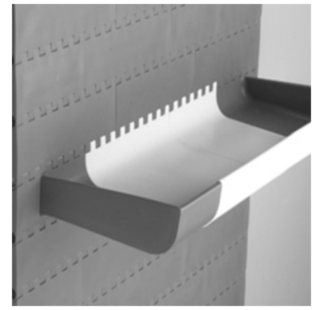
3-Piece Perforated Bucket and Scoop Flights

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene[4], acetal[6]

- Flights consist of 3 pieces: the base module, the attachment, and the rod.
- Open slots improve drainage for inclines.
- Flight surface has 30% open area.
- Belt surface has 0% open area. Base module is S800 Flat Top Open Hinge.
- Flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.
- Do not use with S800 Perforated Flat Top (slotted version with 18% open area) or S800 Flush Grid Nub Top.
- Bucket profile has a 0.27 in (6.9 mm) gap between the belt top surface and the bottom surface of bucket side panel.
- Approximate flight surface opening size: 0.130 in (3.3 mm) × 2.40 in (70.0 mm).
- Minimum indent without sideguards:2.00 in (50.8 mm).



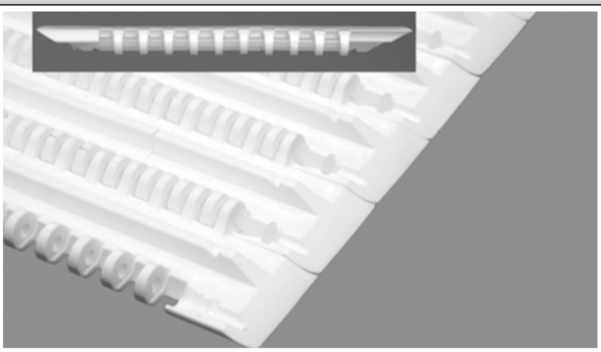
[1] Contact Intralox Customer Service for availability.
[2] Contact Intralox Customer Service for availability.
[3] .25 in (57 mm) bucket flight only available in polypropylene.
[4] Contact Intralox Customer Service for availability.

Combining Bucket Flights and Scoop Flights			
			
6 in (152 mm) bucket flights with indent	3 in (76 mm) bucket flight and scoop flights, no indent	4 in (102 mm) bucket flight and scoop flights, no indent	6 in (152 mm) bucket flight and scoop flights with indent
Note: Bucket flights and scoop flights can be cut and combined for custom-built belts. Contact Intralox Customer Service for more information.			

Tapered Edge

Available Materials
Polypropylene, acetal

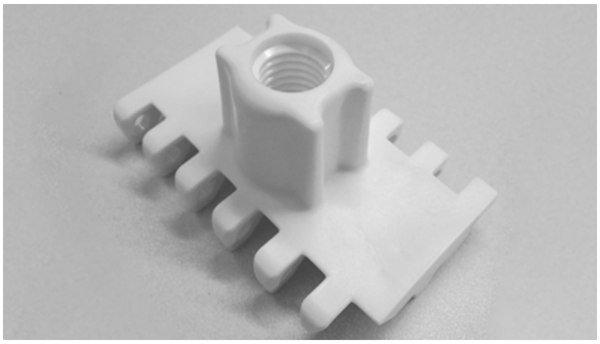
- Compatible with Series 800 Flat Top and Series 800 Mesh Top.
- Designed to accept headed plastic rods.
- Steel rods can be retained with plastic rodlets.



Threaded Barrel Attachments

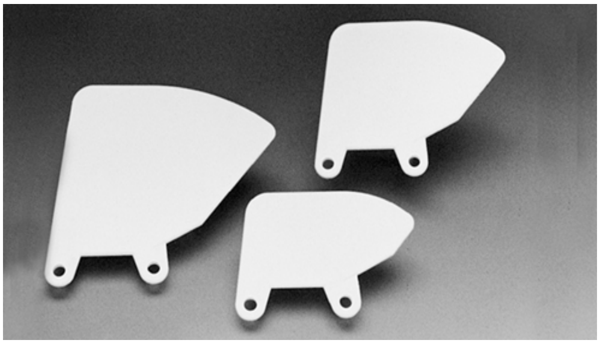
Available Materials
Acetal

- Attaches to S800 Open Hinge Flat Top modules–4 in (102 mm) wide.
- 3/4 in-10 thread.
- Commonly used on poultry cone assemblies for the manual deboning process.



Sideguards

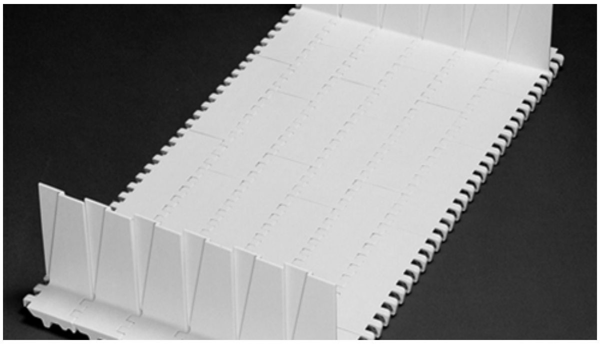
Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal
3	76	
4	102	
6	152	



- Fastened by the hinge rods.
- Sideguards use a standard overlapping design and are an integral part of the belt, with no fasteners required.
- Standard sideguard orientation is angled inward toward the product (product friendly). If needed, sideguards can be angled outward toward the conveyor.
- When going around the 6- and 8-tooth sprocket, the sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when going around the 10-, 12- and 16-tooth sprockets.
- Normal gap between the sideguards and the edge of a flight: 0.3 in (8 mm).
- Minimum indent: 0.7 in (18 mm) except for Flush Grid which is 1.3 in (33 mm).

Molded-in Sideguards

Available Sizes		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

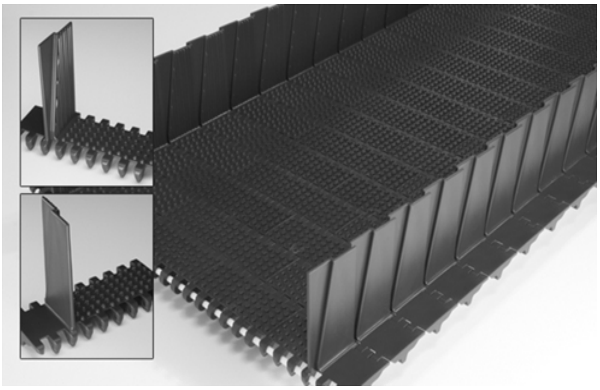


- Molded as an integral part of the belt, with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all Series 800 belts, except Series 800 Perforated Flat Top (18% open area) and Series 800 Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius: 12 in (305 mm).

Nub Top Molded-in Sideguards

Available Sizes		Available Materials
in	mm	
4	102	Acetal, polypropylene

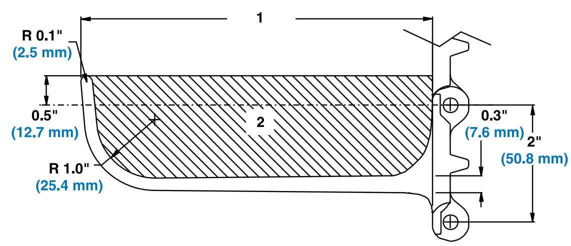
- Molded as an integral part of the belt, with no fasteners required.
- Part of the Intralox EZ Clean product line.
- Nub Top design and No-Cling rib feature provide a non-stick conveying surface that delivers superior product release and cleanability.
- Overlapping sideguards fully open when wrapping around sprocket, allowing greater access during cleaning. Sideguards partially open on forward bends of elevating conveyors.
- Sideguards can be spliced into all Series 800 belts, except Series 800 Perforated Flat Top (18% open area) and Series 800 Flush Grid Nub Top.
- Standard 4 in (102 mm) height can be cut to suit application.
- Molded indent: 1.3 in (33 mm).
- Minimum backbend radius:10 in (254 mm).



Scoop/Bucket Flight Cross Sectional Area for Vertical Incline

in	mm	sq in	sq mm
Scoop Height		**Area**	
3	76	4.3	2774
4	102	6.0	3871
6	152	9.5	6129
Bucket Height		**Area**	
2.25	57	2.3	1484
3.00	76	4.3	2774
4.00	102	6.0	3871
6.00	152	9.5	6129

Minimum row spacing: 6 in (152 mm) for 6 in (152 mm) scoops and buckets, and 4 in (102 mm) for all other sizes.



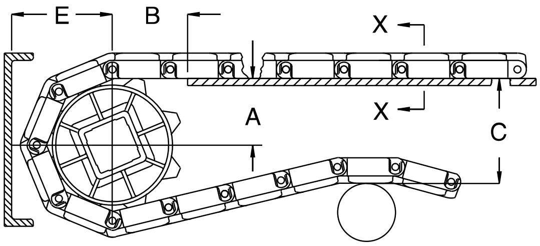
1 Height
2 Area

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

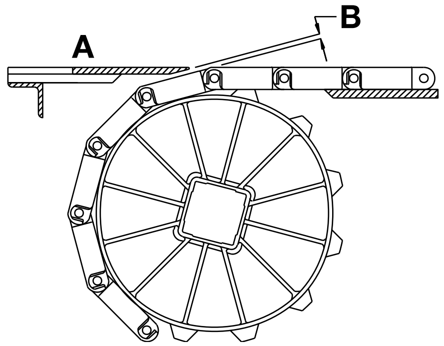
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 800 Flat Top, Flush Grid, Mesh Top, Open Hinge Flat Top, SeamFree Open Hinge Flat Top, Tough Flat Top, Perforated Flat Top (all styles)										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140
Series 800 Mini Rib										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.09-2.29	53-58	2.00	51	5.33	135	3.10	79
6.5	165	10	2.78-2.94	71-75	2.16	55	6.63	168	3.75	95
7.7	196	12	3.41-3.54	87-90	2.45	62	7.83	199	4.35	110
10.3	262	16	4.74-4.84	120-123	2.84	72	10.43	265	5.65	144
Series 800 Flush Grid Nub Top, Nub Top, SeamFree Open Hinge Nub Top,										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.10	104	2.48	63
5.2	132	8	2.10-2.30	53-58	1.98	50	5.33	135	3.09	78
6.5	165	10	2.77-2.92	70-74	2.18	55	6.57	167	3.71	94
7.7	196	12	3.42-3.55	87-90	2.43	62	7.83	199	4.34	110
10.3	262	16	4.72-4.81	120-122	2.88	73	10.35	263	5.60	142
Series 800 Cone Top, Open Hinge Cone Top, SeamFree Open Hinge Cone Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143
Series 800 Roller Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.44	113	2.81	71
5.2	132	8	2.10-2.30	53-58	1.98	50	5.66	144	3.43	87
6.5	165	10	2.77-2.92	70-74	2.18	55	6.91	176	4.05	103
7.7	196	12	3.42-3.55	87-90	2.43	62	8.17	207	4.68	119
10.3	262	16	4.72-4.81	120-122	2.88	73	10.69	272	5.94	151
Series 800 Raised Rib										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.28	109	2.65	67
5.2	132	8	2.09-2.29	53-58	2.00	51	5.48	139	3.25	83
6.5	165	10	2.78-2.94	71-75	2.16	55	6.78	172	3.90	99
7.7	196	12	3.41-3.54	87-90	2.45	62	7.98	203	4.50	114
10.3	262	16	4.74-4.84	120-123	2.84	72	10.58	269	5.80	147
Series 800 Round Friction Top										
4.0	102	6	1.42-1.69	36-43	1.74	44	4.16	106	2.53	64
5.2	132	8	2.09-2.29	53-58	2.00	51	5.36	136	3.13	80
6.5	165	10	2.78-2.94	71-75	2.17	55	6.66	169	3.78	96
7.7	196	12	3.40-3.54	86-90	2.45	62	7.86	200	4.38	111
10.3	262	16	4.74-4.84	120-123	2.84	72	10.46	266	5.68	144

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



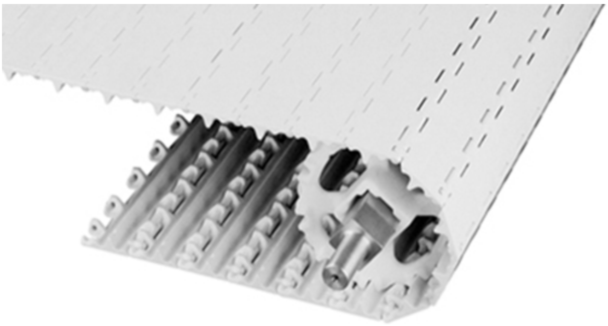
A Top surface of dead plate

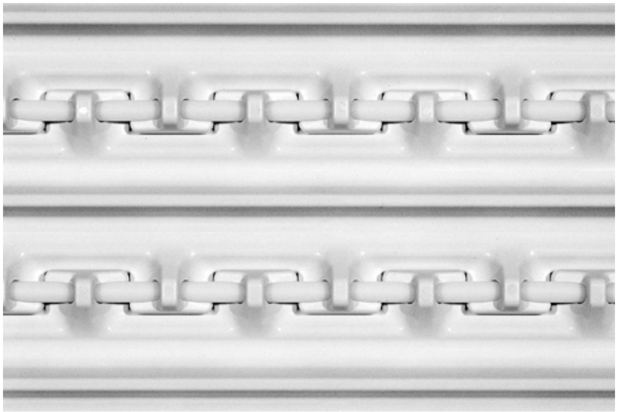
B Dead plate gap

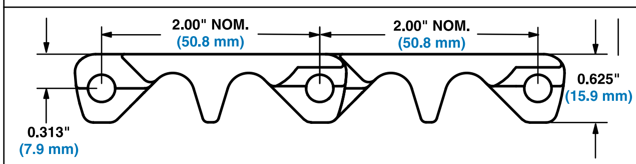
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
4.0	102	6	0.268	6.8
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4
10.3	262	16	0.098	2.5

SeamFree™ Minimum Hinge Flat Top

	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

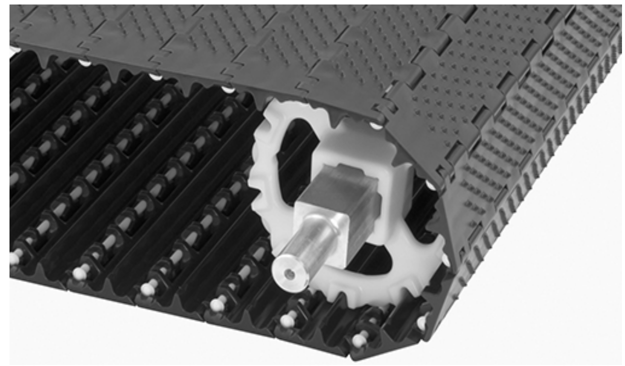
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinge provides easy cleaning, with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 1600 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Designed for use with Series 800 Angled EZ Clean sprockets, but fully compatible with standard Series 800 EZ Clean sprockets.
- Belts over 36 in (914 mm) are built with multiple modules per row, but seams are minimized.

Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	409	-50 to 200	-46 to 93	2.19	10.68
Acetal	Polypropylene	250	372	34 to 200	1 to 93	2.13	10.41
Acetal	Polyethylene	150	223	-50 to 150	-46 to 66	2.13	10.40
Polyethylene	Acetal	200	298	-50 to 150	-46 to 66	1.50	7.32
Polyethylene	Polyethylene	150	223	-50 to 150	-46 to 66	1.44	7.05

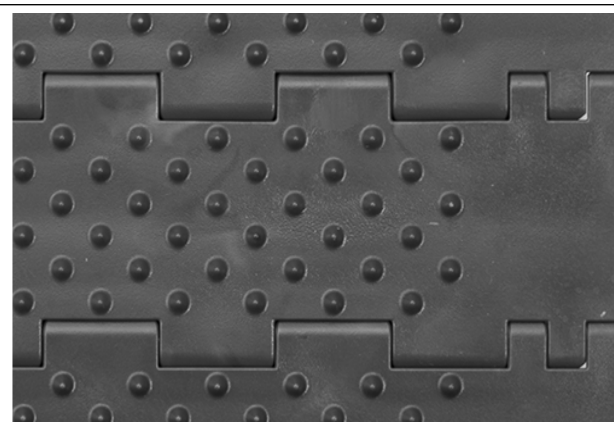
SeamFree™ Minimum Hinge Cone Top™

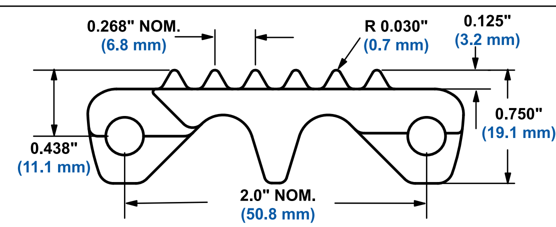
	in	mm
Pitch	2.00	50.8
Minimum Width	6	152
Maximum Width	36	914
Width Increments	1.00	25.4
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for more information.
- Cone height: 0.125 in (3.2 mm).
- Cone spacing: 0.268 in (6.88 mm).
- Standard cone indent: 1.3 in (33 mm).



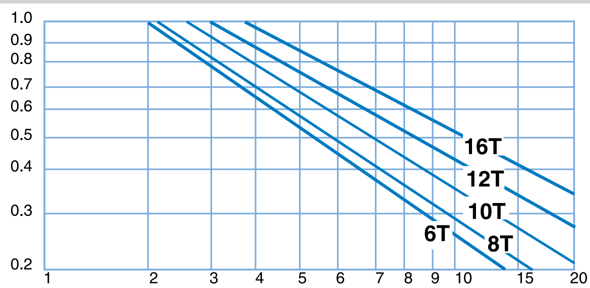


Belt Data

Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	275	409	-50 to 200	-46 to 93	2.28	11.13
Acetal	Polypropylene	250	372	34 to 200	1 to 93	2.22	10.84
Acetal	Polyethylene	150	223	-50 to 150	-46 to 66	2.22	10.84
Polyethylene	Acetal	200	298	-50 to 150	-46 to 66	1.56	7.62
Polyethylene	Polypropylene	150	223	-50 to 150	-46 to 66	1.50	7.32

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

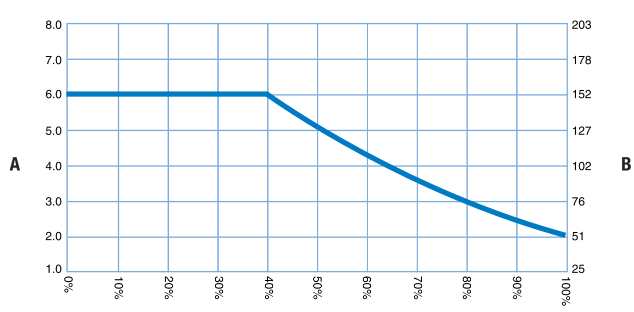


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

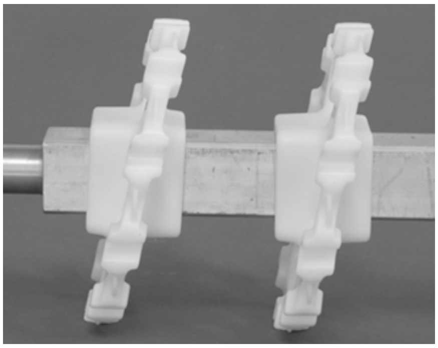
A Sprocket spacing, in
B Sprocket spacing, mm

SECTION 2
850

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.0 in (25.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets. Polyurethane sprockets require a maximum 4 in (102 mm) centerline spacing.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

Angled EZ Clean™ Sprocket[1]

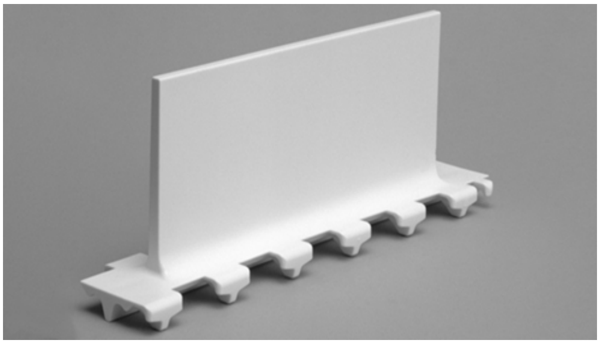
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
6 (13.40%)	4.0	102	3.8	97	2.0	50.8		1.5		40
8 (7.61%)	5.2	132	5.0	127	2.0	50.8		1.5		40
10 (4.89%)	6.5	165	6.2	157	2.0	50.8		1.5		40
12 (3.41%)	7.7	196	7.5	191	2.0	50.8		1.5		40
16 (1.92%)	10.3	262	10.1	257	1.5	38		1.5		40
								2.5		60



Streamline Flights

Available Flight Height		Available Materials
in	mm	
4	102	Acetal

- Flat Top flight is smooth (streamlined) on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- SeamFree flights are available in 12 in (304 mm) widths; flighted belts greater that 12 in (304 mm) wide are available with seams minimized.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Molded-in, 1.3 in (33 mm) indent from each edge.



Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

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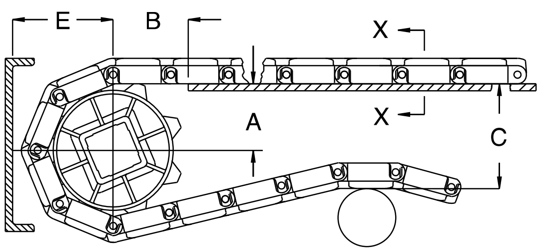
For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

[1] Contact Intralox Customer Service for lead times. Do not use Angled EZ Clean Sprockets with Series 800 Mesh Top

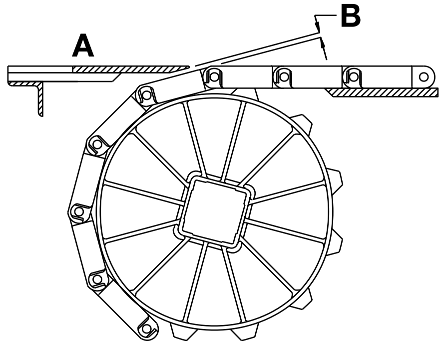
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 850 SeamFree Minimum Hinge Flat Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.00	102	2.38	60
5.2	132	8	2.09-2.29	53-58	2.00	51	5.20	132	2.98	76
6.5	165	10	2.78-2.94	71-75	2.16	55	6.50	165	3.63	92
7.7	196	12	3.41-3.54	87-90	2.45	62	7.70	196	4.23	107
10.3	262	16	4.74-4.84	120-123	2.84	72	10.30	262	5.53	140
Series 850 SeamFree Minimum Hinge Cone Top										
4.0	102	6	1.42-1.69	36-43	1.73	44	4.13	105	2.50	64
5.2	132	8	2.10-2.30	53-58	1.98	50	5.35	136	3.11	79
6.5	165	10	2.77-2.92	70-74	2.18	55	6.60	168	3.74	95
7.7	196	12	3.42-3.55	87-90	2.43	62	7.85	199	4.36	111
10.3	262	16	4.72-4.81	120-122	2.88	73	10.38	264	5.63	143

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



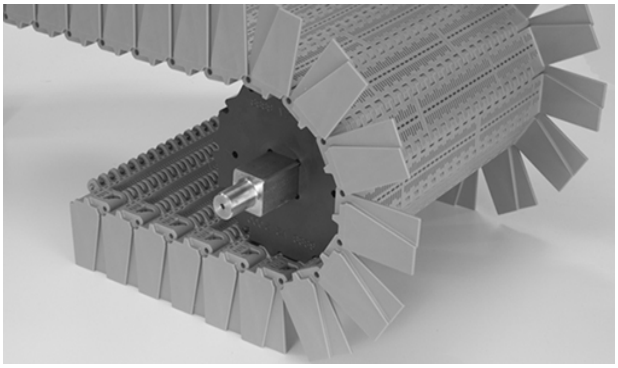
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

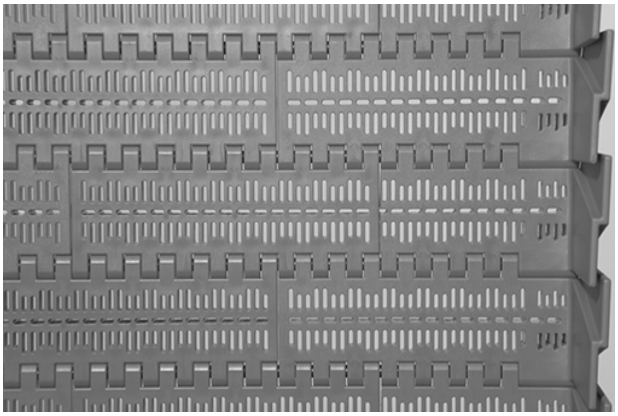
Medium Slot

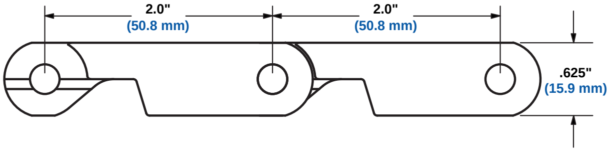
	in	mm
Pitch	1.99	50.5
Minimum Width	6.0	152
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	20%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards (MISG). Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum use of belt surface.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Drive system requires less back-tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7.0 in (180 mm).



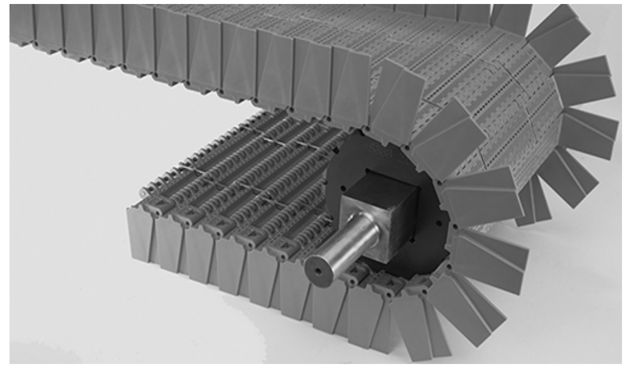


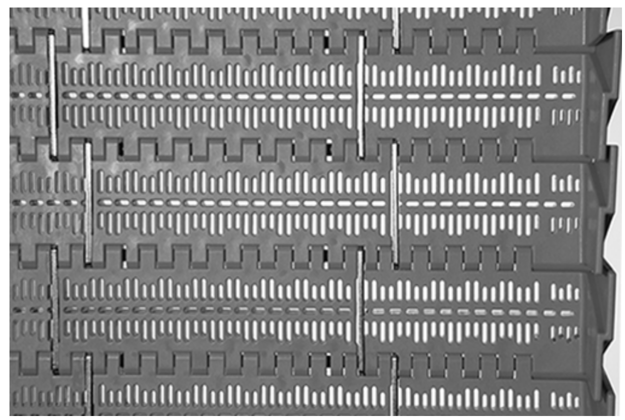
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	303/304 stainless steel	1500	2230	34 to 220	1 to 104	2.4	11.7

Medium Slot Stainless Steel Link (SSL)

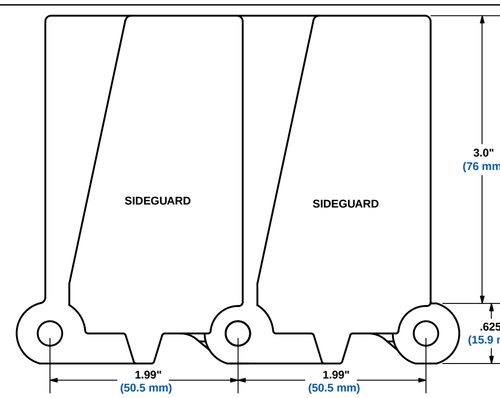
	in	mm
Pitch	1.99	50.5
Minimum Width	11.3	288
Width Increments	0.66	17
Slot Size, Linear	0.08 x 0.40	2.0 x 10.2
Slot Size, Transverse	0.09 x 0.24	2.3 x 6.1
Open Area	26%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards (MISG). Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges to provide maximum utilization of belt surface.
- Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).

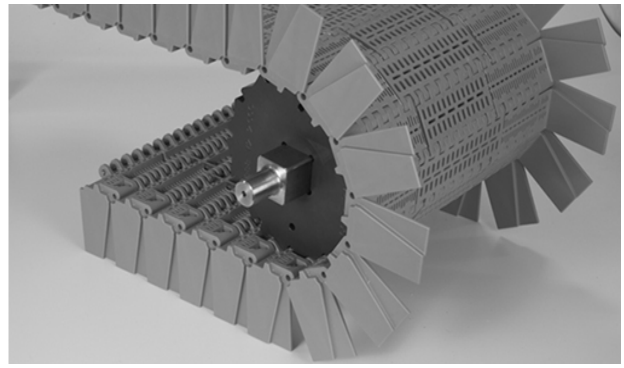


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear resistant stainless steel	2000	3000	34 to 212	1 to 100	2.6	12.7

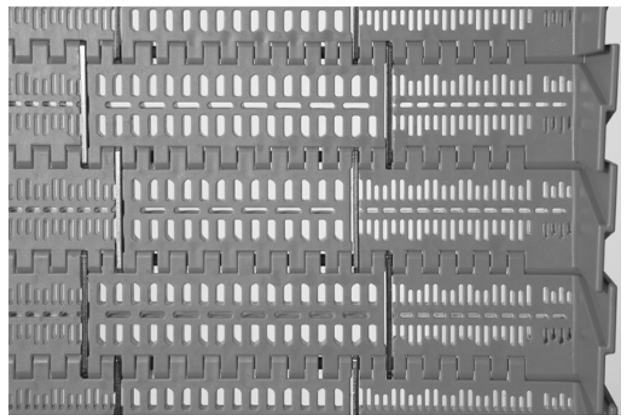
Large Slot Stainless Steel Link (SSL)

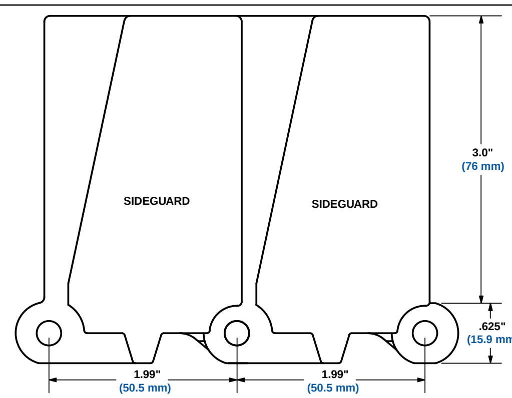
	in	mm
Pitch	1.99	50.5
Minimum Width	16.0	406
Width Increments	0.66	17
Slot Size, Linear	0.16 x 0.39	4.1 x 9.9
Slot Size, Transverse	0.12 x 0.50	3.0 x 12.7
Open Area	22%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available with or without molded-in sideguards (MISG). Specify sideguards when ordering.
- Molded-in sideguards are flush with belt edges and provide maximum use of belt surface.
- Proven Enduralox polypropylene material increases resistance to chemical and temperature cycling.
- Barn door style rod retention system simplifies installation and routine maintenance.
- Stainless steel links (SSL) are integrated into the belt design to manage high loads and thermal expansion associated with temperature variations.
- Proven drive system requires less back tension and is less sensitive to belt elongation.
- Robust design reduces contamination risks.
- For belts with molded-in sideguards, provide a minimum backbend radius of 7 in (180 mm).



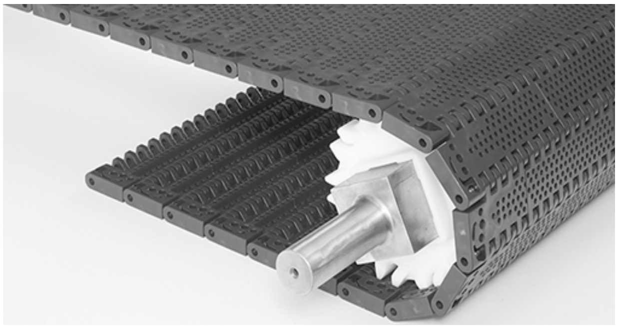


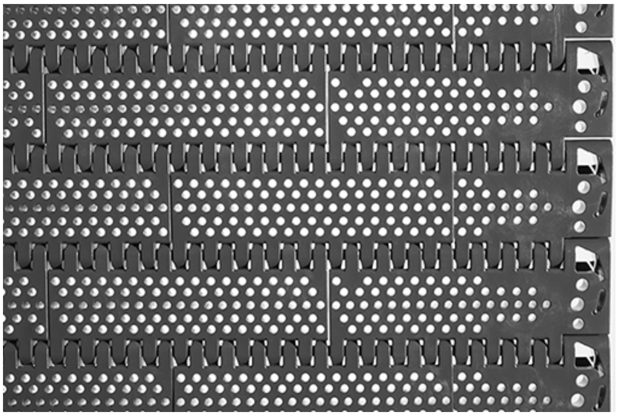
Belt Data

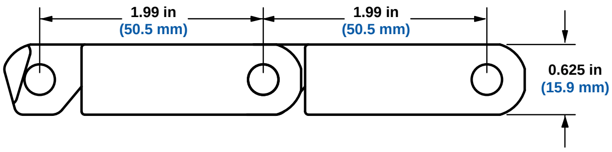
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Wear resistant stainless steel	2000	3000	34 to 212	1 to 100	2.6	12.7

Round Hole Enhanced

	in	mm
Pitch	1.99	50.5
Minimum Width	6	152.4
Width Increments	0.66	16.8
Opening Size (approximate)	-	-
Open Area	20%	
Hinge Style	Open	
Drive Method	Center-driven	







Product Notes

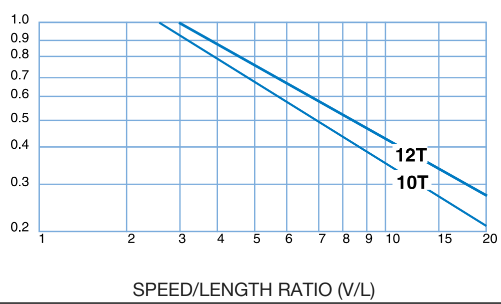
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Enhanced design and hole pattern of S800 Perforated Flat Top.
- Improved hole pattern and more open hinge design provides better airflow and drainage.
- Minimum sprocket indent: 1.25 in (32 mm) to the edge of the sprocket.

Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	304 stainless steel	1500	2200	-50 to 150	-46 to 66	3.10	15.14
X-Ray Detectable Acetal	stainless steel	1500	2232	-50 to 200	-46 to 93	3.1	15.14

Sprocket and Support Quantity Reference							
Medium Slot, Round Hole Enhanced			**Medium Slot SSL, Large Slot SSL**			Wearstrips Medium Slot and Large Slot SSL	
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Belt Width Range[1]		Maximum Number of Sprockets Per Shaft[2]		
in	mm		in	mm		Carryway	Returnway
6	152	2	22.6-28.0	575-711	6	2	2
8	203	2	28.6-30.6	727-778	7	2	2
10	254	2	31.3-35.3	795-897	8	3	2
12	305	3	36.0-40.6	914-1032	9	3	2
14	356	3	41.3-46.0	1049-1167	10	3	3
16	406	3	46.6-48.0	1184-1218	11	3	3
18	457	3	48.6-52.6	1235-1336	12	3	3
20	508	5	53.3-58.6	1353-1489	13	4	3
24	610	5	59.3-64.6	1506-1641	14	4	3
30	762	5	65.3-66.6	1658-1692	15	5	4
32	813	7	67.3-72.6	1709-1844	16	5	4
36	914	7	73.3-79.9	1861-2030	17	5	4
42	1067	7	80.6-84.6	2047-2148	18	6	5
48	1219	9	85.3-87.9	2165-2233	19	7	5
54	1372	9	88.6-91.9	2250-2335	20	7	6
60	1524	11	92.6-95.2	2351-2419	21	8	6
72	1829	13	95.9-98.6	2436-2504	22	9	7
84	2134	15	99.2-103.2	2521-2622	23	11	8
96	2438	17	103.9-109.2	2639-2774	24	12	9
120	3048	21	109.9-118.6	2791-3011	25	15	11
144	3658	25	119.2-119.9	3028-3045	26	17	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing			To avoid sprocket interference with stainless steel links, see the sprocket installation instructions or belt maintenance and installation guidelines.			Maximum 12 in (305 mm) centerline spacing	

Strength Factor



Divide belt speed "V" by the shaft centerline distance "L". Strength Factor is found at intersection of speed/length ratio and appropriate sprocket line. See *Belt Selection Instructions* for more information.

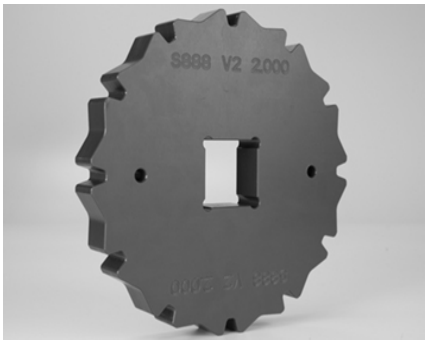
V = ft/min (m/min)
T = number of teeth
L = ft (m)

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.66 in (16.8 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.
[2] All sprockets are to be locked in place on the shaft. Use appropriate locking collars to restrict axial movement.

Nylon Sprockets

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.70%)	6.5	165	6.2	157	1.0	25	Custom Order	Custom Order	50, 60, 70, 80, 90 and 100	Custom Order
12 (3.29%)	7.78	196	7.5	191	1.0	25	Custom Order	Custom Order	50, 60, 70, 80, 90 and 100	50, 60, 70, 80, 90

- U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
- All sprockets are to be locked in place on shaft.



Buildup Resistant Acetal Sprockets[1]

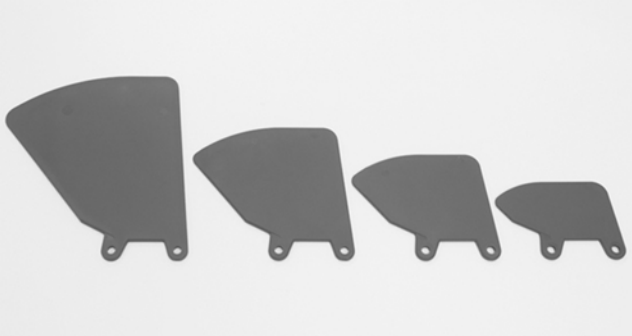
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.5	165	6.2	157	1.5	38		2.5		60[2]

- Designed to work with the Round Hole Enhanced belt in freezer tunnel applications. Contact Intralox Customer Service for other applications.
- All sprockets are to be locked in place on shaft.

Universal Sideguards

Available Height in	Available Height mm	Available Materials
2	51	Blue polypropylene
3	76	Blue polypropylene
4	102	Blue polypropylene
6	152	Blue polypropylene

- Part of the Intralox EZ Clean product line.
- Standard sideguard orientation is angled inward toward the product (product friendly). If needed, sideguards can be angled outward toward the conveyor.
- Minimum indent at edges: 2.0 in (51 mm).
- Minimum back bend radius: 4.5 in (115 mm).



SECTION 2

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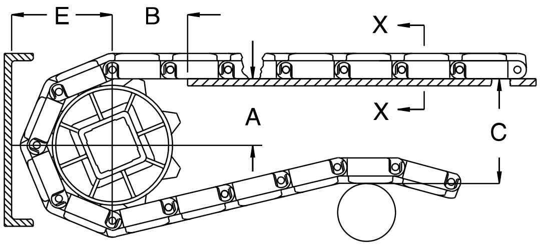
[1] Contact Intralox Customer Service for lead times.
[2] Available as standard 60-mm square bore or available with four retention notches.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

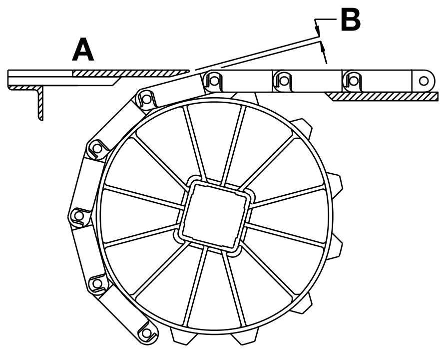
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
6.5	165	10	2.77-2.925	70-74	3.00	76	6.5	165	3.61	92
7.7	196	12	3.42-3.55	87-90	3.00	76	7.9	201	4.24	108

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



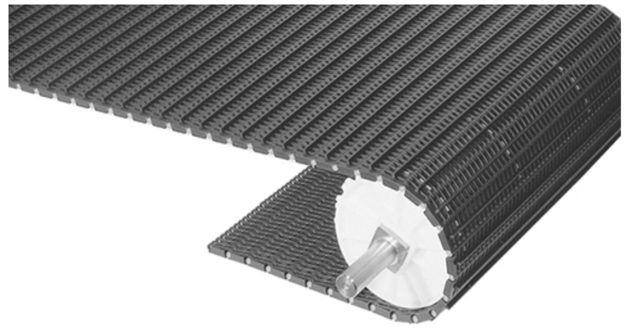
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

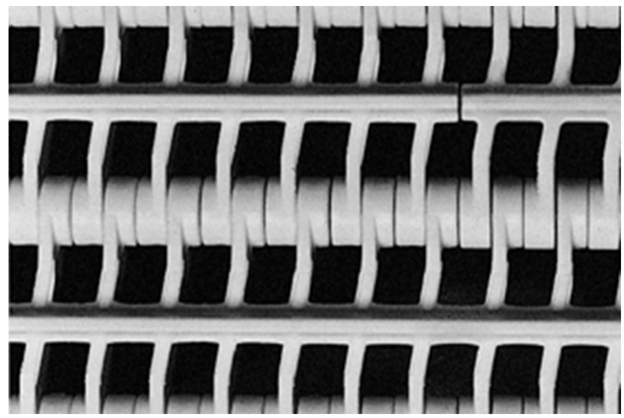
Open Grid

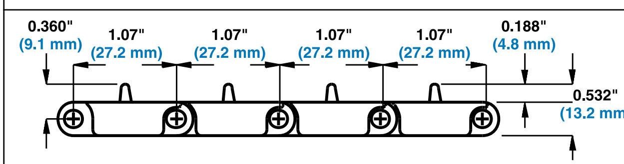
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Large, open area provides excellent drainage.
- Low-profile transverse ridges help move product up inclines and down declines.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for more information.
- Transverse ridge height: 0.188 in (4.8 mm).
- Normal ridge indent: 0.25 in (6.4 mm).





Belt Data							
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.84	4.09
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.26	6.14
Acetal[1]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.26	6.14

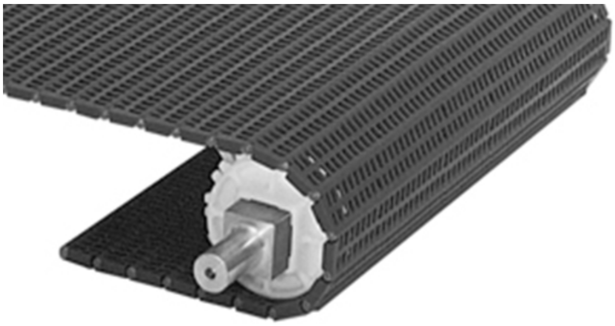
[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

SECTION 2

900

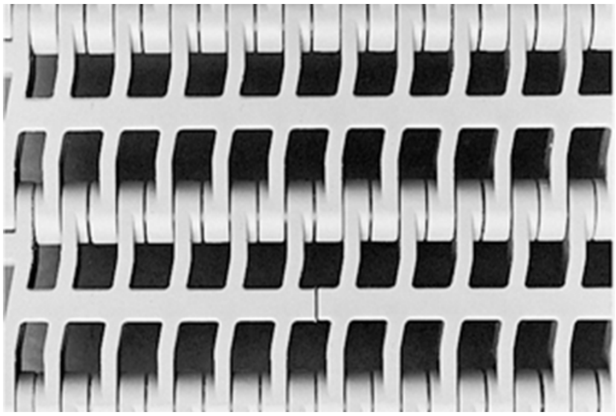
Flush Grid

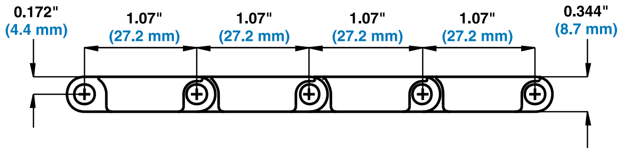
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with smooth upper surface and fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Provides excellent lateral movement of containers.
- Flights and sideguards are available.





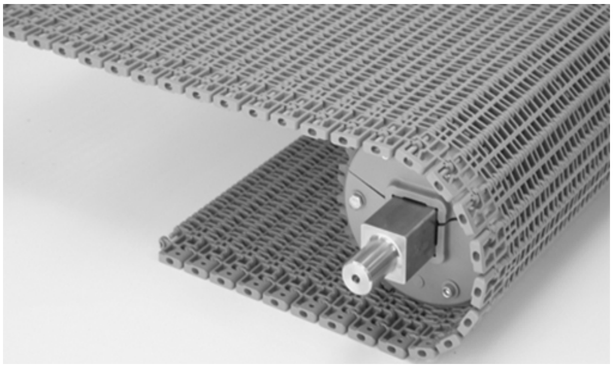
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.70
Enduralox polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.70
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.81	3.96
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.15	5.62
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.15	5.62
Hi-Temp	Hi-Temp	1200	1786	70 to 400	21 to 204	1.08	5.27
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	1.19	5.81
HR nylon	HR nylon	1200	1790	-50 to 240	-46 to 116	1.10	5.40
HHR nylon	HHR nylon	1200	1790	-50 to 310	-46 to 154	1.10	5.40
Acetal[1]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.15	5.62
Detectable polypropylene A22	Polypropylene	350	521	34 to 150	1 to 66	0.89	4.35

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

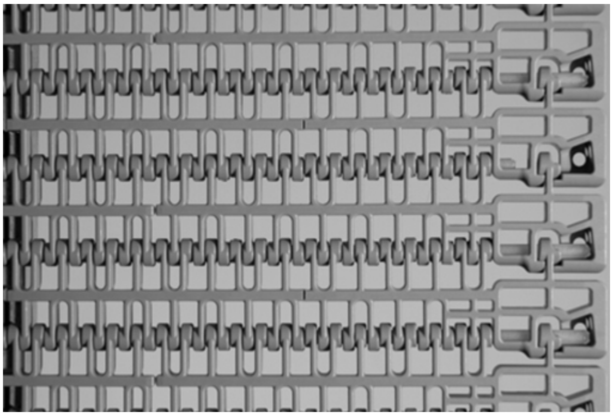
Open Flush Grid

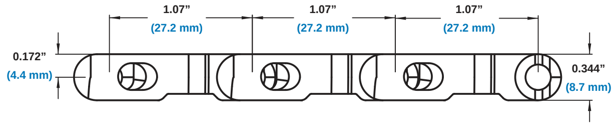
	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments[1]	0.33	8.4
Minimum Opening Size (approx.)	0.17 x 0.29	4.3 x 7.4
Maximum Opening Size (approx.)	0.28 x 0.29	7.1 x 7.4
Open Area	43%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open pattern with a smooth upper surface and fully flush edges.
- Flights are available in HHR nylon material only.
- Flush edge accommodates special abrasion resistant nylon rod growth for belt widths that are 42 in (1066 mm) or narrower.
- To accommodate the rod retention design, ensure that outer sprockets are indented 2.5 in (63.5 mm) from the edge of the belt to the centerline of the sprocket.



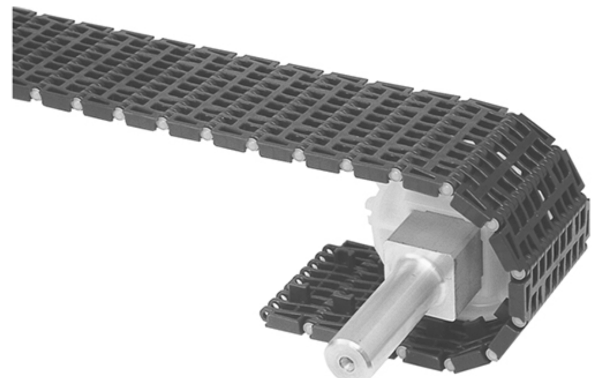


Belt Data							
Belt material	Standard rod material Ø 0.180 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.10	5.37
HR nylon	HR nylon	1200	1786	-50 to 240	-46 to 116	1.02	4.98
HHR nylon	HHR nylon	1200	1786	-50 to 310	-46 to 154	1.04	5.08

[1] Belts made with nylon materials (HR and HHR) are available in whole inch width increments. For fractional belt width needs, contact Intralox Customer Service.

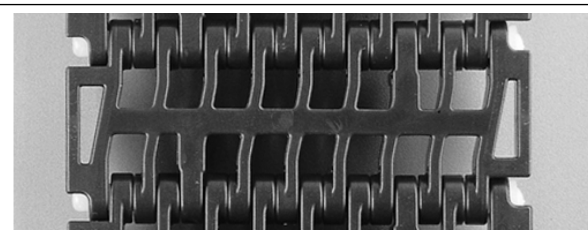
Mold to Width Flush Grid

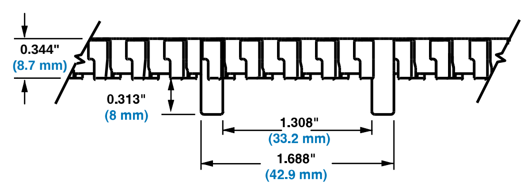
	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



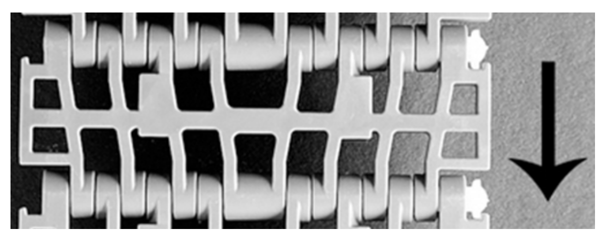
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Tracking tabs provide lateral tracking.
- Width tolerances for the Series 900 Mold To Width belts are +0.000/-0.020 in (+0.000/-0.500 mm).
- One sprocket can be placed on the 3.25 in (83 mm) and 85-mm mold to width belt. Up to three sprockets can be placed on the 4.5 in (114 mm) mold to width belt. Up to five sprockets can be placed on the 7.5 in (191 mm) mold to width belt.
- The Series 900 Mold To Width belt is not compatible with sprockets that have a pitch diameter smaller than 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.
- Series 900 Mold To Width belts are boxed in 10 ft. (3 m) increments.

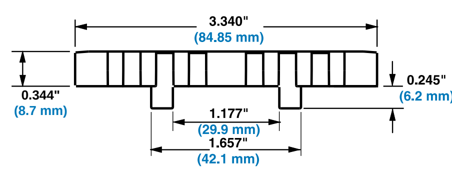




Series 900 Flush Grid Mold to Width



Arrow indicates preferred running direction



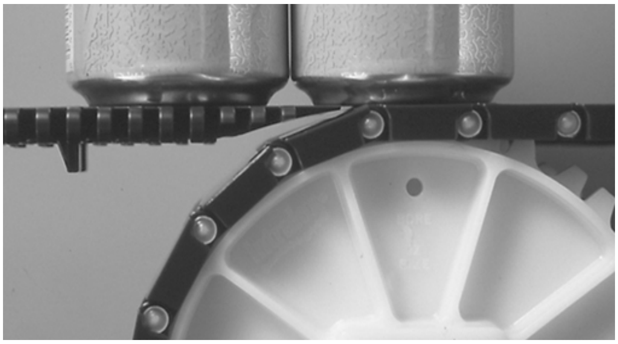
Series 900 Flush Grid 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
inch	(mm)			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	59	34 to 220	1 to 104	0.31	0.46
3.25	83	Acetal	Nylon	250	113	-50 to 200	-46 to 93	0.42	0.62
4.5	114	Polypropylene	Nylon	263	120	34 to 220	1 to 104	0.39	0.58
4.5	114	Acetal	Nylon	555	252	-50 to 200	-46 to 93	0.54	0.80
7.5	191	Polypropylene	Nylon	438	199	34 to 220	1 to 104	0.59	0.88
7.5	191	Acetal	Nylon	800	363	-50 to 200	-46 to 93	0.85	1.26
	85	Acetal	Nylon	275	125	-50 to 200	-46 to 93	0.38	0.57

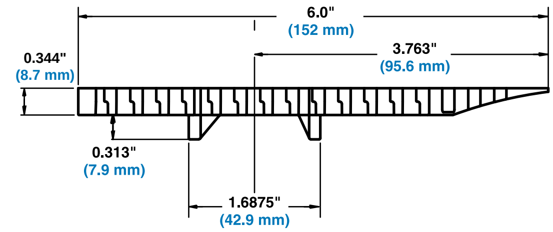
ONEPIECE™ Live Transfer Flush Grid

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

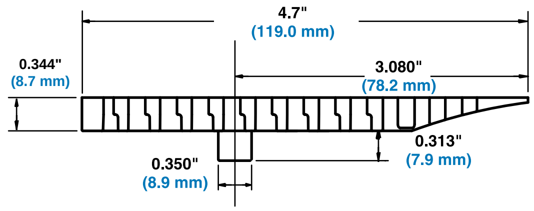


Product Notes

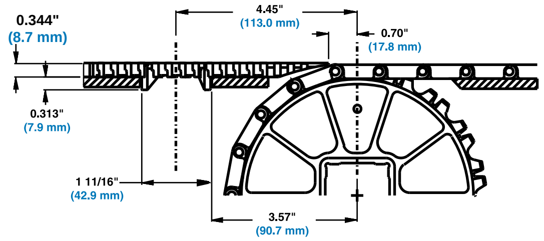
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of this belt.
- Nylon rods provide superior wear resistance.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts* for more information.
- For custom belt widths, contact Intralox Customer Service.
- Available in 10 ft (3 m) length increments.
- Also available in a 4.7 in (119 mm) wide single-tracking tab belt and 6 in (152 mm) wide double-tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.
- For belt-strength calculations, subtract 1.5 in (38 mm) from the actual belt width.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.



6.0 in (152 mm) Double tracking tab belt



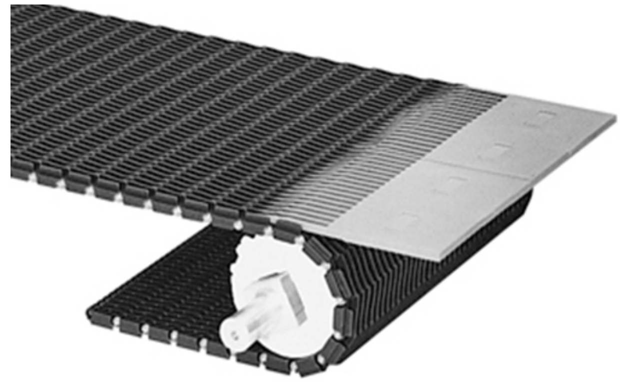
4.7 in (119 mm) Single tracking tab belt



Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	1040	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1480	2200	-50 to 200	-46 to 93	1.15	5.62
FR TPES	Nylon	1000	1490	40 to 150	4 to 66	1.63	7.95

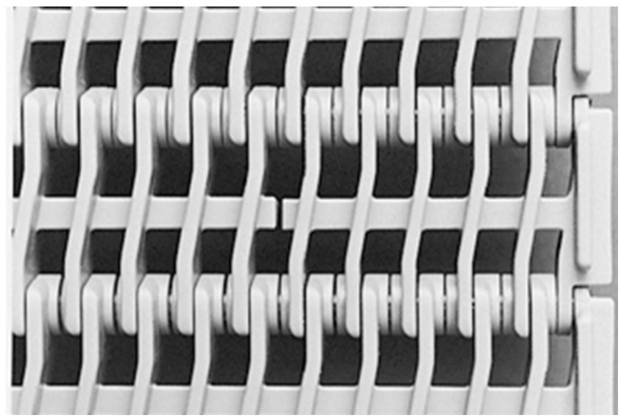
Raised Rib

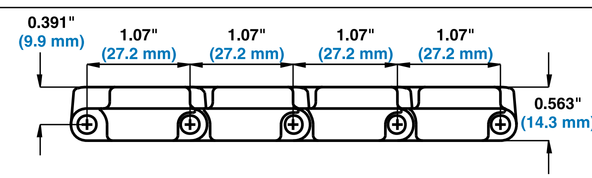
	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	35%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Can be used with finger transfer plates to eliminate product tippage and hang-ups.
- Raised Ribs extend 3/16 in (4.7 mm) above basic module, with fully flush edges.



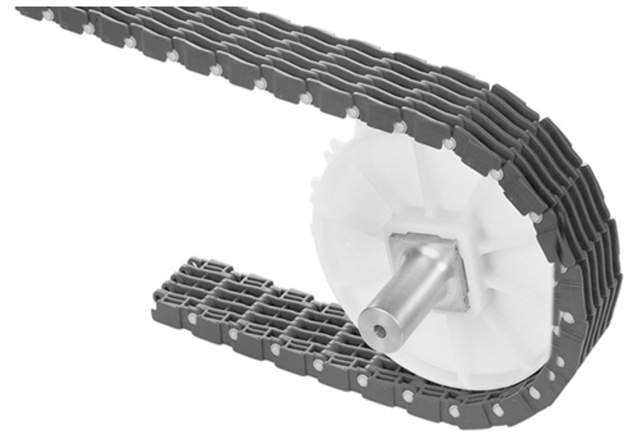


Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.21
Enduralox polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.07	5.21
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.14	5.57
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.68	8.19
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.68	8.19
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	1.60	7.80
HHR nylon	Nylon	1200	1790	-50 to 310	-46 to 154	1.60	7.80
Acetal[1]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.68	8.19

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

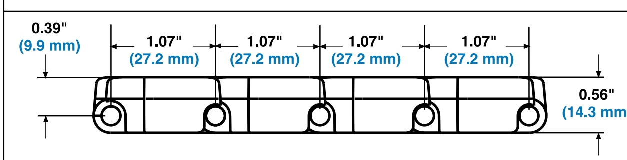
Mold to Width Raised Rib

	in	mm
Pitch	1.07	27.2
Molded Widths (Blue acetal)	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38% - 40%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Raised Ribs span the entire belt width, increasing container stability.
- Nylon rodlets provide longer service life.
- Supports both small and larger products, allowing easy product changes.
- The 1.8 in (46 mm) belt is also available in gray polypropylene for applications where higher friction is needed.
- Available in 10 ft (3 m) increments.



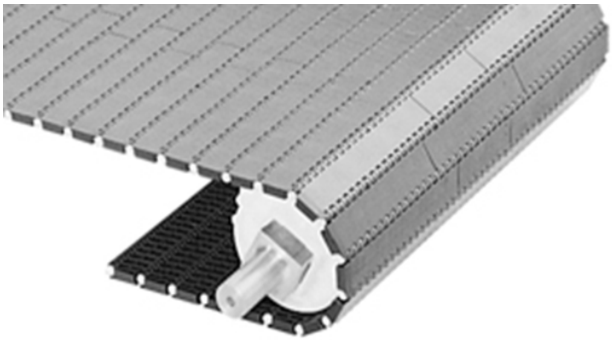
Belt Data

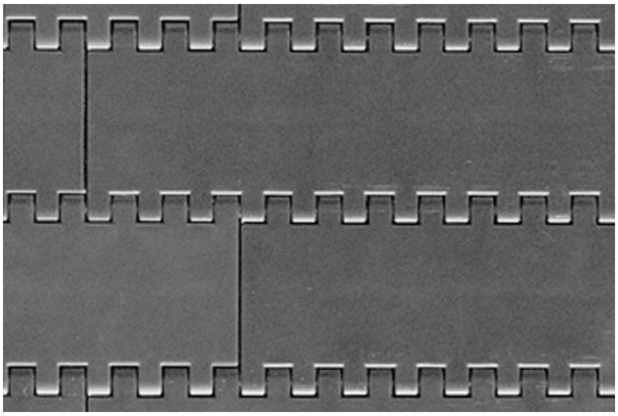
Belt Width		Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
inch	(mm)			lb	kg	°F	°C	lb/ft	kg/m
1.1	29	Acetal	Nylon	140	64	-50 to 200	-46 to 93	0.19	0.29
1.5	37	Acetal	Nylon	200	91	-50 to 200	-46 to 93	0.23	0.35
1.8	46	Acetal	Nylon	230	104	-50 to 200	-46 to 93	0.29	0.43
1.8	46	Polypropylene	Nylon	90	41	34 to 220	1 to 104	0.19	0.28
2.2	56	Acetal	Nylon	200[1]	91[1]	-50 to 200	-46 to 93	0.34	0.50

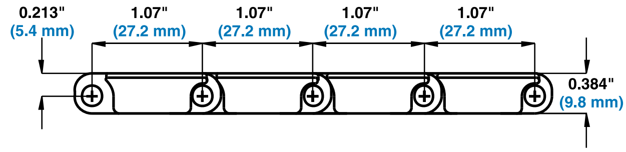
[1] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets.

Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- HR nylon belts use short rodlets to hold the main hinge rod in place. The rodlets are made from the same material as the main rod.
- Use HR nylon in dry, elevated-temperature applications.
- Ideal for handling glass and other containers.

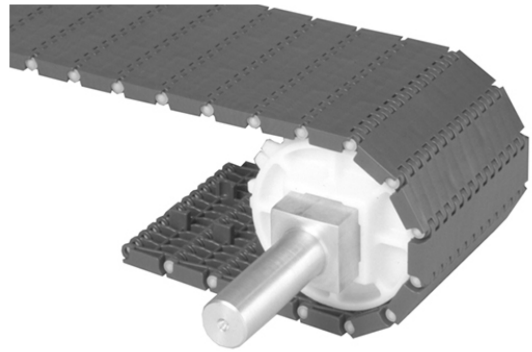
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.96	4.69
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.01	4.95
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.50	7.30
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.50	7.30
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	1.40	6.80
HHR nylon	Nylon	1200	1790	-50 to 310	-46 to 154	1.40	6.80
Acetal[1]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.50	7.30
Detectable polypropylene A22	Polyethylene	650	967	34 to 150	1 to 66	2.21	10.79

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

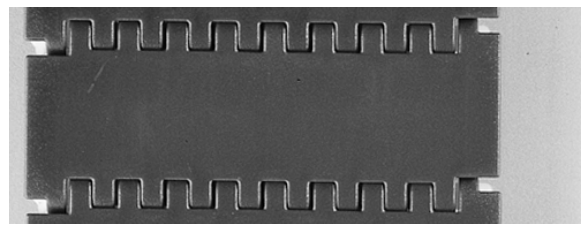
Mold to Width Flat Top

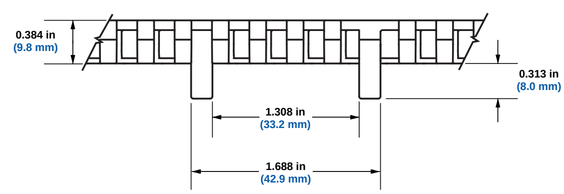
	in	mm
Pitch	1.07	27.2
Molded Widths	3.25	83
	4.5	114
	7.5	191
	-	85
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



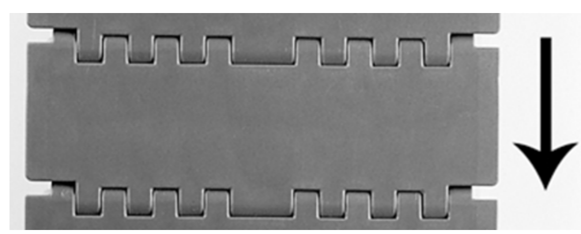
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Belts are boxed in 10 ft (3 m) increments.
- One sprocket can be placed on the 3.25 in (83 mm) and 85-mm mold to width belt. Up to three sprockets can be placed on the 4.5 in (114 mm) mold to width belt. Up to five sprockets can be placed on the 7.5 in (191 mm) mold to width belt.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.

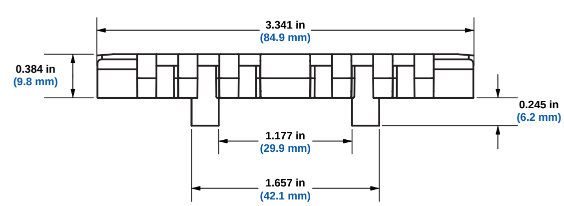




Series 900 Flat Top Mold to Width



Arrow indicates preferred running direction



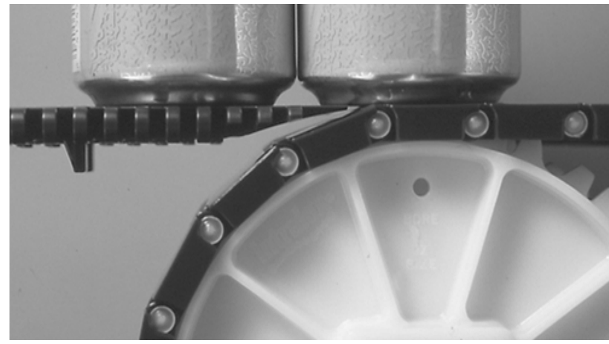
Series 900 Flat Top 85 mm Mold to Width

Belt Data

Belt Width		Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
inch	(mm)			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Polypropylene	Nylon	130	59	34 to 220	1 to 104	0.37	0.55
3.25	83	Acetal	Nylon	250	113	-50 to 200	-46 to 93	0.52	0.77
4.5	114	Polypropylene	Nylon	263	120	34 to 220	1 to 104	0.52	0.77
4.5	114	Acetal	Nylon	555	252	-50 to 200	-46 to 93	0.74	1.10
7.5	191	Polypropylene	Nylon	438	199	34 to 220	1 to 104	0.83	1.24
7.5	191	Acetal	Nylon	800	363	-50 to 200	-46 to 93	1.18	1.76
	85	Acetal	Nylon	500	227	-50 to 200	-46 to 93	0.50	0.74

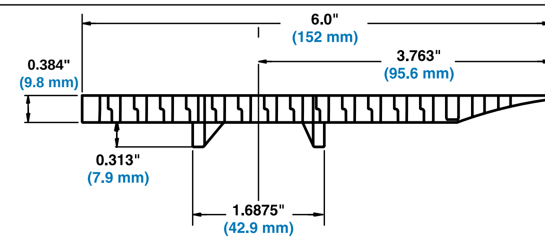
ONEPIECE™ Live Transfer Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	4.7	119
Width Increments	0.33	8.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	

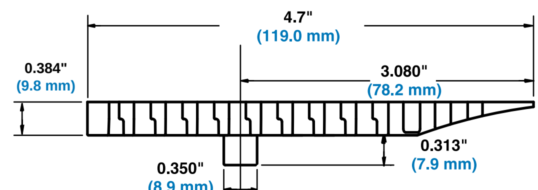


Product Notes

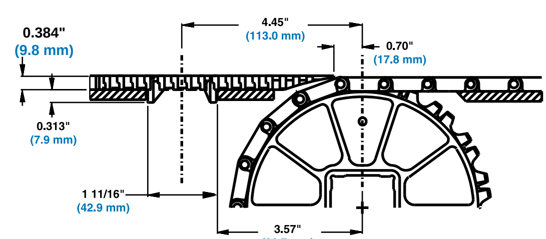
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Transfer edge is an integral part of the belt.
- Nylon rods provide superior wear resistance.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts* for more information.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- For custom belt widths, contact Customer Service.
- Available in 10 ft (3 m) increments.
- Also available in a 4.7 in (119 mm) wide single tracking tab belt and 6 in (152 mm) wide double tracking tab belt.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.
- Do not use with sprockets smaller than a 3.5 in (89 mm) pitch diameter (10 tooth) sprocket. If a 3.5 in (89 mm) pitch diameter is required, do not use a split sprocket.



6.0 in (152 mm) Double tracking tab belt



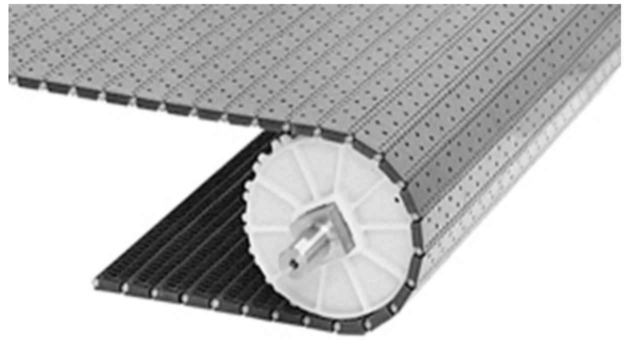
4.7 in (119 mm) Single tracking tab belt



Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	700	1040	34 to 220	1 to 104	0.93	4.54
Acetal	Nylon	1480	2200	-50 to 200	-46 to 93	1.50	7.30

Perforated Flat Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	See Product Notes	
Open Area	See Product Notes	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



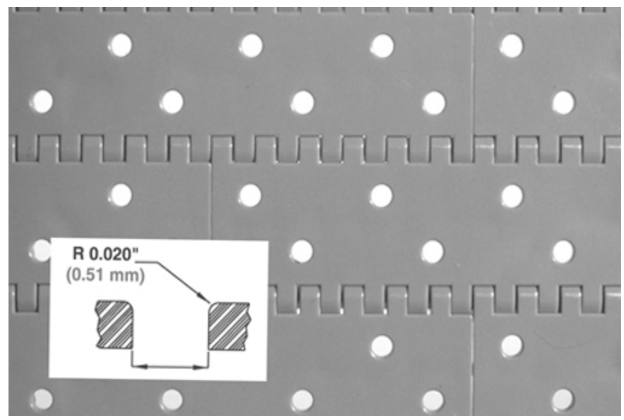
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Hole sizes include 3% open area at the hinge.
- Holes have a radiused top edge, allowing quiet operation and good vacuum performance.
- Other hole dimensions and patterns can be created by drilling Series 900 Flat Top.
- HR nylon belts use short rodlets to hold the main hinge rod in place and are made from the same material as the main rod.
- Designed for vacuum transfer applications, with a scalloped underside to reduce carryway blockage.
- Use stainless steel split sprockets in elevated-temperatures.
- Available hole sizes:

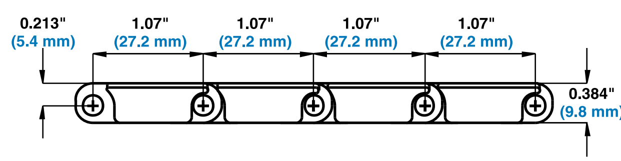
  Ø 0.125 in (3.2 mm) - 5% Open Area

  Ø 0.15625 in (4.0 mm) - 6% Open Area

  Ø 0.1875 in (4.8 mm) - 8% Open Area



Inset: molded hole detail



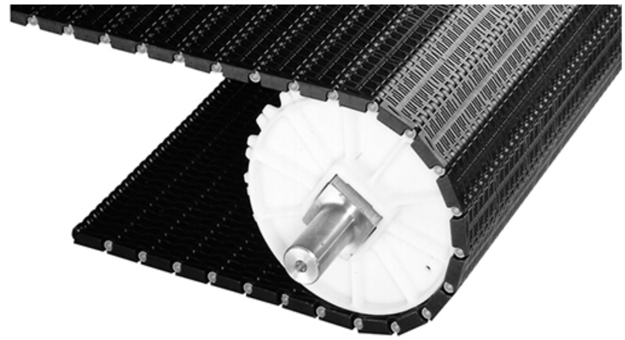
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight 1/8 in		Belt weight 5/32 in		Belt weight 3/16 in	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²	lb/ft²	kg/m²	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	–	–	0.93	4.54	–	–
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	–	–	0.98	4.79	–	–
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.48	7.23	1.46	7.11	1.43	6.98
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	–	–	1.46	7.11	–	–
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	–	–	1.59	7.76	–	–
HR nylon	Nylon	1200	1790	-50 to 240	-46 to 116	–	–	1.40	6.80	–	–
Acetal[1]	Polyethylene	1000	1490	-50 to 70	-46 to 21	1.48	7.23	1.46	7.11	1.43	6.98
UVFR	UVFR	700	1042	-34 to 200	1 to 93	2.04	9.96	2.04	9.96	2.04	9.96

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating. 1/8 in (3.2 mm) and 3/16 in (4.8 mm) hole sizes are available in acetal only.

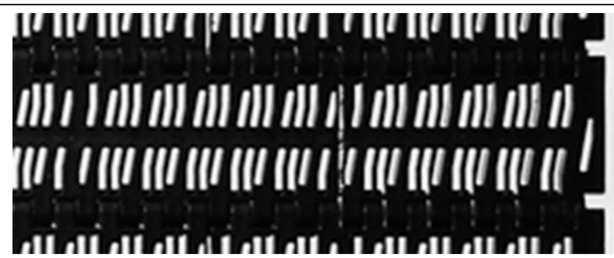
Mesh Top

	in	mm
Pitch	1.07	27.2
Minimum Width	2	51
Width Increments	0.33	8.4
Opening Size (approximate)	0.05 × 0.31	1.3 × 7.9
Open Area	24%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



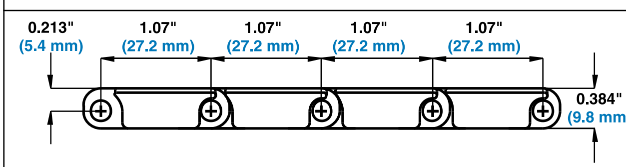
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Ideal for fruit and vegetable processing, especially for stemmed products and dewatering applications.



Top surface

Underside surface

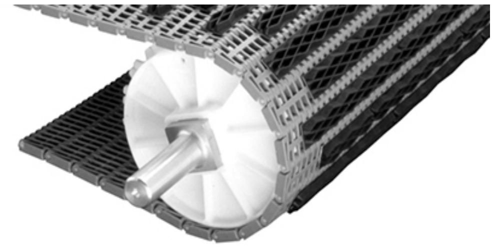


Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1480	2200	34 to 200	1 to 93	1.39	6.79
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.93	4.55
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	0.99	4.84

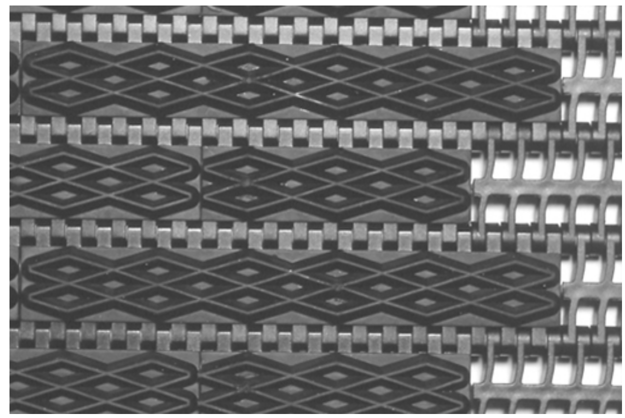
Diamond Friction Top

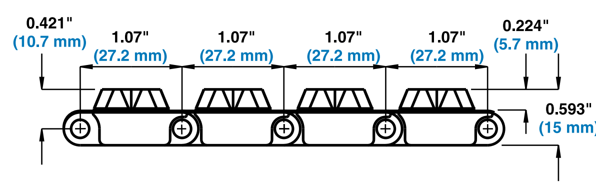
	in	mm
Pitch	1.07	27.2
Minimum Width	2.0	50.8
Width Increments	0.33	8.4
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high friction surface without interfering with carryways and sprockets.
- Available in gray PP with black rubber, white PP with white rubber, and natural PE with white rubber.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems utilizing these belts.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive. Abrasion resistant rods are recommended.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).



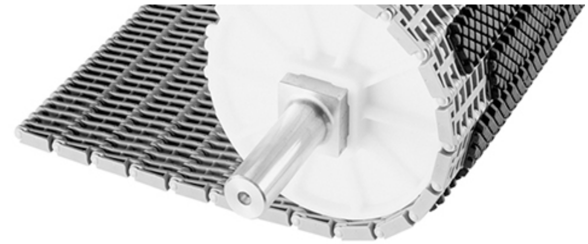


Belt Data											
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	45 Shore A	a	
Polypropylene	White/White	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	56 Shore A	a	c
Polyethylene	Natural/White	Polyethylene	350	520	-50 to 120	-46 to 49	1.50	7.32	56 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

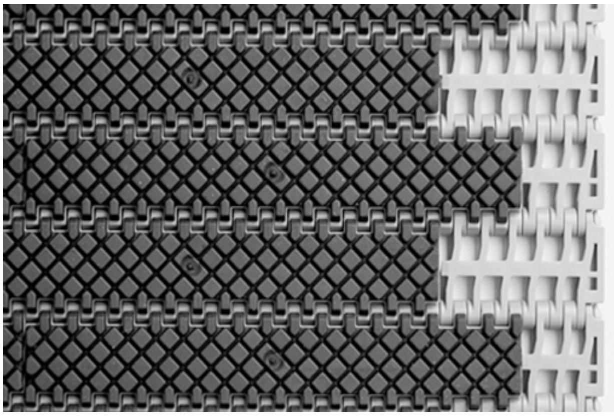
Square Friction Top

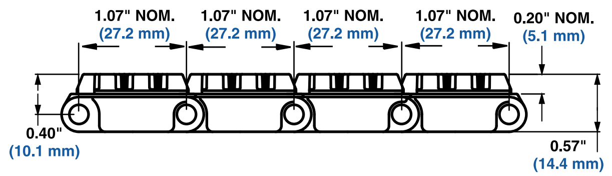
	in	mm
Pitch	1.07	27.2
Minimum Width	3.0	76
Width Increments	0.33	8.4
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in gray PP with black rubber and white PP with white rubber.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive. Abrasion resistant rods are recommended.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in and (43 mm).



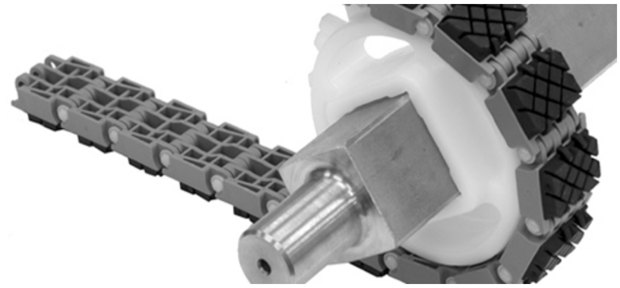


Belt Data												
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Polypropylene	1000	1490	34 to 150	1 to 66	1.50	7.32	45 Shore A	a	
Polypropylene	White/White	Polypropylene	1000	1490	34 to 150	1 to 66	1.50	7.32	56 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

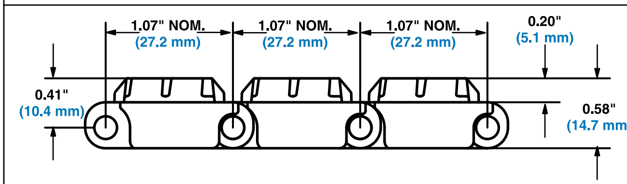
Mold to Width 29 mm Square Friction Top

	in	mm
Pitch	1.07	27.2
Molded Width	1.1	29
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in gray PP with black rubber, gray acetal with black rubber, and blue acetal with black rubber.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.

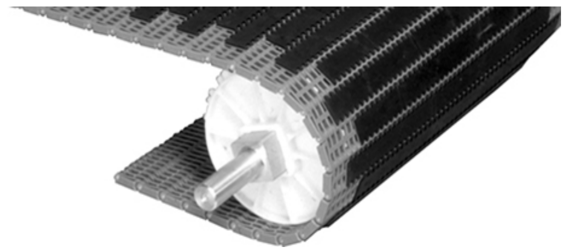


Belt Data											
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Nylon	65	29	34 to 150	1 to 66	0.17	0.25	45 Shore A	a	
Acetal	Gray/Black	Nylon	140	64	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		
Acetal	Blue/Black	Nylon	140	64	-10 to 130	-23 to 54	0.21	0.31	54 Shore A		

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

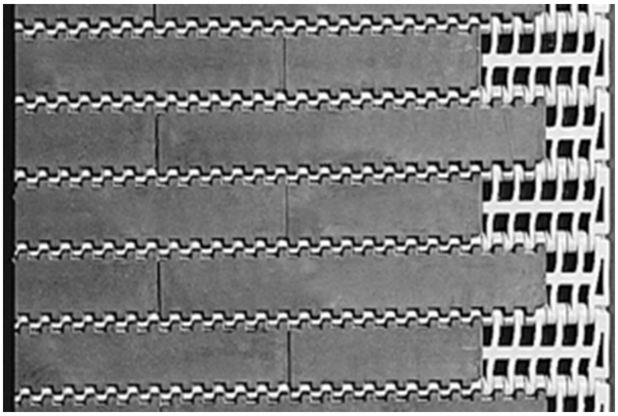
Flat Friction Top

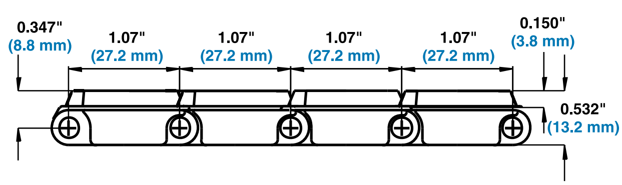
	in	mm
Pitch	1.07	27.2
Minimum Width	2.0	50.8
Width Increments	0.33	8.4
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two-material rubber modules provide a high-friction surface without interfering with carryways and sprockets.
- Available in gray PP with black rubber and white PP with white rubber.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller before the drive. Abrasion resistant rods are recommended.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Consider these factors when designing conveyor systems to use these belts.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 1.7 in (43 mm).





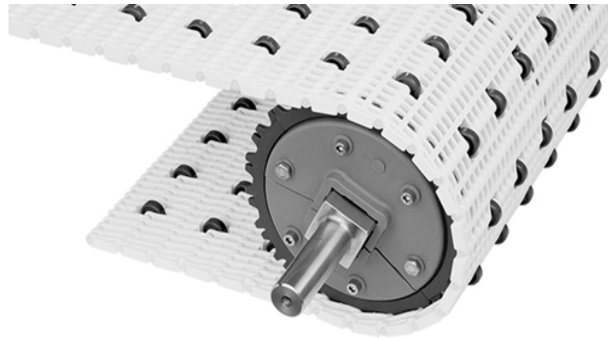
Belt Data

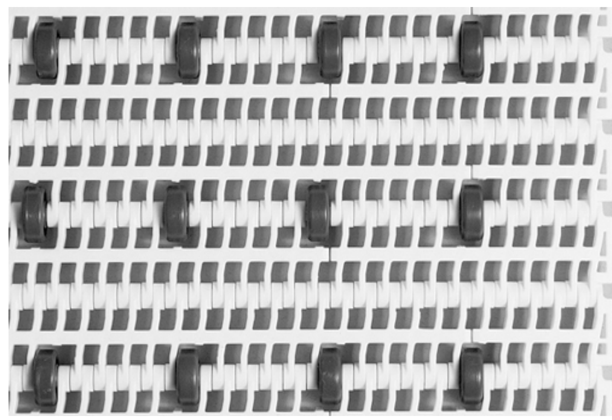
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	45 Shore A	a	
Polypropylene	White/White	Polypropylene	1000	1490	34 to 150	1 to 66	1.40	6.83	56 Shore A	a	c
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	1000	1490	34 to 212	1 to 100	1.40	6.83	59 Shore A	a	c

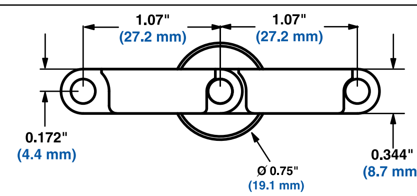
• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

Flush Grid with Insert Rollers

	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approx.)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

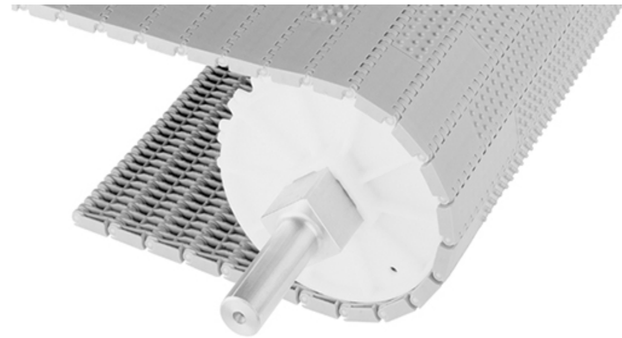
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- For applications where low back pressure accumulation is required.
- Uses acetal rollers.
- Back-up load is 5% to 10% of product weight.
- Do not place sprockets inline with rollers.
- For low back pressure applications, place wearstrips between rollers. For driven applications, place wearstrip directly under rollers.
- For custom roller-placement options, contact Intralox Customer Service.
- Standard roller spacings across belt width: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm) inline or staggered.
- Standard roller spacings along belt length: 1.07 in (27.2 mm), 2.14 in (54.4 mm).
- Minimum roller indent: 1.0 in (25.4 mm).

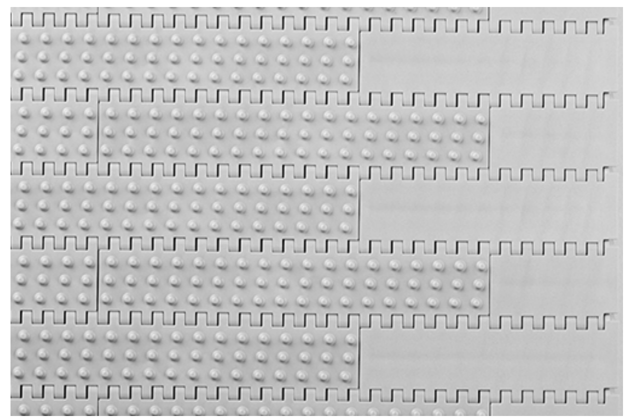
Belt Data

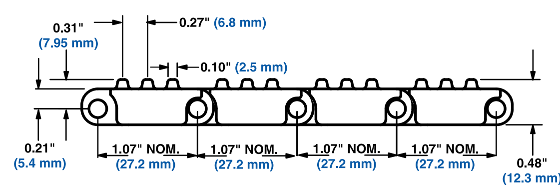
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength Roller Width Spacing 2 in	51 mm	3 in	76 mm	4 in	102 mm	Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	490	730	550	820	590	880	34 to 220	1 to 104	0.76	3.71
Acetal	Polypropylene	1030	1530	1170	1740	1240	1850	34 to 200	1 to 93	1.15	5.61

Nub Top

	in	mm
Pitch	1.07	27.2
Minimum Width	10	254
Width Increments	0.33	8.4
Open Area	0%	
Product Contact Area	7%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Ideal for batch-off applications.
- Minimum nominal alternating edge indents: 2 in (51 mm) & 3 in (76 mm).

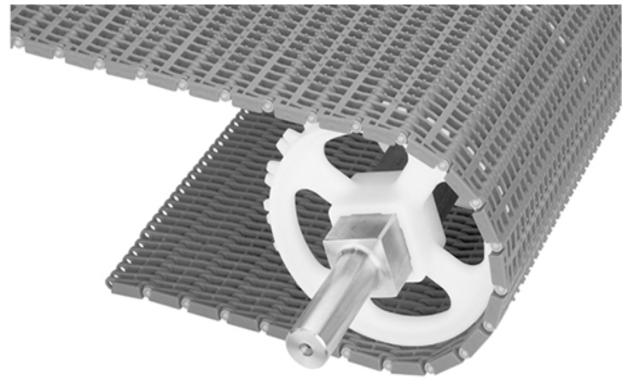
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.98	4.78

[1] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m). Contact Intralox Customer Service for availability of polyurethane sprockets.

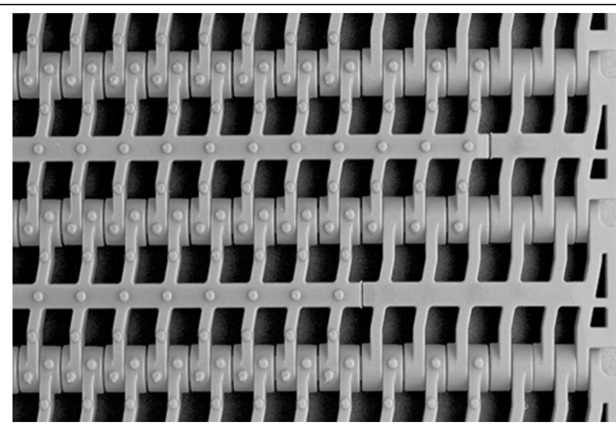
Flush Grid Nub Top

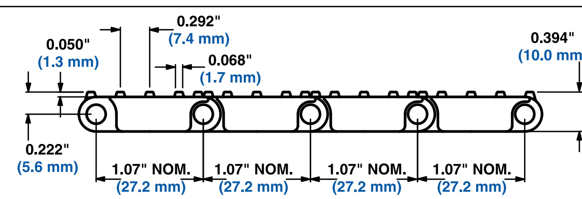
	in	mm
Pitch	1.07	27.2
Minimum Width	6	152
Width Increments	0.33	8.4
Opening Size (approximate)	0.24 × 0.28	6.1 × 7.1
Open Area	38%	
Product Contact Area	3%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Built with Flush Grid edge modules.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- Can only be used with Series 900 Flush Grid base flights.
- Minimum nominal alternating edge indents: 1 in (25 mm) and 2 in (51 mm) pattern.



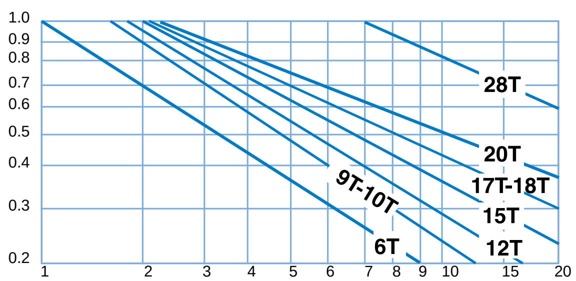


Belt Data							
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.80	3.91

[1] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway[3]
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[4]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing.

Strength Factor

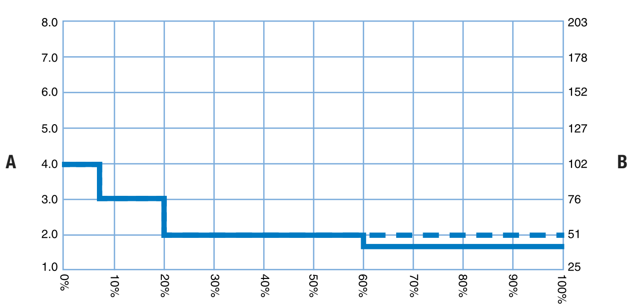


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

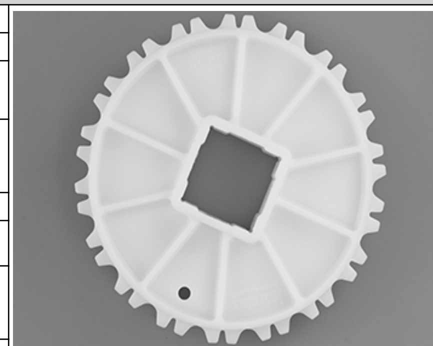
A sprocket spacing, in
B sprocket spacing, mm

Solid line: Flush Grid
Dashed line: Open Flush Grid

[1] If your belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range listed. Belts are available in 0.33 in (8.4 mm) increments beginning with minimum width of 2 in (51 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] For Friction Top applications, use caution and contact Intralox Customer Service.
[4] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[2]	Square in	Round mm[2]	Square mm
6 (13.40%)	2.1[3]	53[3]	2.2	56	0.75	19		1.0		25
9 (6.03%)	3.1	79	3.2	81	1.0	25	1	1.0	25	25
								1.5		40
10 (4.89%)	3.5	89	3.6	91	0.75	19		1.0		40
								1.5		
12 (3.41%)	4.1	104	4.3	109	1.5	38	1–11/2	1.5	25 to 40	40
							1-15/16 to 2-3/16		50 to 55	
17 (1.70%)	5.8	147	5.9	150	1.5	38	1-3/16 to 1-1/2		30 to 40	
18 (1.52%)	6.1	155	6.3	160	1.5	38	1–11/2	1.5	25 to 40	40
							1-15/16	2.5	50 to 55	60
					1.0	25	2-3/16			65
20 (1.23%)	6.8	173	7.0	178	1.5	38	1–11/2	1.5	25 to 40	40
							1-15/16 to 2-3/16	2.5	50 to 55	60
										65



EZ Clean™ Sprocket[4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[5]	Square in	Round mm[5]	Square mm
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5		40

[1] **Contact Intralox Customer Service for lead times. When using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lb/ft (967 kg/m) is de-rated to 650 lb/ft (967 kg/m). When using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1100 lb/ft (1637 kg/m) is de-rated to 1100 lb/ft (1637 kg/m. All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.**

[2] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

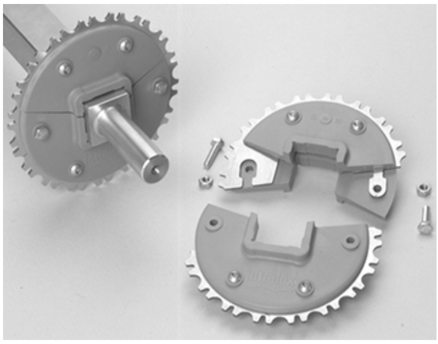
[3] See the Retaining Rings section for more information on retaining the 2.1 in (53 mm) pitch diameter sprocket.

[4] **Contact Intralox Customer Service for lead times. When using when using 1.5 in (40 mm) bore polyurethane sprockets, the belt strength for belts rated over 650 lb/ft (967 kg/m) is de-rated to 650 lb/ft (967 kg/m). When using when using 2.5 in (60 mm) bore polyurethane sprockets, the belt strength for belts rated over 1100 lb/ft (1637 kg/m) is de-rated to 1100 lb/ft (1637 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F (-18 °C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.**

[5] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

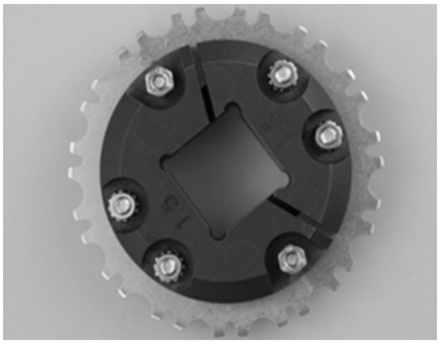
Split Metal Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Sizes Round in[2]	U.S. Sizes Square in	Metric Sizes Round mm[2]	Metric Sizes Square mm
10 (4.89%)	3.5	89	3.6	91	1.5	38		1.5		40
12 (3.41%)	4.1	104	4.3	109	1.5	38		1.5		40
15 (2.19%)	5.1	130	5.3	135	1.5	38	1-3/16 1-1/4	1.5		
17 (1.70%)	5.8	147	6.1	155	1.5	38			40	40
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4 1-1/2	1.5 2.5		40 60
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5 2.5		40 60
28[3] (0.63%)	9.8	249	10.0	254	1.5	38		1.5 2.5		40 60



Split Metal with Polyurethane (FDA) Joining Plates Reduced Clearance Sprocket[4]

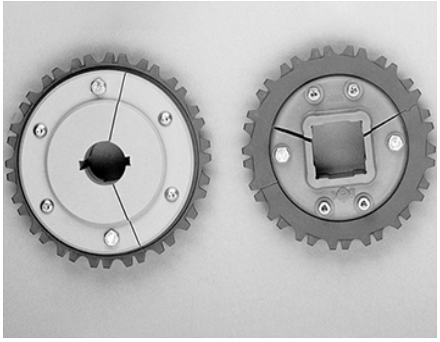
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in[5]	U.S. Square in	Metric Round mm[5]	Metric Square mm
15 (2.19%)	5.1	130	5.3	135	1.5	38		1.5		40
17 (1.70%)	5.8	147	6.1	155	1.5	38				40
18 (1.52%)	6.1	155	6.3	160	1.5	38		1.5 2.5		40 60
20 (1.23%)	6.8	173	7.0	178	1.5	38		1.5 2.5		40
28[6] (0.63%)	9.8	249	10.0	254	1.5	38		2.5		60



[1] **Contact Intralox Customer Service for lead times.**
[2] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Do not use 9.8 in (249 mm) pitch diameter 28-tooth split sprockets with any Series 900 style acetal belt. Instead, always use 9.7 in (246 mm) pitch diameter split sprockets. Contact Intralox Customer Service for lead times.
[4] **Contact Intralox Customer Service for lead times.**
[5] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[6] Do not use 9.8 in (249 mm) pitch diameter 28-tooth split sprockets with any Series 900 style acetal belt. Instead, always use 9.7 in (246 mm) pitch diameter split sprockets. Contact Intralox Customer Service for lead times.

Molded Tooth Plate Split Glass Filled Nylon Sprockets[1]

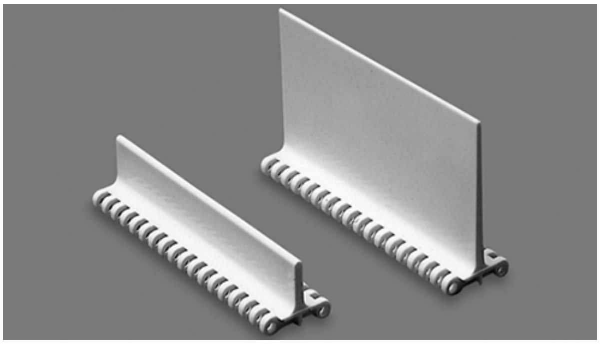
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes – U.S. Round in[2]	Available Bore Sizes – U.S. Square in	Available Bore Sizes – Metric Round mm[2]	Available Bore Sizes – Metric Square mm
15 (2.19%)	5.1	130	5.3	135	1.5	38	1	1.5	30	40
							1-3/16		40	
17 (1.70%)	5.8	147	6.1	155	1.5	38			30	40
									40	
18 (1.52%)	6.1	155	6.3	160	1.5	38	1-1/4	1.5		40
							1-1/2	2.5		60
20 (1.23%)	6.8	173	7.0	178	1.5	38	1-1/4	1.5		40
								2.5		60



Flat Top Base Flights (Streamline)

Available Flight Height in	Available Flight Height mm	Available Materials
1	25	Polypropylene, polyethylene, acetal
2	51	
3	76	

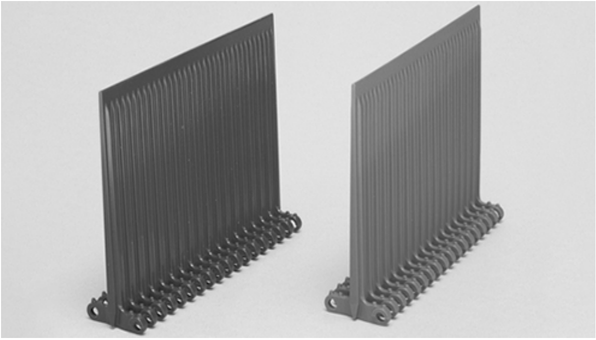
- Flat Top flight is smooth (Streamline) on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 0.7 in (17.8 mm).



Flush Grid Nub Top Base Flights (Double No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
4	102	Polypropylene, acetal

- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 0.7 in (17.8 mm).

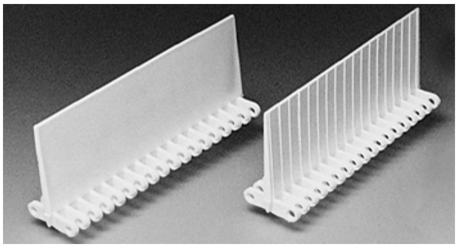


[1] Contact Intralox Customer Service for lead times.
[2] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Flush Grid Base Flights (Streamline/No-Cling)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene, polyethylene, acetal, HR HHR nylon, HR nylon
2	51	

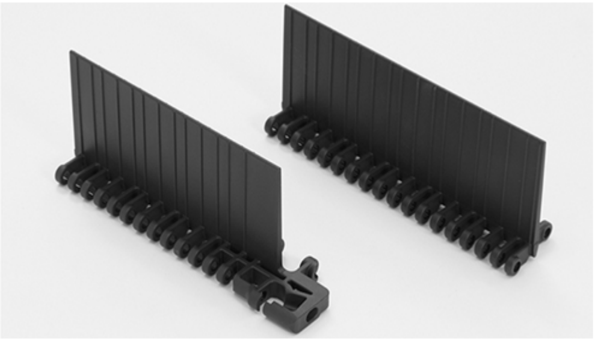
- Each flight rises out of the center of its supporting module. Flights are molded as an integral part. No fasteners are required.
- The Streamline side of the flight is smooth and the No-Cling side is vertically ribbed.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards:0.7 in (17.8 mm).



Open Flush Grid Flush Edge Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, heat resistant (HR) nylon, high heat resistant (HHR) nylon

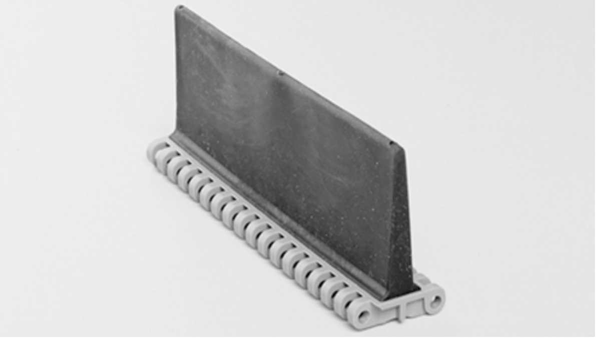
- Flight is ribbed vertically (No-Cling) on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Flight is molded with a 1 in (25 mm) indent. Can be machined to any indent between 1 in (25 mm) and 3 in (76 mm).



Flat Top Base Flights (Streamline Rubber)

Available Flight Height		Available Materials
in	mm	
1	25	Polypropylene
2	51	
3	76	

- Contact Intralox Customer Service for more information.



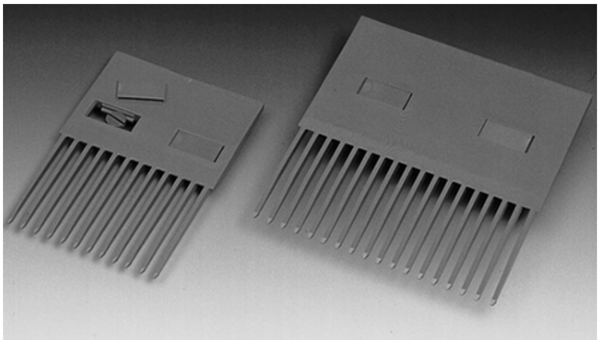
Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal, HR nylon, HHR nylon

- Sideguards use a standard overlapping design and are an integral part of the belt, with no fasteners required.
- Standard sideguard orientation is angled inward toward the product (product friendly). If needed, sideguards can be angled outward toward the conveyor.
- When going around the 6, 9, and 10 tooth sprockets, sideguards fan out, opening a gap at the top of the sideguard that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 12 tooth and larger sprockets.
- Minimum indent: 1 in (25.4 mm).
- Standard gap between the sideguards and the edge of a flight: 0.2 in (5 mm).

Finger Transfer Plates

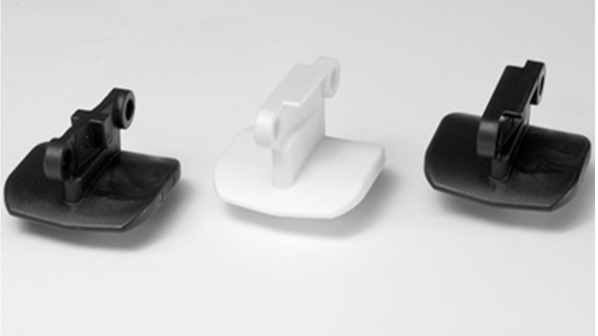
Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Acetal
4	102	12	



- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
- When retrofitting from Series 100 Raised Rib to Series 900 Raised Rib, only use the 4 in (102 mm) 12 finger) width.
- Do not mix 4 in (102 mm) and 6 in (152 mm) wide finger plates.

Hold Down Tabs

Available Clearance		Available Materials
in	mm	
0.16	4.1	Acetal
0.35	8.9	



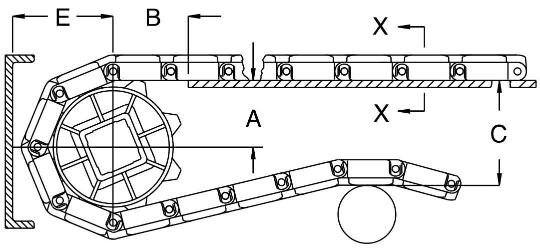
- Tabs are placed on every other row.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between horizontal sections and angled sections. Use a carryway radius design at this transition.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- The 0.16 in (4.1 mm) tab is available in both Flat Top and Flush Grid styles. The 0.35 in (8.9 mm) tab is available with a Flat Top style. The top of this tab sits 0.04 in below the top of Flat Top belts and is level with the top of Flush Grid belts.
- Hold down tabs do not work with 2.1 in (53 mm) and 3.1 in (79 mm) pitch diameter sprockets. 3.5 in (89 mm) pitch diameter sprockets can be used with a 1.5 in (40 mm) square bore.
- A minimum of 2.7 in (69 mm) is required between tabs to accommodate 1 sprocket.
- Tabs width: 1.4 in (36 mm).
- Minimum indent: 0.7 in (17.8 mm).

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 900 Flat Top, Flush Grid, Mesh Top, Nub Top, Perforated Flat Top[1]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	3.86	98
9.8	249	28	4.58	116	2.96	75	9.70	246	5.02	128
Series 900 Flush Grid Nub Top[1]										
2.1	53	6	0.75-0.90	19-23	1.22	31	2.19	56	1.35	34
3.1	79	9	1.30-1.39	33-35	1.52	39	3.17	81	1.85	47
3.5	89	10	1.47-1.56	37-40	1.64	42	3.51	89	2.02	51
4.1	104	12	1.82-1.90	46-48	1.75	44	4.19	106	2.35	60
5.1	130	15	2.34-2.40	59-61	1.95	50	5.19	132	2.86	73
5.8	147	17	2.69-2.74	68-70	2.09	53	5.87	149	3.20	81
6.1	155	18	2.86-2.91	73-74	2.12	54	6.21	158	3.37	86
6.8	173	20	3.21-3.25	82-83	2.25	57	6.89	175	3.70	94
9.8	249	28	4.58	116	2.92	74	9.61	244	5.06	129

[1] See *Anti-Sag Carryway Wearstrip Configuration* for alternate layouts for the "B" dimension.

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 900 Raised Rib, Flush Grid with Insert Rollers, Open Grid[1]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.73	44
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.97	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.23	57
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.73	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.99	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.52	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104
9.8	249	28	4.58	116	2.96	75	9.70	246	5.24	133
Series 900 Open Flush Grid[1]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.51	38
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.75	44
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.01	51
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.51	64
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.77	70
5.8	147	17	2.69-2.74	68-70	2.13	54	5.80	147	3.15	80
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	155	3.30	84
6.8	173	20	3.21-3.25	81-83	2.32	59	6.75	171	3.86	98
9.8	249	28	4.58	116	2.96	75	9.70	246	5.02	128
Series 900 Diamond Friction Top, Flat Friction Top, Square Friction Top[1]										
2.1	53	6	0.75-0.90	19-23	1.25	32	2.28	58	1.76	45
3.1	79	9	1.30-1.39	33-35	1.51	38	3.20	81	1.96	50
3.5	89	10	1.47-1.56	37-40	1.70	43	3.60	91	2.22	56
4.1	104	12	1.82-1.90	46-48	1.74	44	4.25	108	2.72	69
5.1	130	15	2.34-2.40	60-61	2.00	51	5.20	132	2.98	76
5.8	147	17	2.69-2.74	68-70	2.13	54	6.00	152	3.40	86
6.1	155	18	2.86-2.91	73-74	2.20	56	6.20	157	3.51	89
6.8	173	20	3.21-3.25	81-82	2.32	59	6.75	171	4.08	104
9.8[2]	249	28	4.58	116	2.96	75	9.70	246	5.23	133
Series 900 Mold to Width 29 mm Square Friction Top[1]										
2.1	53	6	0.75-0.90	19-23	1.27	32	2.38	60	1.54	39
3.1	79	9	1.30-1.39	33-35	1.58	40	3.36	85	2.04	52
3.5	89	10	1.47-1.56	37-40	1.70	43	3.70	94	2.21	56
4.1	104	12	1.82-1.90	46-48	1.88	48	4.38	111	2.54	65
5.1	130	15	2.34-2.40	59-61	2.10	53	5.38	137	3.05	77
5.8	147	17	2.69-2.74	68-70	2.32	59	6.06	154	3.39	86
6.1	155	18	2.83-2.88	72-73	2.31	59	6.34	161	3.52	89
6.8	173	20	3.21-3.25	82-83	2.42	61	7.08	180	3.89	99
9.8	249	28	4.58-4.61	116-117	2.92	74	9.80	249	5.25	133

SECTION 2
900

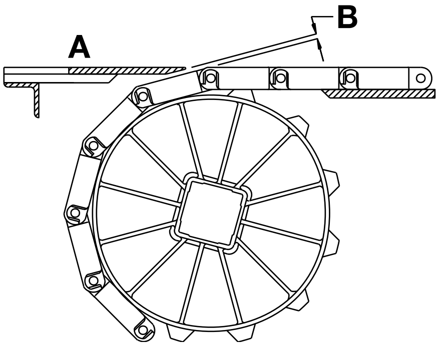
[1] See *Anti-Sag Carryway Wearstrip Configuration* for alternative layouts for the "B" dimension.
[2] The 9.8 in (249 mm) pitch diameter 28-tooth split sprocket must not be used with any Series 900 style acetal belt. A special 9.7 in (246 mm) pitch diameter split sprocket must be used instead.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



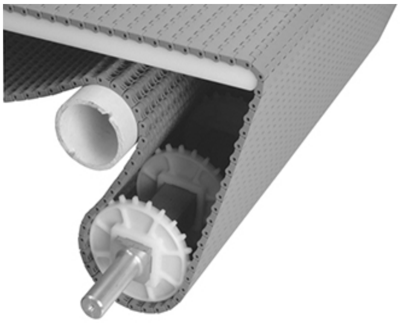
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.1	53	6	0.147	3.7
3.1	79	9	0.095	2.4
3.5	89	10	0.084	2.1
4.1	104	12	0.071	1.8
5.1	130	15	0.057	1.4
5.8	147	17	0.050	1.3
6.1	155	18	0.047	1.2
6.8	173	20	0.042	1.1
9.8	249	28	0.029	0.7

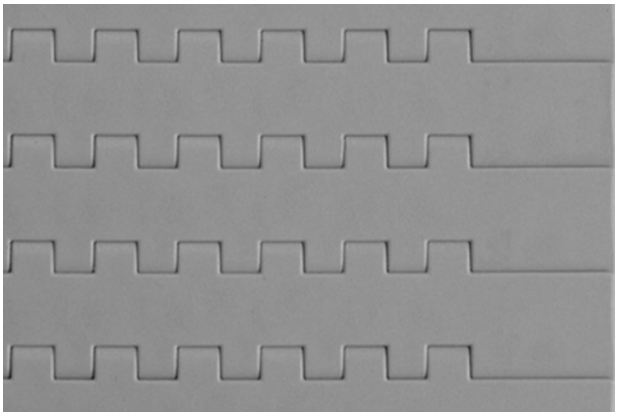
Flat Top

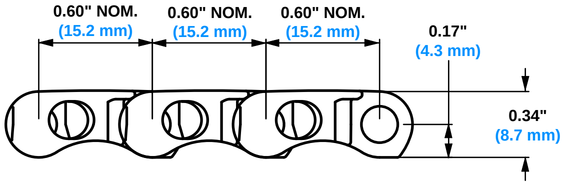
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.50	12.7
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Minimal back tension required.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Small pitch reduces chordal action and transfer dead plate gap.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.



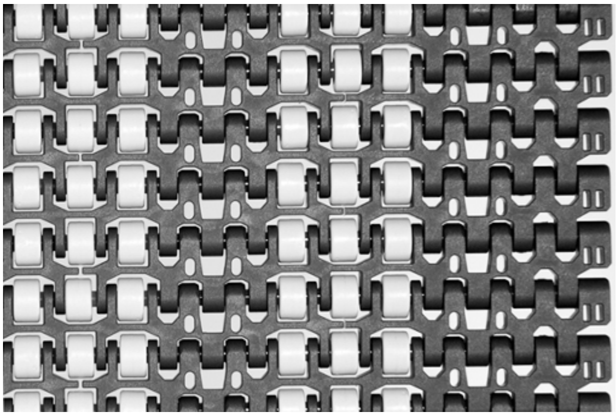


Belt Data

Belt material	Standard rod material 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1500	2232	34 to 200	1 to 93	1.55	7.57
Polypropylene	Polypropylene	1000	1490	34 to 220	1 to 104	1.07	5.22
Polyethylene	Polyethylene	600	893	-50 to 150	-46 to 66	1.11	5.42
HR nylon	Nylon	1000	1490	-50 to 240	-46 to 116	1.31	6.43

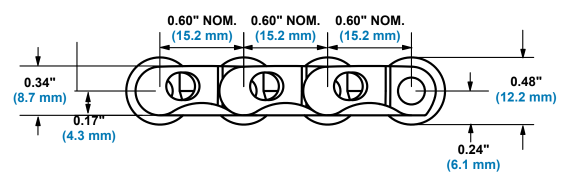
Insert Roller

	in	mm
Pitch	0.60	15.2
Minimum Width	6	152
Width Increments	3.00	76
Open Area	12.5%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

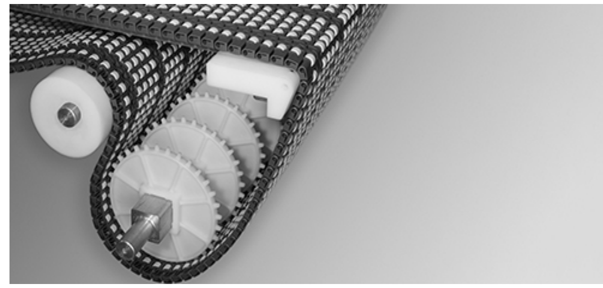
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Has fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surface.
- Roller density: 240 rollers/ft^2 (2580 rollers/m^2).
- Minimal back tension required.
- For low back-pressure applications, place wearstrip between rollers. For activated roller applications, place wearstrip directly under rollers.
- Yellow acetal rollers are 0.3 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Rollers are spaced in groups with 1.5 in (38.1 mm) between roller zones.
- Compatible with 0.75 in (19.1 mm) diameter notched nosebars for tight transfers. Contact Intralox Customer Service for more information.
- Belt can be supported using 1.38 in (35.1 mm) wide or narrower parallel wearstrips.
- Sprocket locations are indented 1.5 in (38.1 mm) from edge of belt.
- Sprocket locations are spaced 3.0 in (76.2 mm) apart.
- Roller indent from edge of belt to edge of roller is 2.25 in (57.2 mm).
- 6 in (152 mm) belt is molded to, width, with a 0.44 in (11.2 mm) roller indent.
- Belt widths above 6 in (152 mm) are bricklayed.

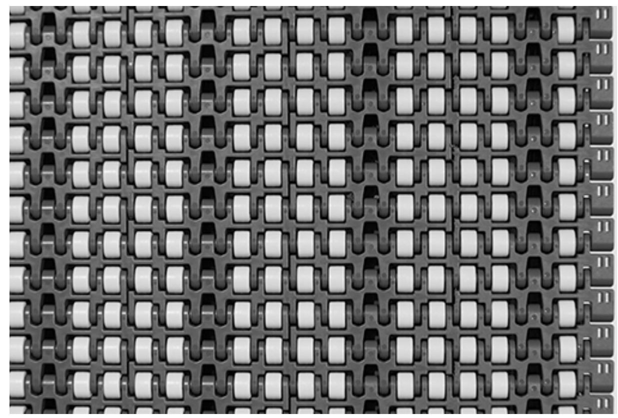


Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.7	8.3

High-Density Insert Roller

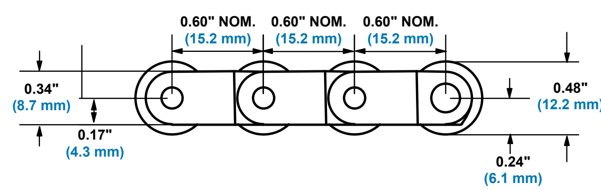
	in	mm
Pitch	0.6	15.2
Minimum Width	9	229
Width Increments	3.00	76.2
Open Area	4%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

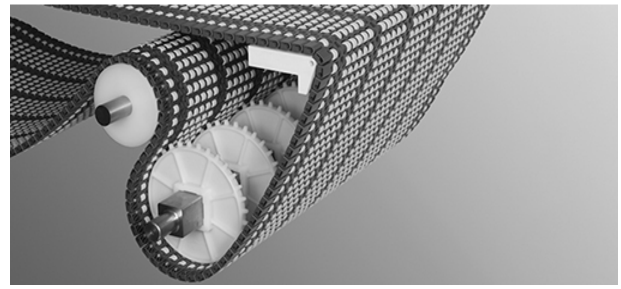
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- For activated roller applications, place wearstrip directly under rollers.
- Minimum back tension required.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 320 rollers/ft^2 (3440 rollers/m^2).
- Roller indent: 0.70 in (17.8 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.5 in (38.1 mm) from edge of belt.
- Sprocket spacing: 3.0 in (76.2 mm) apart.
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- For low back-pressure applications, place wearstrip between rollers in parallel. Wearstrip of 0.50 in (13 mm) wide is recommended to allow some manufacturing and installation tolerance in the conveyor, while providing adequate support to the belt. Maximum allowed wearstrip width is 0.75 in (19 mm).

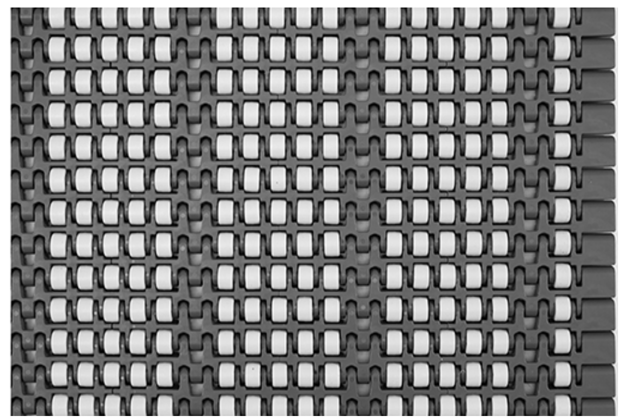


Belt Data							
Belt material	Standard rod material 0.180 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.87	9.13

High-Density Insert Roller 85 mm

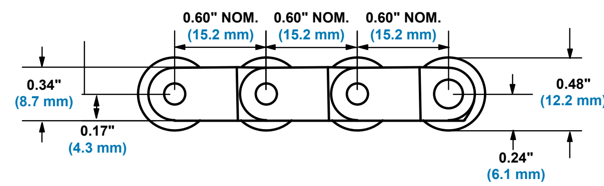
	in	mm
Pitch	0.6	15.2
Minimum Width	10	255
Width Increments	3.35	85
Open Area	3.6%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

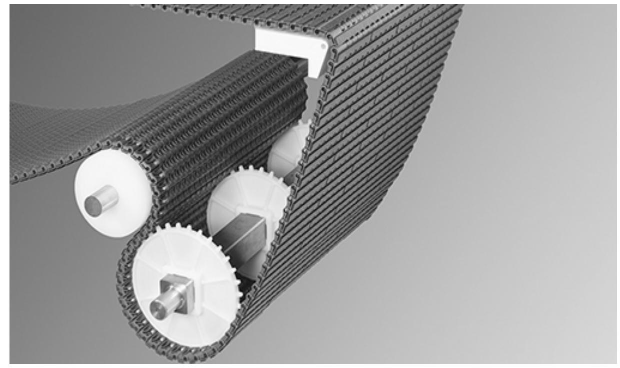
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges on one side and closed edges on opposite side.
- Rollers protrude above and below the belt surfaces.
- Uses one unheaded rod across the entire belt width on each belt row.
- Minimum back tension required.
- For activated roller applications, place wearstrip directly under rollers.
- Yellow acetal rollers are 0.30 in (7.6 mm) wide and 0.48 in (12.1 mm) diameter. Rollers are on the belt rod.
- Roller density: 360 rollers/ft^2 (3875 rollers/m^2).
- Roller indent: 0.89 in (22.6 mm) from edge of belt to edge of roller.
- Sprocket indent: 1.67 in (42.5 mm) from edge of belt.
- Sprocket spacing: 3.35 in (85 mm) apart.
- Compatible with 0.75 in (19.1 mm) diameter nosebars for tight transfers. For high-speed and load applications, a nose-roller is recommended.
- For low back-pressure applications, place wearstrip between rollers in parallel. Wearstrip of 0.50 in (13 mm) wide is recommended to allow some manufacturing and installation tolerance in the conveyor, while providing adequate support to the belt. Maximum allowed wearstrip width is 0.75 in (19 mm).



Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1000	1490	-50 to 200	-46 to 93	1.95	9.52

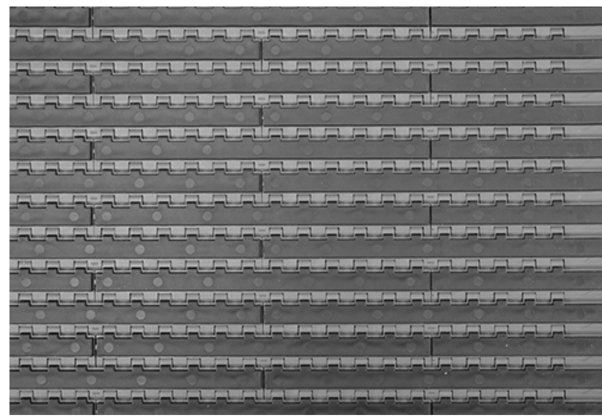
Flat Friction Top 85 mm

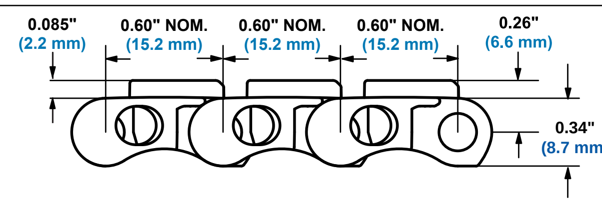
	in	mm
Pitch	0.60	15.2
Minimum Width	3.35	85.0
Maximum Width	66.9	1700
Width Increments	3.35	85
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges on one side of the belt.
- Small pitch reduces chordal action, reducing the gap at transfer dead plate.
- Sprocket lug tooth improves drive performance and enhances sprocket life.
- Minimal back-tension required to maintain sprocket engagement.
- Underside design combined with small pitch allows the belt to run smoothly around a 0.75 in (19 mm) nosebar. Use a dynamic nose-roller for package handling applications.

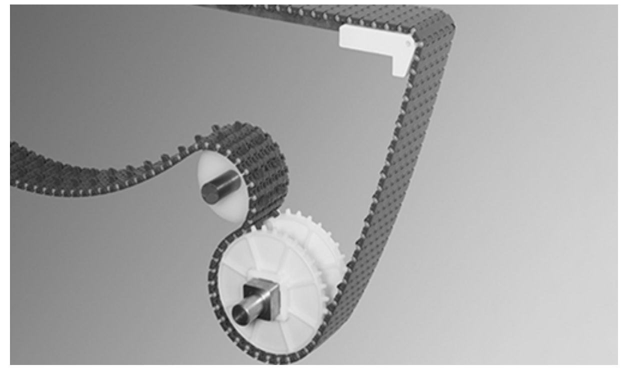




Belt Data											
Base belt material	Base/friction color	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Acetal	Gray/Black	Nylon	1500	2230	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	•	
• - Fully compliant											
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.											
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.											
c - This elastomer is not subject to the testing of this directive.											

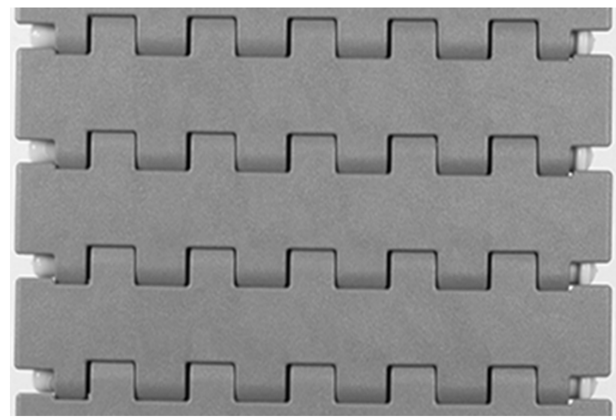
Mold to Width Flat Top with Tabs

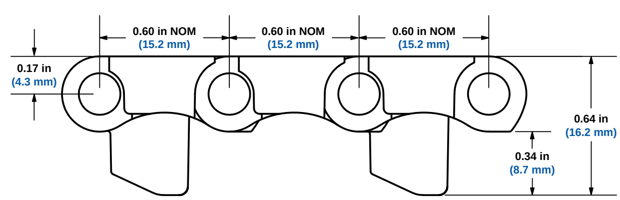
	in	mm
Pitch	0.60	15.2
Molded Widths	3.25	83
	3.35	85
	4.50	114
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Retention feature; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Minimal back tension required.
- Lug tooth sprockets improve sprocket engagement and make installation easier.
- Available in 10 ft (3 m) increments.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 3.25 in (83 mm) tabbed belts use one sprocket.
- 4.50 in (114 mm) and 3.35 in (85 mm) tabbed belts use up to three sprockets.
- Width tolerances for Series 1000 MTW belts: +0.000/-0.020 in (+0.00/-0.50 mm).
- 3.35 in (85 mm) molded tracking tabs fit into standard 1.65625 in (42.1 mm) wearstrip tracks, ensuring proper belt alignment.
- 3.25 in (83 mm) and 4.50 in (114 mm) molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks, ensuring proper belt alignment.



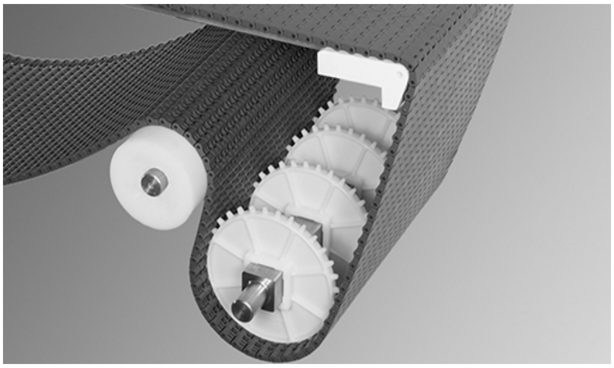


Belt Data

Belt Width		Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
in	mm			lb	kg	°F	°C	lb/ft	kg/m
3.25	83	Acetal	Nylon	406	600	-50 to 200	-46 to 93	0.44	0.65
3.35	85	Acetal	Nylon	419	620	-50 to 200	-46 to 93	0.44	0.65
4.50	114	Acetal	Nylon	563	840	-50 to 200	-46 to 93	0.60	0.89

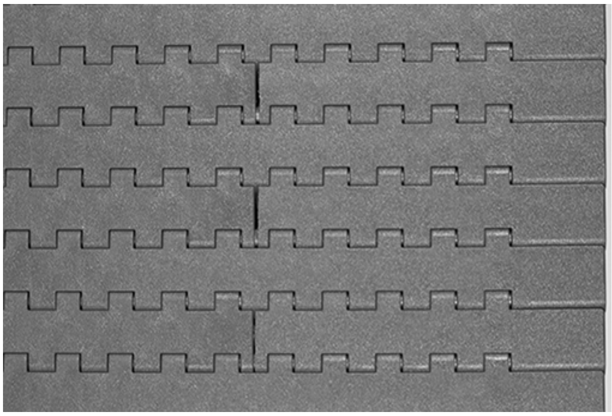
Flat Top 85 mm

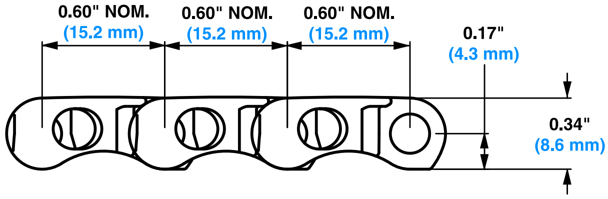
	in	mm
Pitch	0.6	15.2
Minimum Width	10	255
Maximum Width	67	1700
Width Increments	3.35	85
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Closed edges used on one side of the belt.
- Small pitch reduces chordal action, reducing the gap at transfer dead plate.
- Sprockets have lug tooth, which improves drive performance and enhances sprocket life.
- Minimal back tension required to maintain sprocket engagement.
- Underside design, combined with small pitch, allows the belt to run smoothly around a 0.75 in (19 mm) nosebar. A dynamic nose-roller is highly recommended for package handling applications.

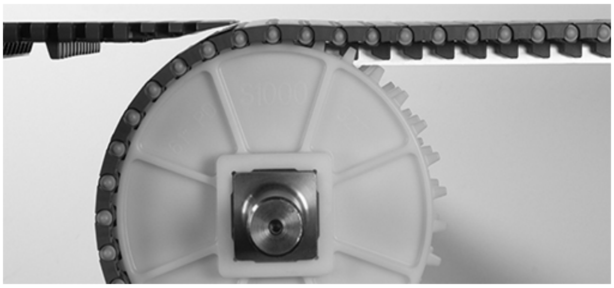


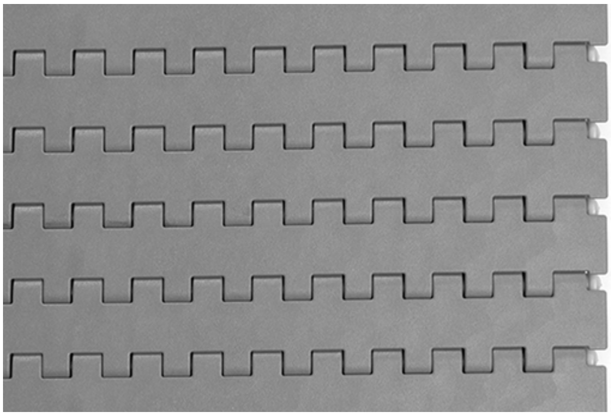


Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1500	2230	34 to 200	1 to 93	1.55	7.57

Flat Top ONEPIECE™ Live Transfer 6.3 in

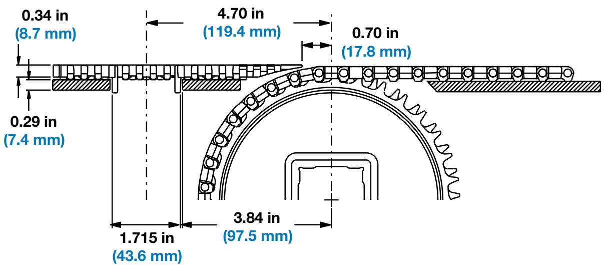
	in	mm
Pitch	.60	15.2
Molded Width	6.3	160
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Designed for smooth, self-clearing, right-angle transfers onto takeaway belts.
- Uses three sprockets.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- For information regarding sprocket placement, see the center sprocket offset table in *Retainer Rings/Center Sprocket Offset*.
- Minimal back tension required.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts* for more information.
- Cannot be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks to ensure proper belt alignment.
- Use sprockets with a pitch diameter of 1.50 in (38.1 mm) or larger.
- Available in 10 ft (3 m) increments.



Belt Data

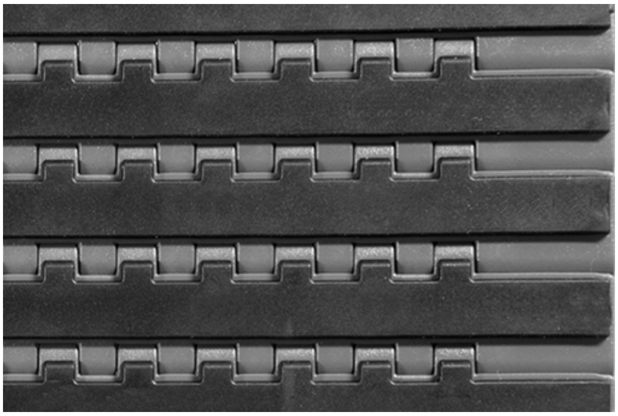
Belt material	Standard rod material 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	500	744	-50 to 200	-46 to 93	0.78	3.81

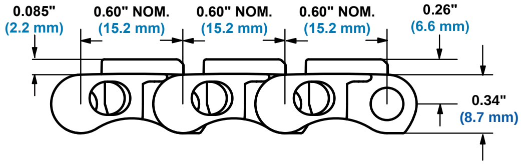
Flat Friction Top

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in gray acetal with black rubber.
- Smooth, closed upper surface with fully flush edges.
- Friction Top extends to the edge of the belt (no indent).
- Closed edges on one side of the belt.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Underside design and small pitch combine to allow the belt to run smoothly around nosebars.
- Small pitch reduces chordal action and transfer dead plate gap.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.





Belt Data

Base belt material	Base/friction color	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Acetal	Gray/black	Nylon	1500	2232	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	•	
Acetal	White/white	Nylon	1500	2232	-10 to 130	-23 to 54	1.80	8.79	54 Shore A	•	

• - Fully compliant

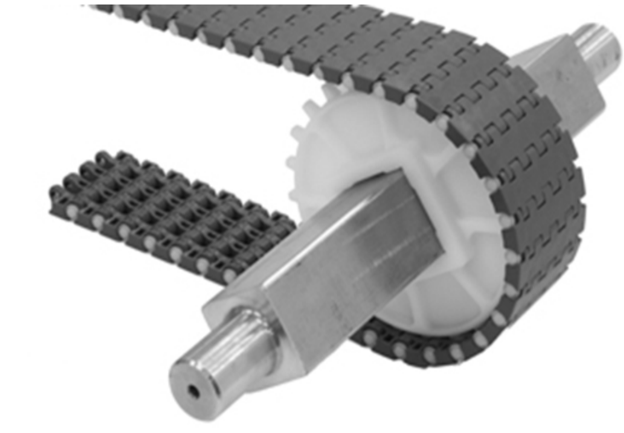
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.

b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

c - This elastomer is not subject to the testing of this directive.

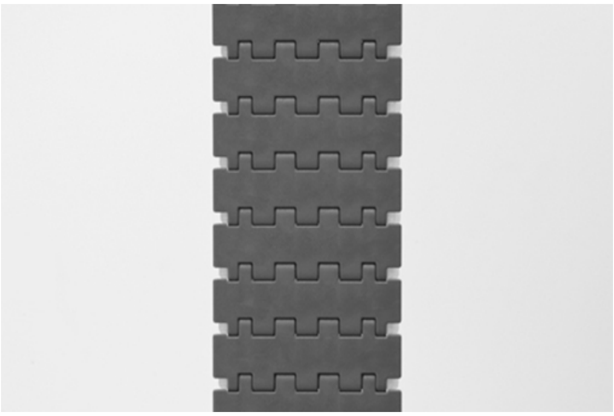
Mold to Width Flat Top

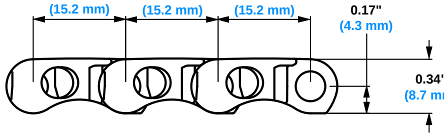
	in	mm
Pitch	0.6	15.2
Molded Widths	1.1	29
	1.5	37
	1.8	46
	2.2	55
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Minimal back tension required.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Available in 10 ft (3 m) increments.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29 mm and 37 mm belts use one sprocket.
- 46 mm and 55 mm belts can use up to two sprockets.

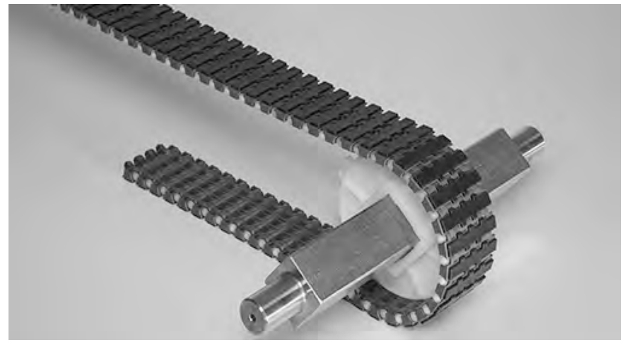




Belt Data									
Belt Width		Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
in	mm			lb	kg	°F	°C	lb/ft	kg/m
1.1	29	Acetal	Nylon	140	64	-50 to 200	-46 to 93	0.15	0.22
1.5	37	Acetal	Nylon	200	91	-50 to 200	-46 to 93	0.19	0.28
1.8	46	Acetal	Nylon	230	104	-50 to 200	-46 to 93	0.23	0.35
2.2	55	Acetal	Nylon	201[1]	91[a]	-50 to 200	-46 to 93	0.28	0.42

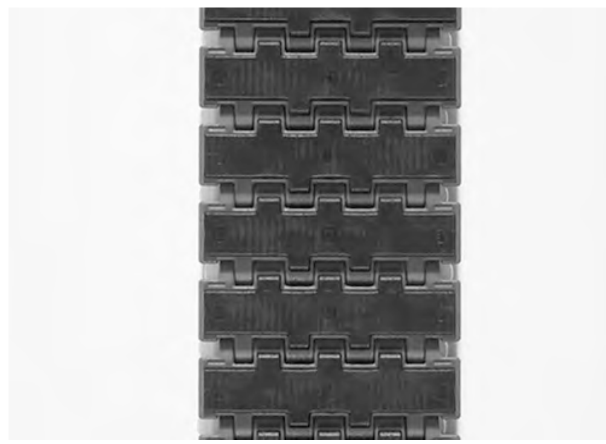
[1] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets

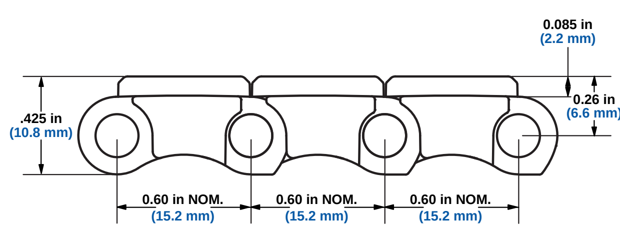
Mold to Width Flat Friction Top		
	in	mm
Pitch	0.60	15.2
Molded Widths	1.1	29
	2.2	55
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Friction top extends to the end of the belt, with no indent.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- Available in grey acetal with black rubber.
- Minimal back tension required.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Available in 10 ft (3 m) increments.
- Can be used over 0.75 in (19.1 mm) diameter nosebars for tight transfers.
- 29-mm belts use one sprocket.
- 55-mm belts can use up to two sprockets.





Belt Data

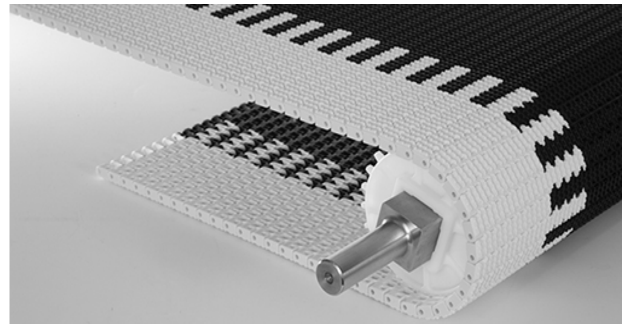
Belt Width		Belt Material	Base/ Friction Color	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptibility:1=White, 2=Blue, 3=Natural, 4=Gray	
in	mm				lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC
1.1	29.0	Acetal	Gray/ black	Nylon	140	64	34 to 130	1 to 54	0.17	0.25	54 Shore A	•	
2.2	55.0	Acetal	Gray/ black	Nylon	200[1]	91[a]	34 to 130	1 to 54	0.34	0.48	54 Shore A	•	

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - This elastomer is not subject to the testing of this directive.

[1] 270 lb (122 kg) for 2.2 in (55 mm) with two (2) sprockets

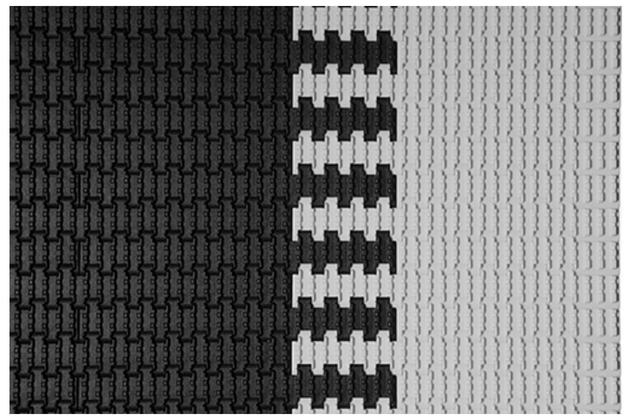
Non Skid Raised Rib

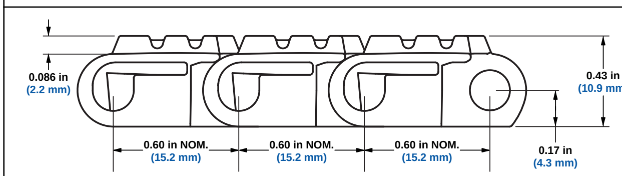
	in	mm
Pitch	0.60	15.2
Minimum Width	3.0	76.0
Width Increments	0.5	12.7
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two edge options available: no indent and 21 mm indent.
- Closed edges on one side of the belt.
- Minimal back tension required.
- Non Skid Raised Rib surface increases traction.
- Small pitch reduces chordal action and transfer dead plate gap.
- Low profile conveyor reduces the installation costs associated with digging pits.
- Lug tooth sprockets improve sprocket engagement and simplify installation.
- Finger transfer plates ensure safe transfers, eliminating the need for safety stops and reducing downtime.



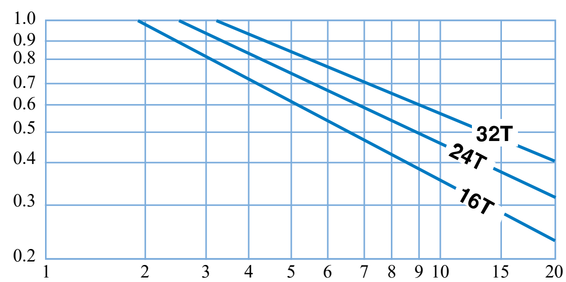


Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	-50 to 200	-46 to 93	1.86	9.08
HSEC acetal	Nylon	1800	2679	-50 to 200	-46 to 93	1.88	9.18
FR Anti Static	Nylon	700	1042	-50 to 150	-46 to 66	1.64	8.01

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway[3]
3	76	2	2	2
4	102	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
15	381	3	4	3
18	457	3	4	3
24	610	5	5	3
30	762	5	6	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	13	13	7
84	2134	15	15	8
96	2438	17	17	9
120	3048	21	21	11
144	3658	25	25	13
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[4]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

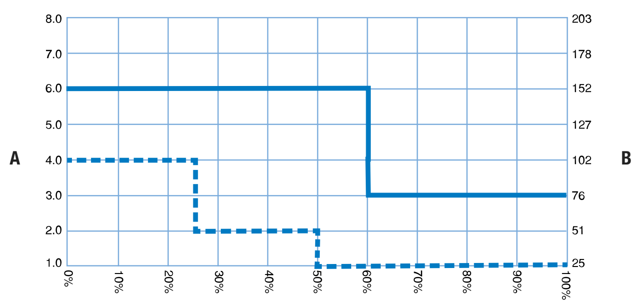


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



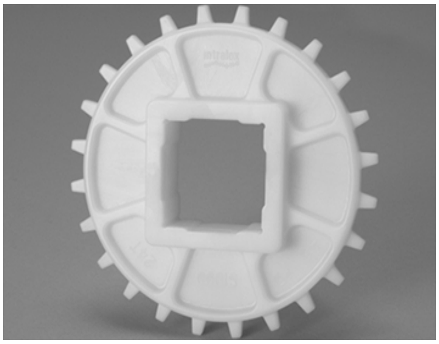
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Dashed line 16T sprocket
Solid line all other sprockets.

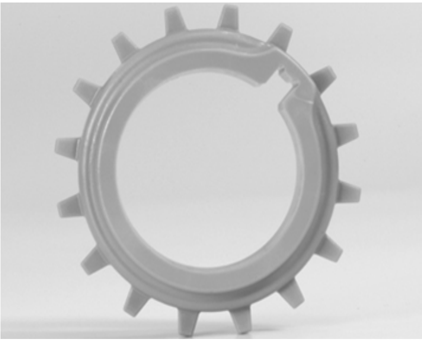
[1] Belts are available in 0.5 in (12.7 mm) increments beginning with 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] For Friction Top applications, use caution and contact Intralox Customer Service.
[4] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only.

Molded Sprocket[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[2]	Square in	Round mm[2]	Square mm
16 (1.92%)	3.1[3]	79[3]	3.2	81	0.5	13		1.5		40
					1.0	25	1.0, 1.25			
24 (0.86%)	4.6	117	4.8	121	1.0	25		1.5, 2.5	30	40, 60
32 (0.48%)	6.1	155	6.5	164	1.0	25		1.5		40



Acetal Split Sprockets[4]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[5]	Square in	Round mm[5]	Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38	1.25			
32 (0.48%)	6.1	155	6.5	164	1.5	38			30 40	

HR Nylon Sprockets[6, 7]										
No. of teeth (chordal action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
16 (1.92%)	3.1	79	3.2	81	1.0	25	1.9[8]			



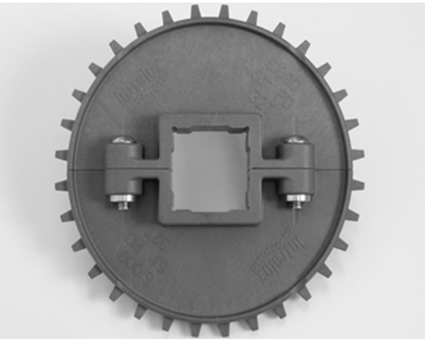
[1] **Contact Intralox Customer Service for lead times.**
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] When using 3.1 in (79 mm) pitch diameter sprockets, the belt strength for belts rated over 1200 lb/ft (1786 kg/m) is de-rated to 1200 lb/ft (1786 kg/m). All other belts maintain the published rating.
[4] **Contact Intralox Customer Service for lead times.**
[5] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[6] **Contact Intralox Customer Service for lead times.**
[7] **Cannot be used with S1000 High-Density Insert Roller**
[8] 1/4” keyway

HR Nylon Split Sprockets

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
30 (0.54%)	5.8	147	5.9	150	1.48	38	1-7/16			

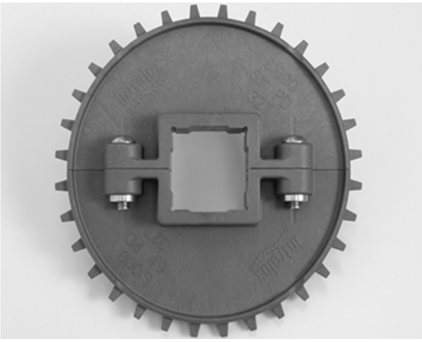
Glass Filled Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38	1 1.25 1.5	1.5		40
32 (0.48%)	6.1	155	6.5	164	1.5	38	1 1.25 1.5	1.5	30 40	40



Polypropylene Composite Split Sprockets[2]

No. of teeth (chordal action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
24 (0.86%)	4.6	117	4.8	121	1.5	38		1.5		40
32 (0.48%)	6.1	155	6.5	164	1.5	38		1.5		40



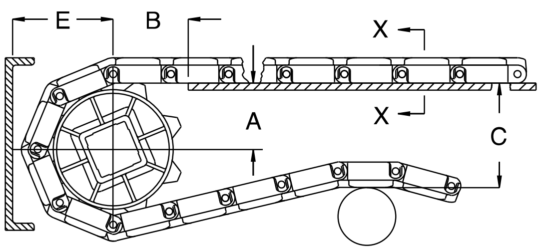
[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm) **C** ± (max.)
B ± 0.125 in (3 mm) **E** ± (min)

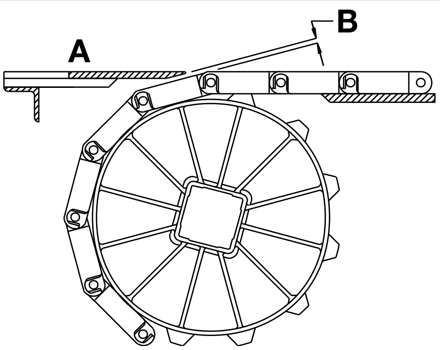
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1000 Flat Top, Flat Top 85 mm, Mold to Width Flat Top										
3.1	79	16	1.34-1.37	34-35	1.59	40	3.08	78	1.77	45
4.6	117	24	2.11-2.13	54	1.99	50	4.60	117	2.53	64
6.1	155	32	2.88-2.89	73	2.43	62	6.12	155	3.29	84
Series 1000 High Density Insert Roller, Insert Roller										
3.1	79	16	1.33	34	1.60	41	3.13	80	1.84	47
4.6	117	24	2.10	53	2.02	51	4.65	118	2.60	66
6.1	155	32	2.87	73	2.46	62	6.18	157	3.36	85
Series 1000 Flat Friction Top, Flat Friction Top 85 mm										
3.1	79	16	1.35	34	1.59	40	3.17	81	1.86	47
4.6	117	24	2.12	54	2.01	51	4.70	119	2.62	67
6.1	155	32	2.88	73	2.44	62	6.22	158	3.39	86

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

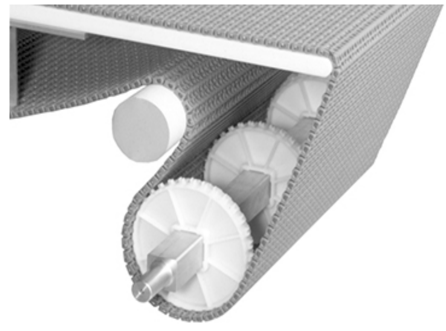


A Top surface of dead plate

B Dead plate gap

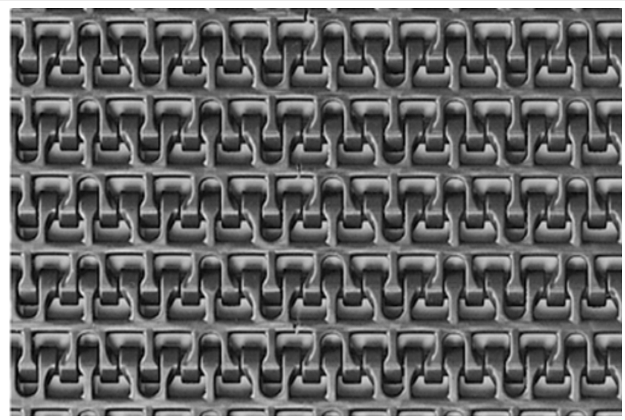
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.1	79	16	0.029	0.7
4.6	117	24	0.020	0.5
6.1	155	32	0.015	0.4

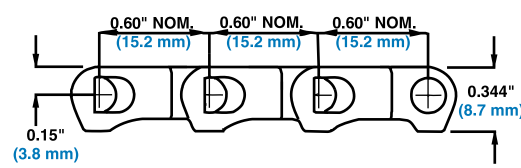
Flush Grid		
	in	mm
Pitch	0.60	15.2
Minimum Width	See Product Notes	
Width Increments		
Min Opening Size (approx.)	0.17 × 0.10	4.3 × 2.5
Max. Opening Size (approx.)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Small pitch reduces chordal action and transfer dead plate gap.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- Custom-built in widths that vary by material. Acetal and polypropylene are built in widths from 3 in (76 mm) and up, in 0.5 in (12.7 mm) increments. Flame retardant thermoplastic polyester (FR TPES) is built in widths from 5 in (127 mm) and up, in 1.0 in (25.4 mm) increments. All other materials are built in widths 3 in (76 mm) and up, in 1.0 in (25.4 mm) increments.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.



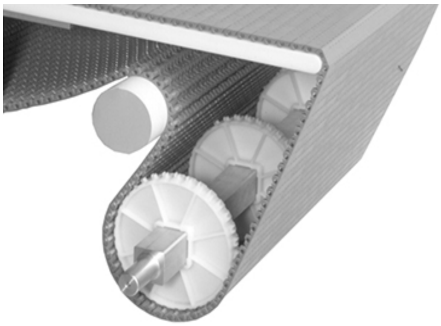


Belt Data								
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight		
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.81	3.95
Polyethylene	Polyethylene	450	670	-50 to 150	-46 to 66	0.87	4.25
Acetal	Polypropylene	1300	1940	34 to 200	1 to 93	1.19	5.80
HSEC acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.19	5.80
FR TPES	Polypropylene	750	1120	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1100	1640	-50 to 310	-46 to 154	1.14	5.57
HR nylon	Nylon	1100	1640	-50 to 240	-46 to 116	1.07	5.22
UV resistant polypropylene	UV resistant polypropylene	700	1040	34 to 220	1 to 104	0.81	3.98
Detectable polypropylene A22	Polypropylene	450	670	34 to 150	1 to 66	1.04	5.08
Acetal[1]	Polyethylene	1200	1790	-50 to 70	-46 to 21	1.19	5.80
UVFR	UVFR	700	1042	-34 to 200	1 to 93	1.57	7.67

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

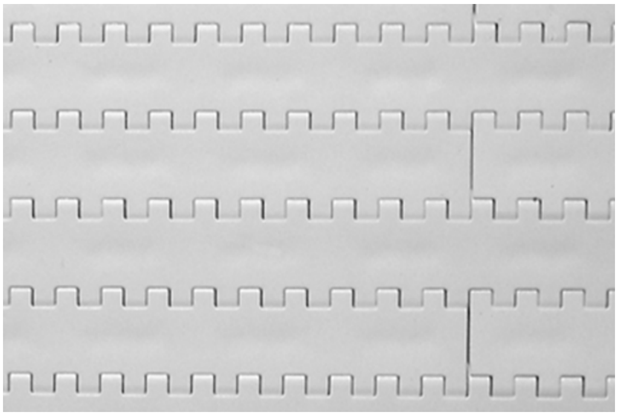
Flat Top

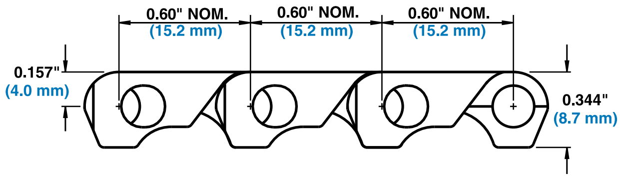
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and transfer dead plate gap.
- Lightweight with smooth, closed surface grid.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See*Tight Transfer Methods* for more information.



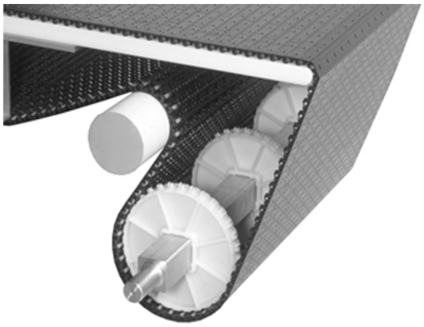


Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	500[1]	744[1]	34 to 220	1 to 104	0.90	4.40
Polyethylene	Polyethylene	300[1]	450[1]	-50 to 150	-46 to 66	0.96	4.69
HR nylon	Nylon	500	744	-50 to 240	-46 to 116	1.15	5.61
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	1.30	6.35
Acetal[2]	Polyethylene	900	1340	-50 to 70	-46 to 21	1.30	6.35
X-Ray Detectable Acetal	X-Ray Detectable Acetal	800	1191	-50 to 200	-46 to 93	1.6	7.81
Detectable polypropylene A22	Polypropylene	300	446	34 to 150	1 to 66	1.09	5.32

[1] When using steel split sprockets, the belt strength for polypropylene is 400 lb/ft (595 kg/m): polyethylene is 240 lb/ft (360 kg/m)
[2] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

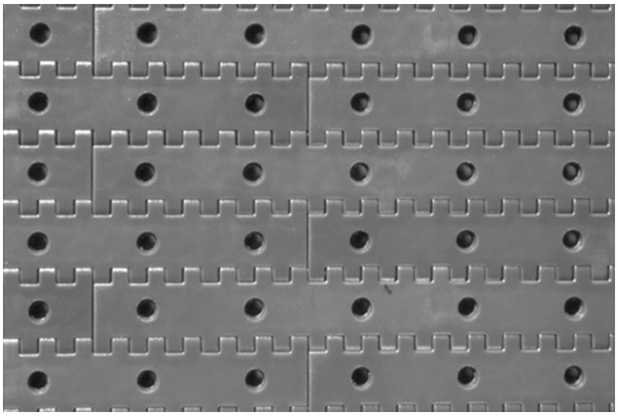
Perforated Flat Top

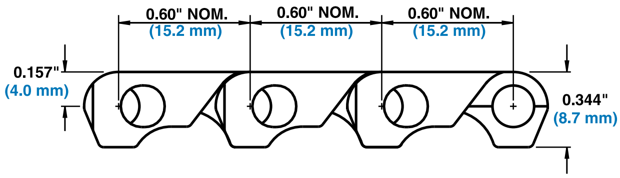
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	See Product Notes	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- 5.3% open area includes 2.1% open area at the hinge.
- Underside design and small pitch allow the belt to run smoothly around nosebars.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- For use on vacuum applications requiring tight, end-to-end transfers.
- Available with 5/32 in (4 mm) round perforations on a nominal 1 in (25.4 mm) × 0.6 in (15.2 mm) perforation pattern.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers. See *Tight Transfer Methods* for more information.



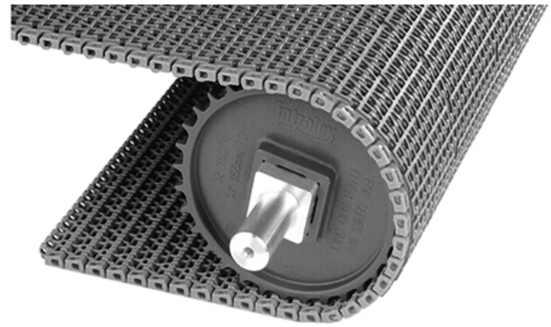


Belt Data							
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	1.30	6.35
Acetal[1]	Polyethylene	900	1340	-50 to 70	-46 to 21	1.30	6.35

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

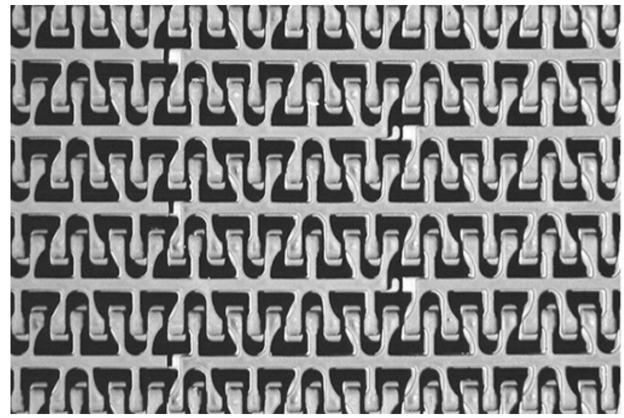
Flush Grid Friction Top

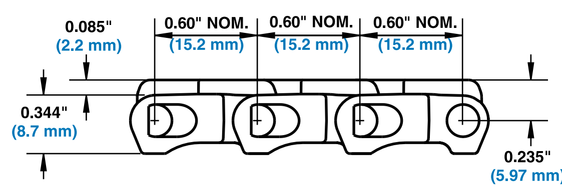
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in gray polypropylene with gray rubber, blue polypropylene with blue rubber, gray polypropylene with black rubber, and white polypropylene with white rubber.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems utilizing these belts.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive. Abrasion Resistant rods are recommended.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- Belts have a 0.34 in (8.6 mm) molded indent.





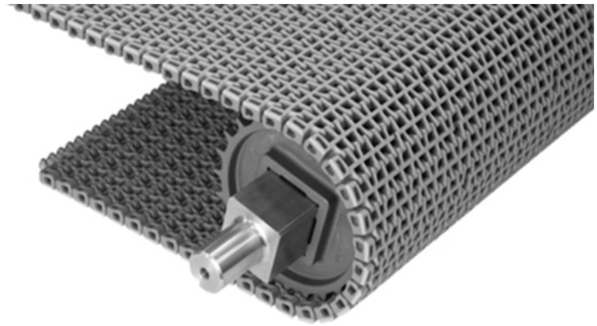
Belt Data

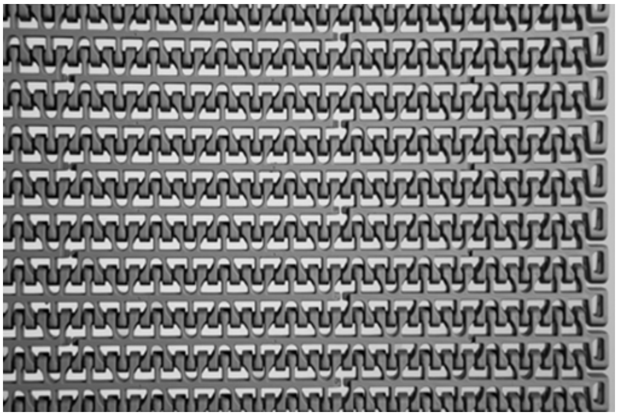
Base belt material	Base/Friction Color	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Gray	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	64 Shore A		
Polypropylene	Gray/Black	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	55 Shore A	a	
Polypropylene	White/White	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76	55 Shore A	a	c
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	700	1040	34 to 212	1 to 100	1.18	5.76	59 Shore A	a	c
Polypropylene	Blue/Blue	Polypropylene	700	1040	34 to 150	1 to 66	1.18	5.76		a	c

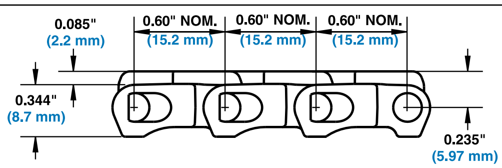
• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

Flush Grid Friction Top, No Indent

	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	0.5	12.7
Opening Size (approximate)	0.17 × 0.10	4.3 × 2.5
Open Area	28%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in blue PP with blue rubber.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- If a center-drive setup is used, it can be necessary to place collars to retain the belt laterally at the backbend roller before the drive. Abrasion Resistant rods are recommended.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems utilizing these belts.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.

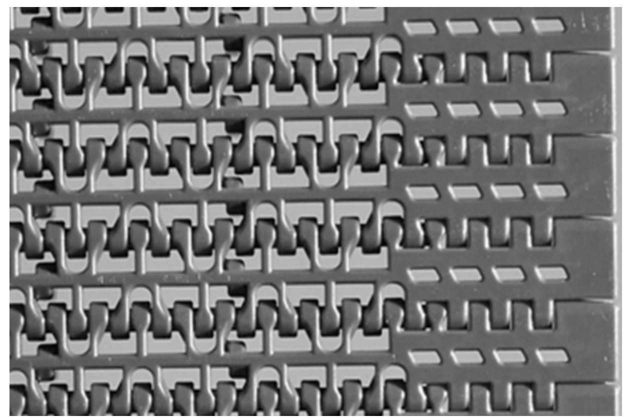
Belt Data

Base belt material	Base/friction color	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Blue/Blue	Polypropylene	700	1040	34 to 150	1 to 66	1.07	5.22	55 Shore A	a	c
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	700	1040	34 to 212	1 to 100	1.18	5.76	59 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

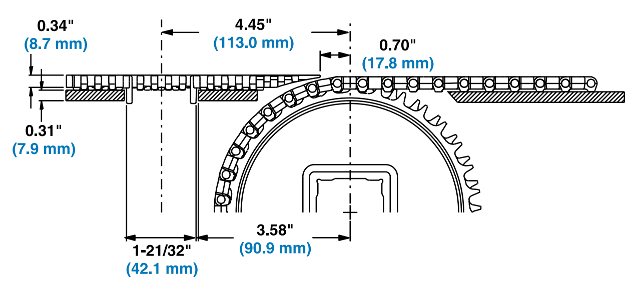
ONEPIECE™ Live Transfer Flush Grid

	in	mm
Pitch	0.60	15.2
Minimum Width	6	152
Width Increments	1.00	25.4
Min Opening Size (approx.)	0.17 × 0.10	4.3 × 2.5
Max. Opening Size (approx.)	0.31 × 0.10	7.9 × 2.5
Open Area	28%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Built with nylon rods for superior wear resistance.
- Transfer edge is an integral part of this belt.
- Recommended for use with EZ Track sprockets.
- Small pitch reduces chordal action, resulting in a smoother product transfer.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts*.
- For custom belt widths, contact Intralox Customer Service.
- Also available in 6 in (152 mm) Mold to Width.
- Molded tracking tabs fit into standard 1.75 in (44.5 mm) wearstrip tracks ensuring proper belt alignment.
- Use sprockets with a pitch diameter of 3.5 in (89 mm) or larger.

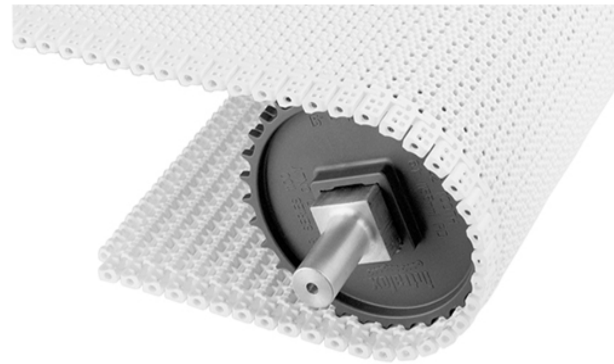


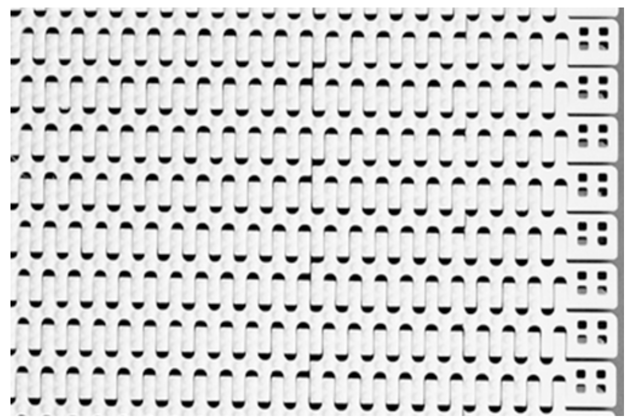
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1300	1940	34 to 200	1 to 93	1.19	5.80
FR TPES	Nylon	750	1120	40 to 150	4 to 66	1.30	6.34
HHR nylon	HHR nylon	1100	1640	-50 to 310	-46 to 154	1.20	5.80

Flush Grid Nub Top

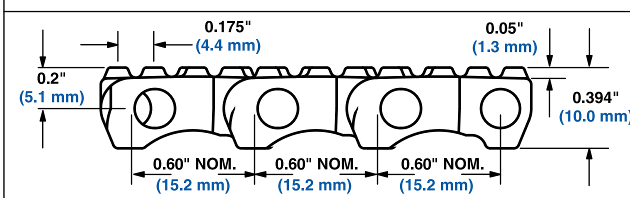
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approx.)	0.18 × 0.09	4.4 × 2.3
Open Area	15%	
Product Contact Area	26%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in acetal, polypropylene, and polyethylene (for frozen products).
- Recommended for products large enough to span the distance between the nubs.
- Nub pattern reduces contact between belt surface and product.
- Flush Grid Nub Top flights are available.
- Standard nub indent: 1.0 in (25.4 mm).



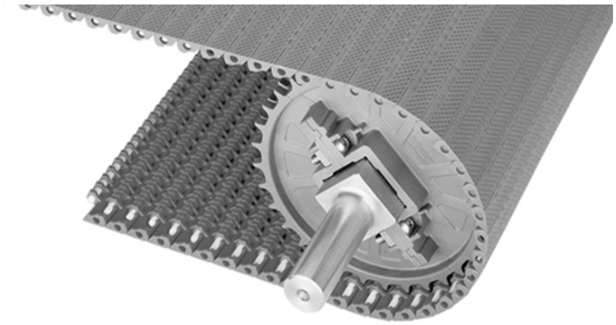
Belt Data

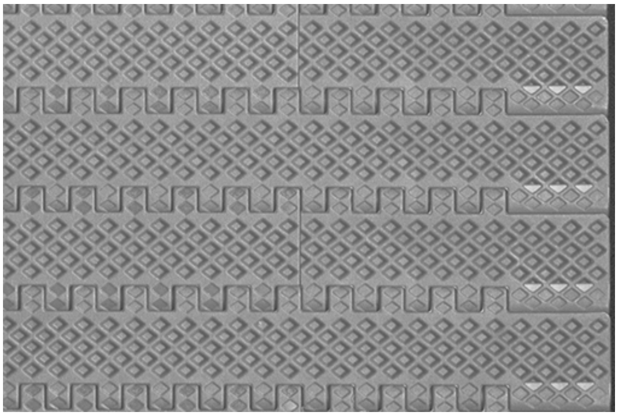
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.93	4.55
Acetal	Polypropylene	1300	1940	34 to 220	7 to 93	1.36	6.65
Polyethylene	Polyethylene	450	670	-50 to 150	-46 to 66	1.00	4.90
Acetal	Polyethylene	1200	1790	-50 to 70	-46 to 21	1.36	6.65

[1] When using polyurethane sprockets, the belt strength for polypropylene, acetal, and nylon is750 lbs/ft (1120 kg/m), and the temperature range for the sprocket is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

Embedded Diamond Top

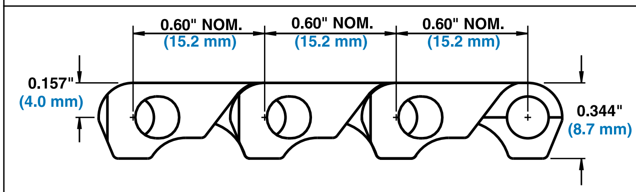
	in	mm
Pitch	0.60	15.2
Minimum Width	3	76
Width Increments	1.00	25.4
Opening Size (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth, closed surface grid.
- Small pitch reduces chordal action and transfer dead plate gap.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.

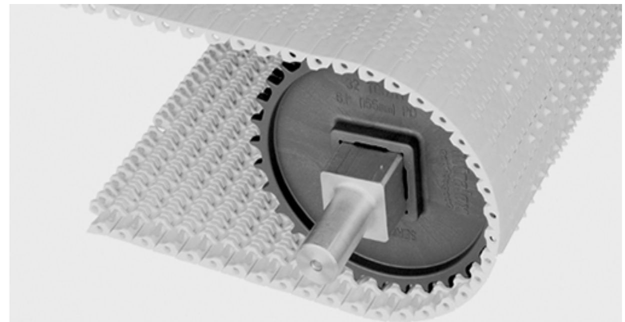


Belt Data

Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polyethylene	Polyethylene	300	450	-50 to 150	-46 to 66	0.96	4.69

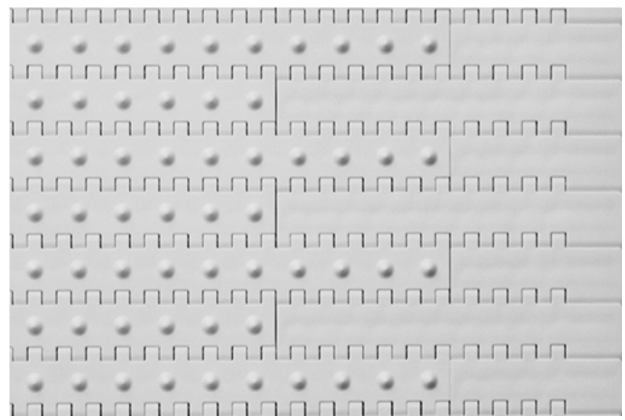
[1] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

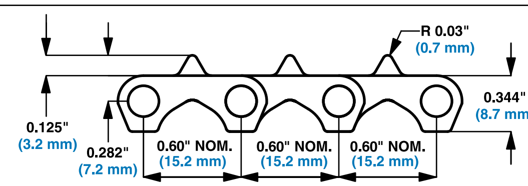
Cone Top™		
	in	mm
Pitch	0.60	15.2
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Small pitch reduces chordal action and transfer dead plate gap.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.
- For information regarding sprocket placement, see the center sprocket offset chart in *Locked Sprocket Position on Shaft*.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).

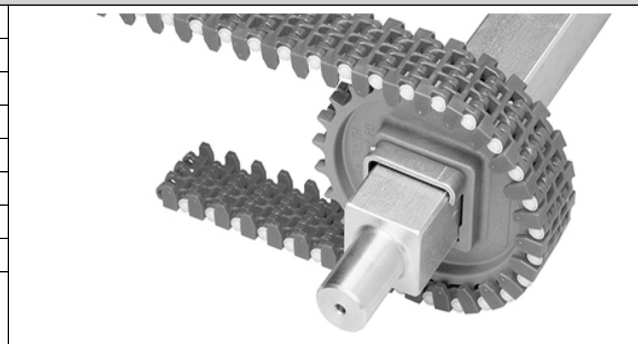




Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1000	1490	34 to 200	1 to 93	1.31	6.40
HR nylon	Nylon	500	744	-50 to 240	-46 to 116	1.18	5.76

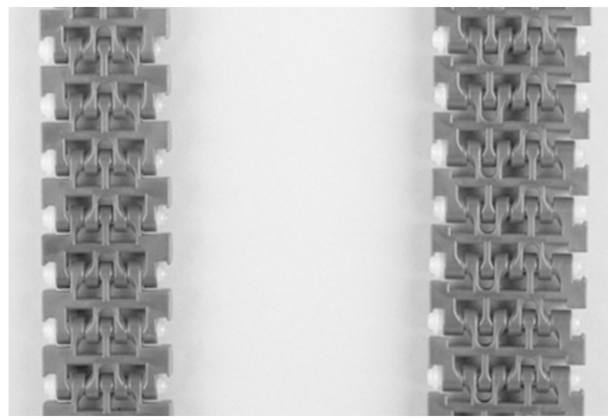
Flush Grid Mold to Width, 38 mm and 46 mm Wide

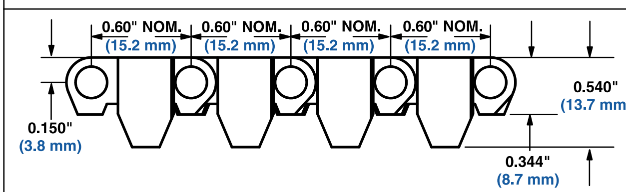
	in	mm
Pitch	0.60	15.2
Molded Widths	1.5 & 1.8	38 & 46
Min Opening Size (approx.)	0.17 × 0.10	4.3 × 2.5
Max. Opening Size (approx.)	0.31 × 0.10	7.9 × 2.5
Open Area	26%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight with smooth surface grid.
- Flush edges.
- Tracking tabs provide lateral tracking.
- Standard nylon rodlets provide longer service life.
- Use only EZ Track sprockets.
- One (1) sprocket maximum per shaft for both widths.
- Available in 10 ft (3 m) increments.
- The 38-mm belt has a 1.2 in (30.6 mm) spacing between tabs. The 46-mm belt has a 1.54 in (39.1 mm) spacing.
- Can be used over 0.875 in (22.2 mm) diameter nosebar for tight transfers.





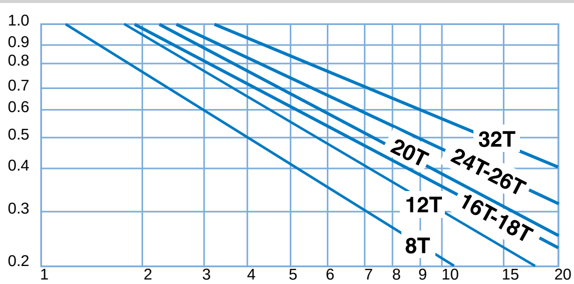
Belt Data

Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal (38 mm)	Nylon	130	59	-50 to 200	-46 to 93	0.185	0.275
Acetal (46 mm)	Nylon	150	68	-50 to 200	-46 to 93	0.216	0.321

[1] When using steel sprockets, the belt strength for polyethylene is 240 lb/ft (360 kg/m).

Sprocket and Support Quantity Reference[1]				
Belt Width Range[2]		Minimum Number of Sprockets Per Shaft[3]	Wearstrips	
in	mm		Carryway	Returnway[4]
3	76	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[5]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

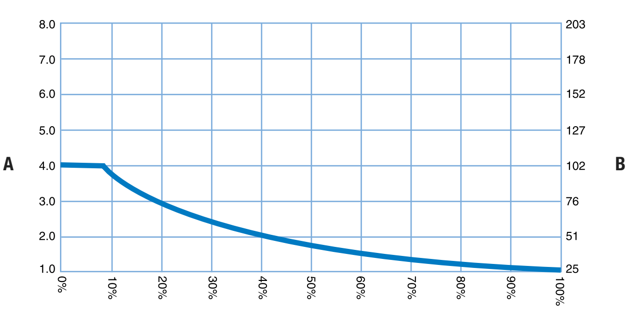


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



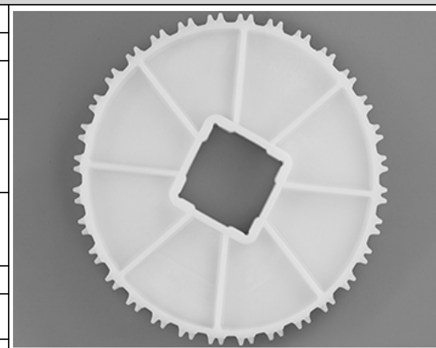
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] **Because of the single plate steel design, Intralox recommends using twice as many 8- and 12-tooth sprockets as indicated.**
[2] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 3 in (76 mm). If the actual width is critical, contact Intralox Customer Service.
[3] This number is a minimum. Heavy-load applications can require additional sprockets.
[4] For Friction Top applications, use caution and contact Intralox Customer Service.
[5] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

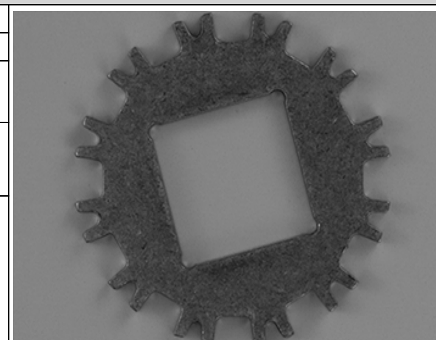
Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: Imperial Sizes Round in[2]	Available Bore Sizes: Imperial Sizes Square in	Available Bore Sizes: Metric Sizes Round mm[2]	Available Bore Sizes: Metric Sizes Square mm
12 (3.41%)	2.3	58	2.3	58	0.75	19	1.0	1.0	25	25
16 (1.92%)	3.1	79	3.1	79	1.0	25	1–1.25	1.5	25 to 30	40
18 (1.52%)	3.5	89	3.5	89	0.75	19		1.0 1.5		25 40
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25	1–1.25	1.5 2.5	25 to 30	40 60
26 (0.73%)	5.1	130	5.1	130	1.0	25	1–1.25	1.5	25 to 30	40
32 (0.48%)	6.1	155	6.2	157	1.0	25	1–1.25	1.5 2.5	25 to 30	40 60



Abrasion Resistant Metal Sprocket[3]

No. of teeth (chordal action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round[4]	Available Bore Sizes: U.S. Square	Available Bore Sizes: Metric Round [b]	Available Bore Sizes: Metric Square
8 (7.61%)	1.6	41	1.6	41	0.164	4.2	3/4	5/8	20	
12 (3.41%)	2.3	58	2.3	58	0.164	4.2	1.0	1.0	25	25



[1] Contact Intralox Customer Service for lead times.

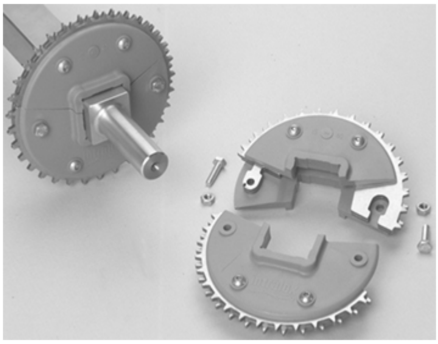
[2] Round bore molded and split sprockets are frequently furnished with two keyways. Use of two keys is NOT REQUIRED nor recommended. Round bore sprockets do not have setscrews for locking the sprockets in place. As with square bore sprockets, only the center-most sprocket must be locked down. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[3] Contact Customer Service for lead times.

[4] The stainless steel sprockets have a male key in the round bore sizes. Since the key is part of the sprocket, only the center sprockets must be locked down to track the belt. The male key requires running the shaft keyway along the entire length of the shaft. Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885

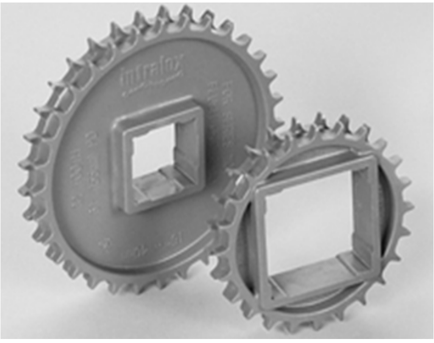
Split Metal Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm[2]	Available Bore Sizes Metric Square mm
18 (1.54%)	3.5	89	3.5	89	1.7	43		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.7	43	1 1-3/16 1-1/4	1.5	30	40
26 (0.73%)	5.1	130	5.1	130	1.7	43	1 1-3/16 1-1/4	1.5 2.5		40 60
32 (0.48%)	6.1	155	6.2	157	1.7	43	1 1-3/16 1-1/4 1-1/2	1.5 2.5		40 60



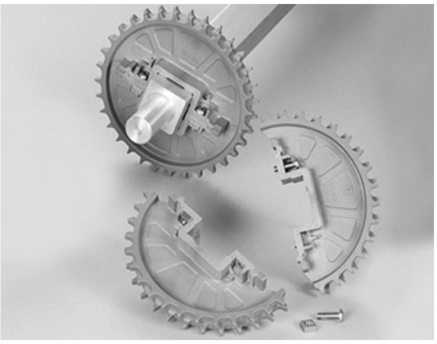
EZ Track™ Molded Sprocket[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
16 (1.92%)	3.1	79	3.1	79	1.0	25		1.5		40
18 (1.52%)	3.5	89	3.5	89	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25		1.5 2.5		40 60
32 (0.48%)	6.1	155	6.2	157	1.0	25		1.5 2.5		40 60



EZ Track™ Glass Filled Nylon Split Sprockets[4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
24 (0.86%)	4.6	117	4.7	119	1.5	38		1.5		40
32 (0.48%)	6.1	155	6.2	157	1.5	38		1.5 2.5		40 60



[1] Contact Intralox Customer Service for lead times.
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885
[3] Contact Customer Service for lead times.
[4] Contact Intralox Customer Service for lead times.

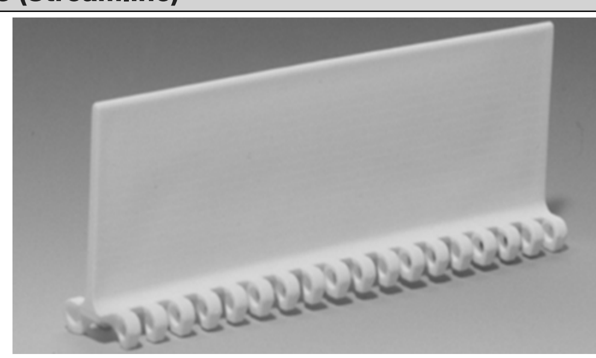
EZ Track™/EZ Clean™ Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
12 (3.41%)	2.3	58	2.3	58	1.0	25	1.0	1.0	25	25
16 (1.92%)	3.1	79	3.1	79	1.0	25	1.0 1-1/16, 1-1/8, 1-1/4		25 30	
18 (1.52%)	3.5	89	3.5	89	1.0	25	1.0	1.0		25
20 (1.23%)	3.8	97	3.8	97	1.0	25		1.5		40
24 (0.86%)	4.6	117	4.7	119	1.0	25	1.0 1-1/16, 1-1/8, 1-3/16, 1-1/4		25 30	
26 (0.73%)	5.1	130	5.1	130	1.0	25	1.0 1-1/16, 1-1/8, 1-1/4	1.5	25 30	40
32 (0.48%)	6.1	155	6.2	157	1.0	25	1.0 1-1/16, 1-1/8, 1-3/16, 1-1/4 1-1/2		25 30 40	

Flat Top Base Flights (Streamline)

Available Flight Height in	Available Flight Height mm	Available Materials
2	51	Polypropylene, polyethylene, acetal, detectable polypropylene A22

- No fasteners required.
- Flat Top flight is smooth (streamlined) on both sides.
- Flat Top base Streamline flights are used in both Flat Top and Flush Grid belts.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Flat Top minimum recommended indent: 2 in (51 mm).
- Flush Grid minimum recommended indent: 1.5 in (38 mm).

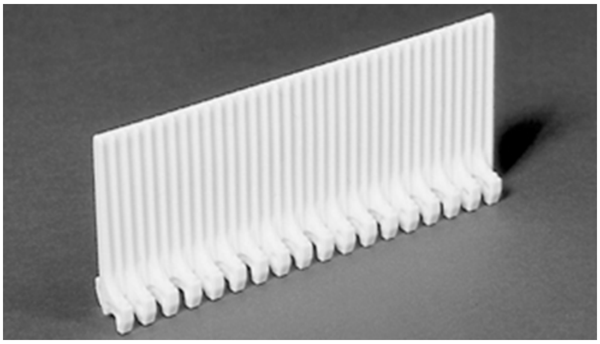


[1] Contact Intralox Customer Service for lead times.

Flush Grid Nub Top Base Flights (No-Cling)

Available Flight Height		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal
3	76	Polypropylene, acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of the module, molded as an integral part. No fasteners required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum recommended indent: 1 in (25 mm).



Sideguards

Available Sizes		Available Materials
in	mm	
2	51	Polypropylene, polyethylene, acetal

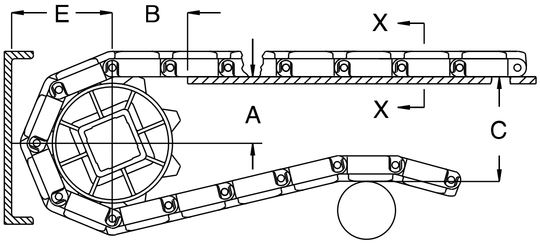
- No fasteners required.
- When going around the 8, 12, 16, and 18 tooth sprockets, sideguards fan out, opening a gap at the top that can allow small products to fall out. The sideguards stay completely closed when wrapping around the 24 tooth and larger sprockets.
- Standard sideguard orientation is angled inward toward the product (product friendly). If needed, sideguards can be angled outward toward the conveyor.
- Minimum indent: 1.3 in (33 mm).
- Standard gap between the sideguards and the edge of a flight: 0.2 in (5 mm).

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1100 Embedded Diamond Top, Flat Top, Flush Grid, Perforated Flat Top[1]										
1.6	41	8	0.53-0.59	13-15	1.02	26	1.70	43	1.00	25
2.3	58	12	0.93-0.97	24-25	1.31	33	2.40	61	1.37	35
3.1	79	16	1.31	33	1.51	38	3.20	81	1.75	44
3.5	89	18	1.51	38	1.66	42	3.60	91	1.94	49
3.8	97	20	1.70	43	1.77	45	3.79	96	2.13	54
4.6	117	24	2.08	53	1.92	49	4.75	121	2.60	66
5.1	130	26	2.28	58	1.96	50	5.14	131	2.73	69
6.1	155	32	2.85	72	2.20	56	6.20	155	3.30	84
Series 1100 Flush Grid Friction Top[1], Flush Grid Friction Top, No Indent[1]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.61	41	1.08	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.36	60	1.46	37
3.1	79	16	1.31	33	1.55	39	3.12	79	1.84	47
3.5	89	18	1.51	38	1.66	42	3.50	89	2.03	51
3.8	97	20	1.70	43	1.77	45	3.88	98	2.22	56
4.6	117	24	2.08	53	1.97	50	4.64	118	2.60	66
5.1	130	26	2.28	58	2.06	52	5.02	127	2.79	71
6.1	155	32	2.85	72	2.25	57	6.16	157	3.36	85
Series 1100 Flush Grid Nub Top[1]										
1.6	41	8	0.53-0.59	13-15	1.04	27	1.57	40	1.05	27
2.3	58	12	0.93-0.97	24-25	1.30	33	2.32	59	1.42	36
3.1	79	16	1.31	33	1.55	39	3.08	78	1.80	46
3.5	89	18	1.51	38	1.66	42	3.46	88	1.99	51
3.8	97	20	1.70	43	1.70	43	3.84	98	2.18	55
4.6	117	24	2.08	53	1.97	50	4.60	117	2.56	65
5.1	130	26	2.28	58	2.06	52	4.98	127	2.75	70
6.1	155	32	2.85	72	2.25	57	6.13	156	3.32	84
Series 1100 Cone Top[1]										
1.6	41	8	0.54-0.60	14-15	1.04	26	1.66	42	1.13	29
2.3	58	12	0.93-0.97	24-25	1.30	33	2.41	61	1.50	38
3.1	79	16	1.32	34	1.55	39	3.17	81	1.88	48
3.5	89	18	1.51	38	1.66	42	3.55	90	2.07	53
3.8	97	20	1.71	43	1.70	43	3.93	100	2.26	57
4.6	117	24	2.09	53	1.96	50	4.69	119	2.64	67
5.1	130	26	2.28	58	2.05	52	5.07	129	2.83	72
6.1	155	32	2.86	73	2.24	57	6.22	158	3.41	87

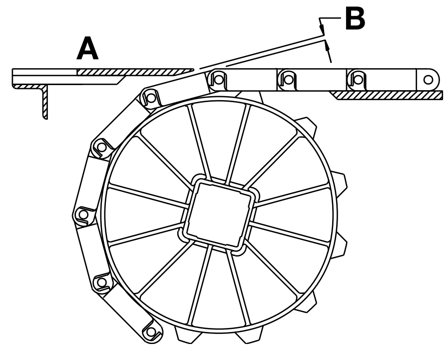
[1] See *Anti-Sag Carryway Wearstrip Configuration* for alternate layouts for the *B* dimension.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



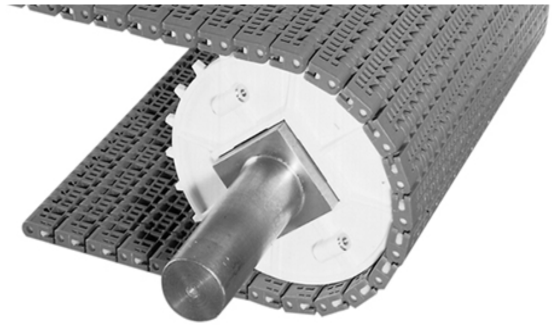
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
1.6	41	8	0.058	1.5
2.3	58	12	0.040	1.0
3.1	79	16	0.029	0.7
3.5	89	18	0.026	0.7
3.8	97	20	0.024	0.6
4.6	117	24	0.020	0.5
5.1	130	26	0.018	0.4
6.1	155	32	0.015	0.4

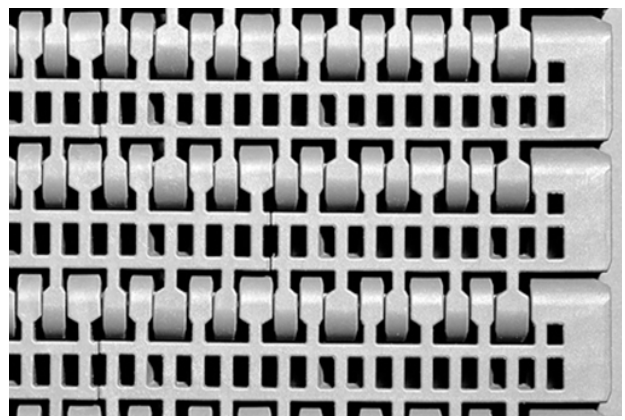
Flush Grid

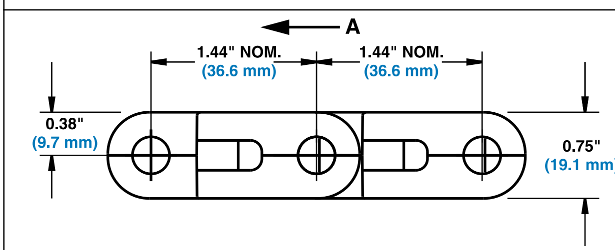
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	24%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 0.75 in (19.1 mm) which provides superior belt strength and stiffness.





A - Preferred run direction

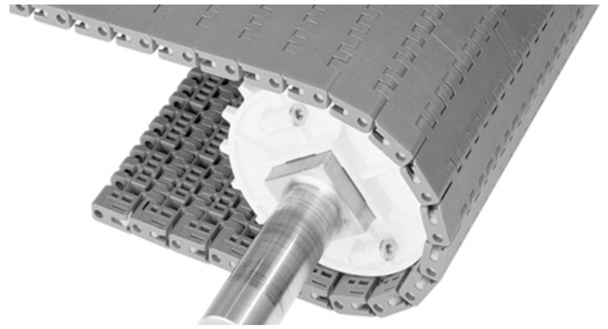
Belt Data

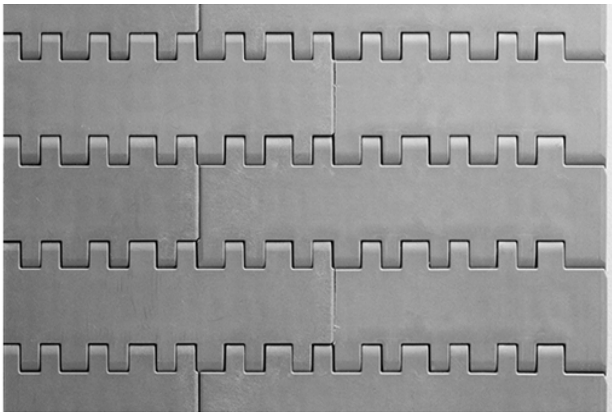
Belt Material	Standard Rod Material Ø 0.31 in (7.9 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene Composite	Polypropylene	3300	4908	34 to 220	1 to 104	2.87	14.01

[1] Belt strength rating depends on preferred belt running direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m).

Flat Top

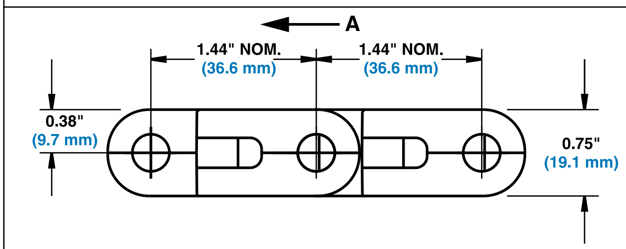
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 0.75 in (19.1 mm) provides superior belt strength and stiffness. In the preferred running direction, Series 1200 belts are rated 4000 lb/ft (5950 kg/m).
- Belt strength rating is dependent on preferred running direction. If the belt runs in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m).
- Belt strength for narrow belts: 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (4835 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). For belt widths under 60 in (1524 mm), contact Intralox Customer Service if a more precise belt strength is required.



A - Preferred running direction

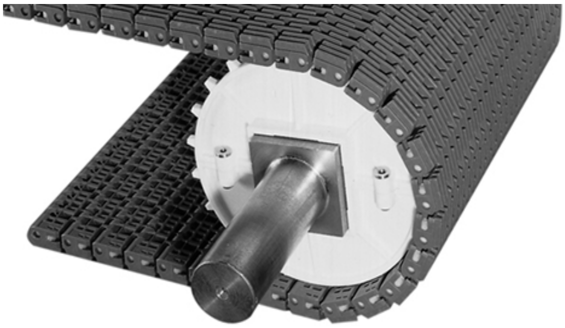
Belt Data

Belt Material	Standard Rod Material Ø 0.31 in (7.9 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene Composite	Polypropylene Composite	4000	5950	-20 to 220	-29 to 104	3.17	15.45
EC Polypropylene Composite	Polypropylene Composite	4000	5950	-20 to 220	-29 to 104	3.2	15.66

[1] Belt strength rating depends on preferred belt running direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).

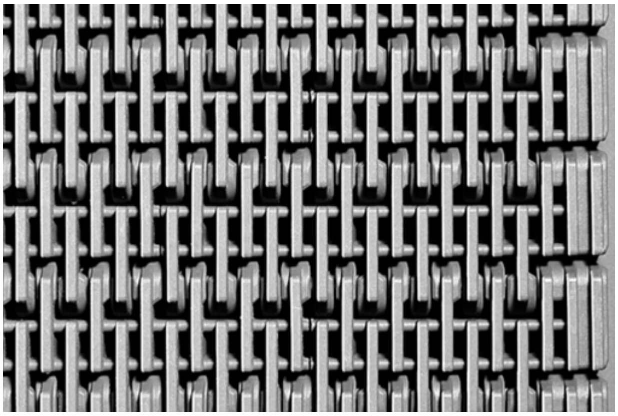
Raised Rib

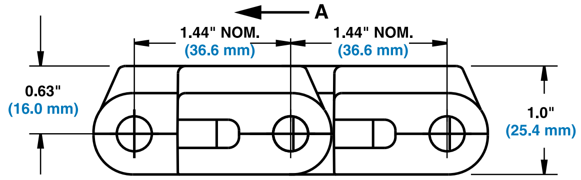
	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Open Area	24%	
Product Contact Area	24%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion.
- Slidelox are glass-reinforced polypropylene.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 1.0 in (25.4 mm) provides superior belt strength and stiffness.





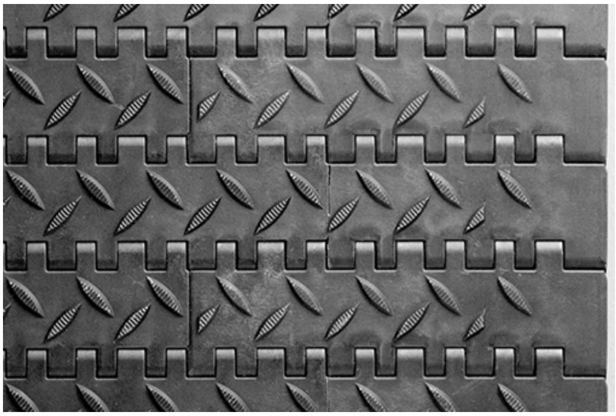
A - Preferred run direction

Belt Data							
Belt Material	Standard Rod Material Ø 0.31 in (7.9 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene Composite	Polypropylene	3300	4908	34 to 220	1 to 104	3.3	16.11

[1] Belt strength rating depends on preferred belt running direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m).

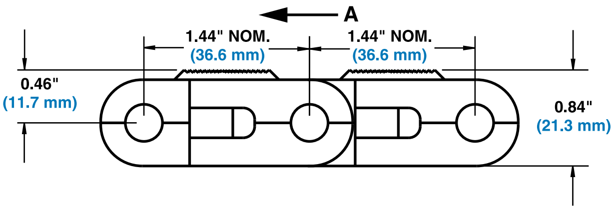
Non Skid

	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Slidelox are glass-reinforced polypropylene.
- Molded split plastic sprockets available for easy installation.
- Module thickness: 0.75 in (19.1 mm) provides superior belt strength and stiffness. In the preferred running direction, Series 1200 belts are rated 4000 lb/ft (5950 kg/m).
- Non Skid indent: 1.0 in (25.4 mm).
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.



A - Preferred running direction

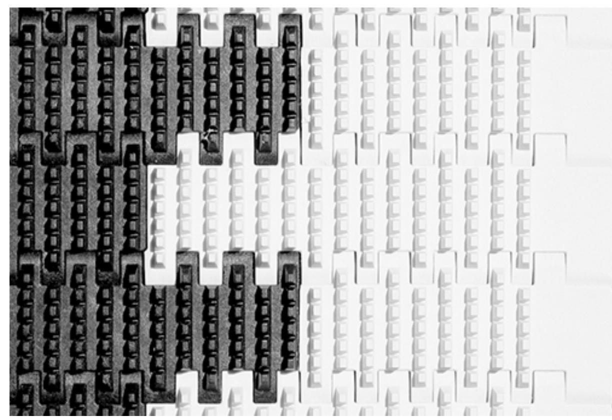
Belt Data

Belt Material	Standard Rod Material Ø 0.31 in (7.9 mm)	Belt Strength[1]		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
EC Polypropylene Composite	Polypropylene Composite	4000	5950	-20 to 220	-29 to 104	3.21	15.65

[1] Belt strength rating depends on preferred belt running direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).

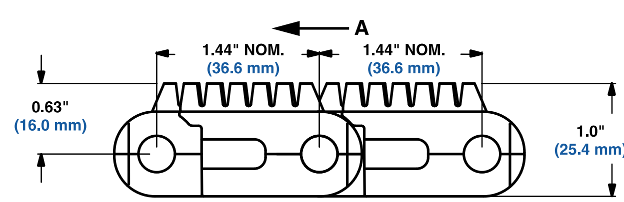
Non Skid Raised Rib

	in	mm
Pitch	1.44	36.6
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Made of engineered resin for increased stiffness and minimal belt elongation through thermal expansion. Engineered resin is a static dissipative material that does not rely on moisture to dissipate a charge, so it is effective in all environments.
- Tread pattern provides a non-skid walking surface to increase safety.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- 1.44 in (36.6 mm) pitch allows use of smaller drive sprockets than traditional moving-platform belts, providing tighter transfers and requiring shallower floor trenches for installation.
- Rib indent: 1.0 in (25 mm).



A - Preferred run direction

Belt Data

Belt material	Standard rod material Ø 0.31 in (7.9 mm)	Belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
EC polypropylene composite	Polypropylene Composite	4000	5950	-20 to 220	-29 to 104	3.58	17.48
UV resistant acetal[2]	Acetal	2500	3713	-50 to 150	-46 to 66	4.51	22.02

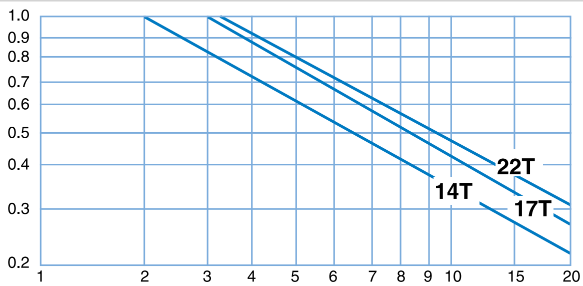
[1] Belt strength rating depends on preferred belt running direction. If run in the opposite direction, the belt rating is 2000 lb/ft (3000 kg/m). The belt strength for narrow belts is reduced to 3750 lb/ft (5580 kg/m) for belt widths under 60 in (1524 mm), 3250 lb/ft (762 kg/m) for belt widths under 30 in (762 mm), and 2750 lb/ft (4090 kg/m) for belt widths under 12 in (305 mm). Contact Intralox Customer Service if a more precise belt strength is required for belt widths under 60 in (1524 mm).
[2] UV resistant acetal requires special sprockets. Contact Intralox Customer Service when ordering sprockets for this belt.

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
145	3683	25	18	14
146	3708	25	18	14
147	3734	25	18	14
148	3759	25	18	14
149	3785	25	18	14
150	3810	25	18	14
151	3835	25	18	14
152	3861	25	18	14
153	3886	25	18	14
154	3912	25	19	14
155	3937	25	19	14
156	3962	27	19	14
157	3988	27	19	15
158	4013	27	19	15
159	4039	27	19	15
160	4064	27	19	15
161	4089	27	19	15
162	4115	27	19	15
163	4140	27	20	15
164	4166	27	20	15
165	4191	27	20	15
166	4216	27	20	15
167	4242	27	20	15
168	4267	29	20	15
169	4293	29	20	16
170	4318	29	20	16
171	4343	29	20	16
172	4369	29	21	16
173	4394	29	21	16
174	4420	29	21	16
175	4445	29	21	16

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.

Sprocket and Support Quantity Reference				
176	4470	29	21	16
177	4496	29	21	16
178	4521	29	21	16
179	4547	29	21	16
180	4572	31	21	16
181	4597	31	22	17
182	4623	31	22	17
183	4648	31	22	17
184	4674	31	22	17
185	4699	31	22	17
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[1]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

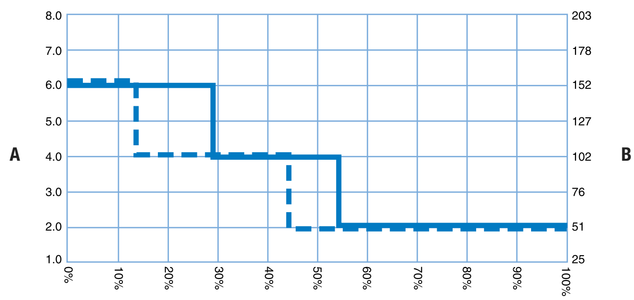


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



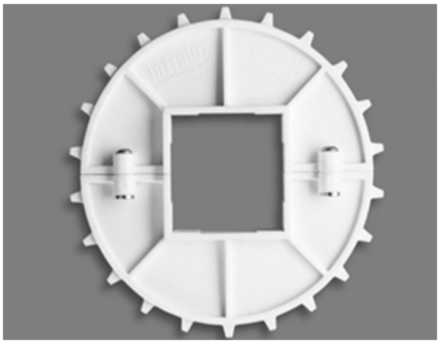
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Solid line polypropylene composite rods
Dashed line polypropylene rods

Plastic Split Sprockets[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[3]	Available Bore Sizes U.S. Square in[4]	Available Bore Sizes Metric Round mm[3]	Available Bore Sizes Metric Square mm
14 (2.51%)	6.5	165	6.3	161	1.5	38		1.5		
								2.5		
17 (1.70%)	7.9	201	7.7	196	1.5	38		2.5		
22 (1.02%)	10.2	259	10.1	255	1.67	44		2.5		
					1.5	38	3.5	3.5		90



[1] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. See *Locked Sprocket Location* chart in the *Installation Instruction Guidelines* or contact Intralox Customer Service for lockdown location.
[2] Contact Intralox Customer Service for lead times.
[3] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[4] The 2.5" square bore is created by using a bore adapter in the 3.5" square bore sprocket.

Split Metal Sprocket[1]											
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes				
							U.S.		Metric		
							Round in	Square in	Round mm	Square mm	
12 (3.41%)	5.6	142	5.4	137	1.7	43		2.5			
14 (2.51%)	6.5	165	6.3	161	1.7	43		1.5 2.5			
22 (1.70%)	10.2	259	10.1	255	1.7	43		2.5 3.5			

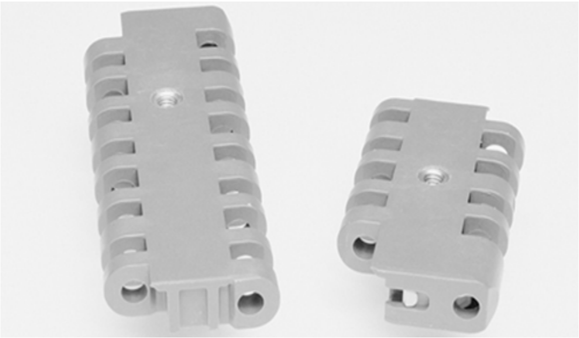
Hold Down Tabs

- Available on Non Skid and Flat Top belts.
- Carryway wearstrips or rollers that engage the tabs are only required at the transition between the horizontal sections and angled sections. This approach reduces initial system cost, as well as ongoing maintenance cost and effort.
- Ensure that adequate lead-in radii and/or angles are used to prevent the possibility of snagging the tab on the frame.
- Tabs should be spaced every other row (2.9 in [73.2 mm]) along the length of the belt. Tabs can be spaced every fourth row (5.8 in [146.3 mm]) for lightly loaded applications.
- Each line of tabs along the length of the belt reduces the available number of sprockets by 2. Belt rating is reduced by 1,300 lb (590 kg) for each line of tabs.
- A carryway radius should be designed at the transition between horizontal sections and angled sections. This radius must be at least 48 in (1.22 m) for belts that are loaded near the belt strength rating. This radius is one of the most important factors to consider when designing highly loaded conveyors that utilize Hold Down tabs.
- Strength rating for each Hold Down tab: 100 lb (45.4 kg) of force perpendicular to the hold down surface.

[1] Contact Intralox Customer Service for lead times.

Insert Nuts

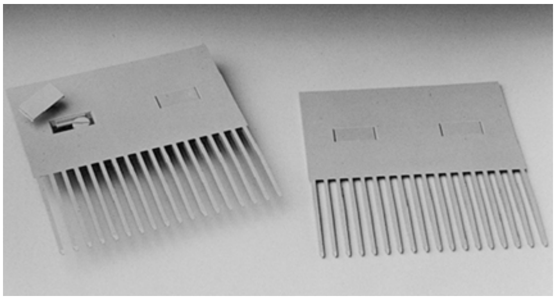
Available Base Belt Style - Material			Available Insert Nut Sizes	
Flat Top - Polypropylene Composite			0.3125 in - 18 (8 mm - 1.25 mm)	
Belt Material	**Maximum Fixture Weight**		**Fastener Torque Specification**	
	lb/nut[1]	kg/nut[2]	in-lb	N-m
Polypropylene Composite	355	155	100	11.3



- Insert Nuts allow easy attachment of fixtures to the belt.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your application.
- Ensure attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- Do not locate sprockets in-line with the insert nuts.
- For attachment bases that extend across multiple rows, ensure reduced backbend is considered during design.
- Minimal indent from the edge of the belt: 0.833 in (21 mm) for odd-width belts, 1.833 in (47 mm) for even-width belts.
- Minimal distance between nuts across the width of the belt: 1.33 in (34 mm).
- Spacing along the length of the belt: 1.44 in (36.6 mm) increments.

Finger Transfer Plates

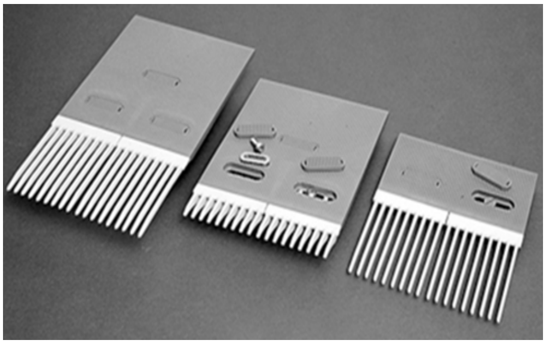
Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Polypropylene



- Identical to Series 400 finger transfer plates.
- Eliminates product transfer and tipping problems. The fingers extend between the belt ribs to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with the supplied shoulder bolts. Caps easily snap into place over the bolts, and keep foreign materials out of the slots.
-

[1] Fixture weight only. Product weight need not be included.

Two-Material Finger Transfer Plates			
Available Widths		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic fingers, acetal backplate
Available Configurations			
Standard	Standard Extended Back	Glass-Handling	
Long fingers with a short backplate	Long fingers with an extended backplate	Short fingers with extended backplate; short fingers with short backplate[1]; mid-length fingers with a short backplate; mid-length fingers with extended backplate	



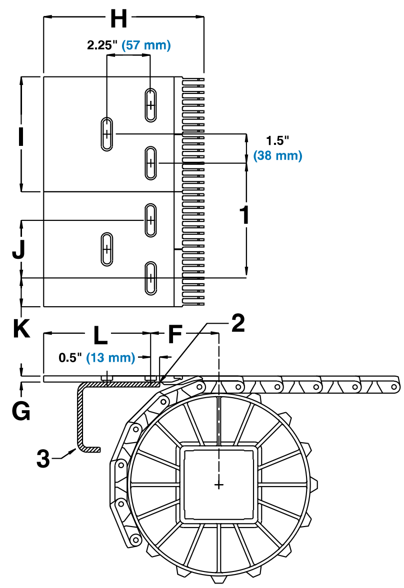
- Provides high-strength fingers combined with a low-friction backplate.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs allowing a smooth, continuous product flow as the belt engages the sprockets.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates (FTPs).
- Mounting hardware for the glass-handling two-material FTPs is sold separately. Mounting hardware consists of stainless steel oval washers and bolts, which give more secure fastening for tough, glass applications.
- For applications that require better chemical resistance, Introlox offers a single-material polypropylene standard FTP. Mounting hardware for this finger transfer plate includes plastic shoulder bolts and snap-cap bolt covers.
- Long fingers provide good support for unstable products like PET containers and cans. Short fingers are sturdy enough for harsh, broken-glass applications. These fingers are designed to resist breaking, but if confronted with deeply embedded glass, the individual fingers yield and break off, preventing belt or frame damage.
- Short backplate has two attachment slots and the extended backplate has three attachment slots.
- Series 400 and Series 1200 use the same FTPs.
- For best product transfer, use 10.2 in (259 mm) PD, 22-tooth sprockets with glass-handling finger transfer plates. 10.2 in (259 mm) PD 22-tooth sprockets are the maximum-size sprockets to use with short finger glass-handling finger transfer plates.

[1] Contact Intralox Customer Service for lead times.

Dimensional Requirements for Finger Transfer Plate Installation

	Two-Material							
	Standard Long Fingers - Short Back		Standard Long Fingers - Extended Back		Glass Handling Short Fingers - Extended Back		Glass Handling Mid-Length Fingers - Extended Back	
	in	mm	in	mm	in	mm	in	mm
F	3.50	89	3.50	89	3.50	89	3.50	89
G	0.31	8	0.31	8	0.31	8	0.31	8
H	7.25	184	10.75	273	8.26	210	9.04	230
I	5.91	150	5.91	150	5.91	150	5.91	150
J	3.00	76	3.00	76	3.00	76	3.00	76
K	1.45	37	1.45	37	1.45	37	1.45	37
L	2.00	51	5.50	140	5.50	140	5.50	140
Spacing at ambient temperature	Polypropylene Composite							
	6.0	152.4	6.0	152.4	6.0	152.4	6.0	152.4

Two-material glass handling finger transfer plate shown

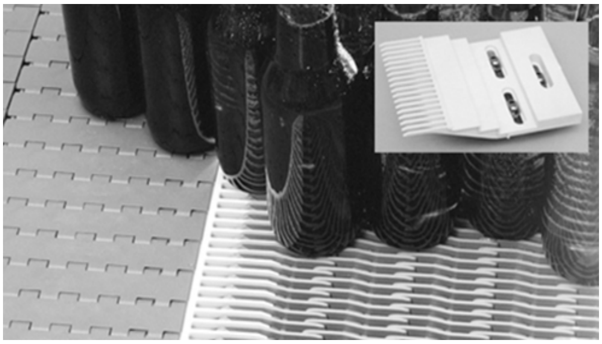


1 Spacing
2 0.5 in (13 mm) Radius (leading edge of frame member)
3 Frame member

Self-Clearing Finger Transfer Plates[1]

Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-Filled Thermoplastic

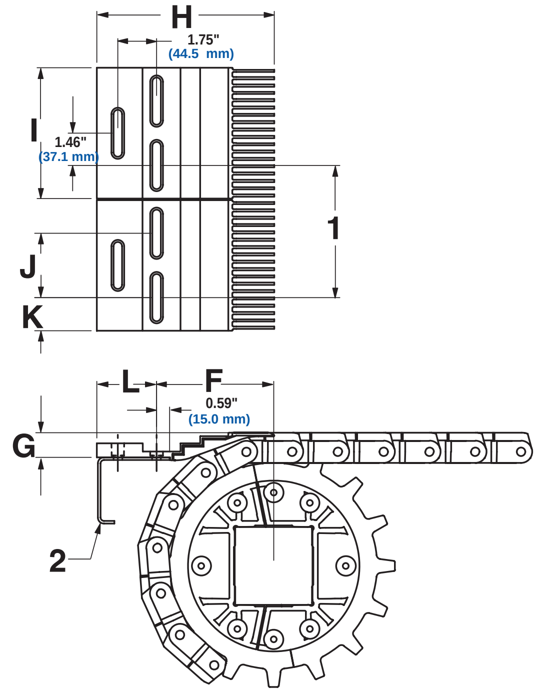
- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.



[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Dimensional Requirements for Self-Clearing Finger Transfer Plate Installations[1]

	Self-Clearing	
	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.93	150.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8



Spacing at ambient temperature

PP Composite	6.000 in	152.4 mm

1 Spacing

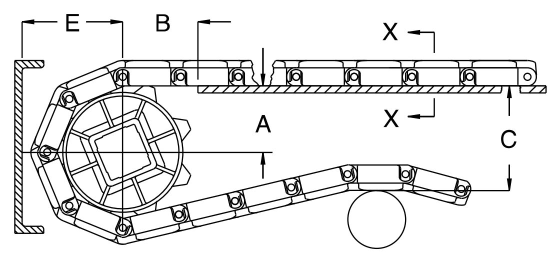
2 Frame Member

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

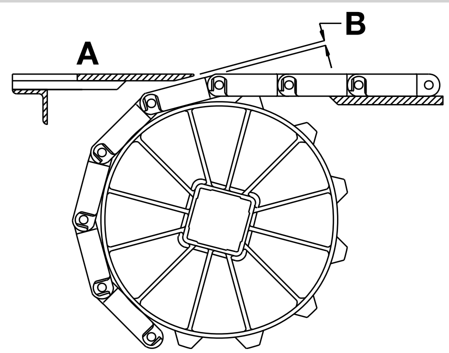
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1200 Flat Top, Flush Grid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.56	141	3.22	82
6.5	165	14	2.78-2.87	71-73	2.35	60	6.48	165	3.87	98
7.9	201	17	3.48-3.55	88-90	2.62	67	7.85	199	4.55	116
10.2	259	22	4.64-4.69	118-119	3.02	77	10.13	257	5.69	145
Series 1200 Non Skid Raised Rib, Raised Rib										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.81	148	3.47	88
6.5	165	14	2.78-2.87	71-73	2.35	60	6.73	171	4.12	105
7.9	201	17	3.48-3.55	88-90	2.62	67	8.10	206	4.80	122
10.2	259	22	4.64-4.69	118-119	3.02	77	10.38	264	5.94	151
Series 1200 Non Skid										
5.6	142	12	2.31-2.41	59-61	2.15	55	5.65	144	3.30	84
6.5	165	14	2.78-2.86	71-73	2.34	59	6.56	167	3.76	96
7.9	201	17	3.51-3.58	89-91	2.57	65	7.99	203	4.47	114
10.2	259	22	4.67-4.73	119-120	3.02	77	10.29	261	5.62	143

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



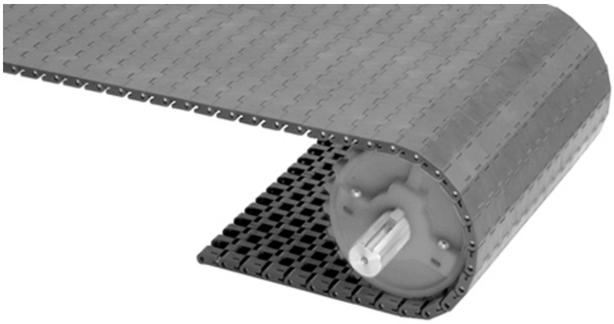
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.6	142	12	0.095	2.4
6.5	165	14	0.081	2.1
7.9	201	17	0.067	1.7
10.2	259	22	0.052	1.3

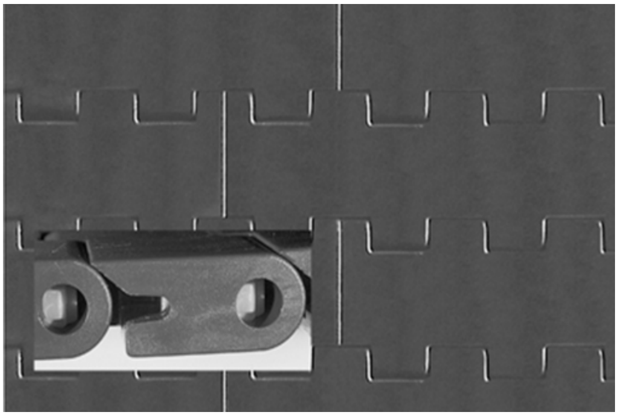
Flat Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

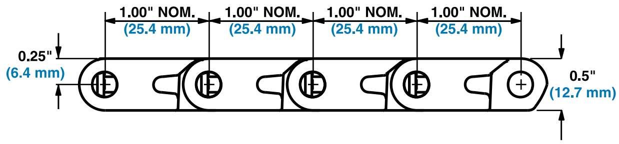


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top surface provides excellent lateral movement of containers. Ideal for container handling.
- Slidelox are available in polypropylene or acetal. For Easy Release PLUS belts, use polypropylene Slidelox. For Easy Release Traceable polypropylene belts, use detectable polypropylene Slidelox.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- Most sprockets use a split design, so shafts do not have to be removed for retrofits and changeovers.



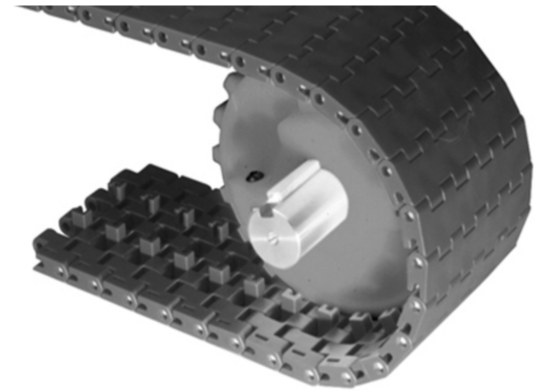
Inset: Slidelox edge



Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	2.75	13.43
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	1.85	9.03
HHR nylon	Nylon	2000	2976	-50 to 310	-46 to 154	2.32	11.33
HSEC acetal	Nylon	1600	2380	-50 to 200	-46 to 93	2.69	13.13

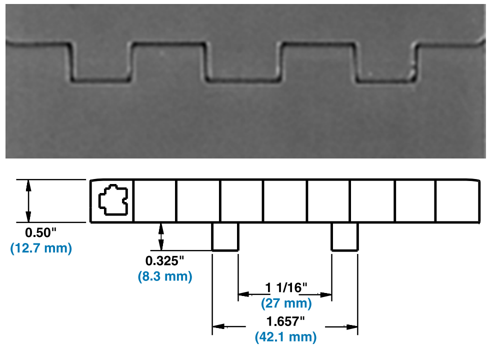
Mold to Width Flat Top

	in	mm
Pitch	1.00	25.4
Molded Widths	3.25	83
	4.5	114
	6.0	152
	7.5	191
	-	85.0
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

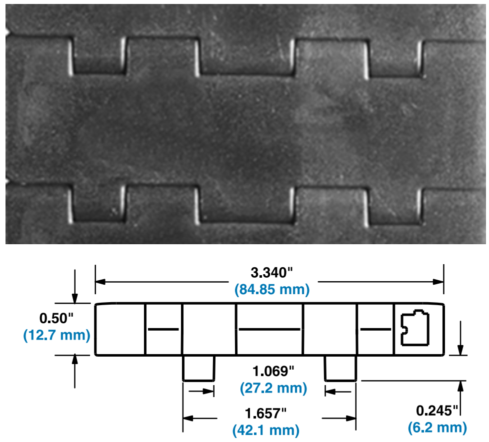


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Flat Top provides excellent lateral movement of containers. Ideal for container handling.
- Tracking tabs provide lateral tracking.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, glass applications.
- Sprockets are all plastic.
- Most sprockets use a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Sprocket placement: Use one sprocket on 3.25 in (83 mm) mold to width belts, and on 4.5 in (114 mm) tabbed mold to width belts. Use one or two sprockets on 4.5 in (114 mm) no tab mold to width belts. Use up to three sprockets on 6.0 in (152 mm) belts, and on 7.5 in (191 mm) mold to width belts.
- Optional tracking tabs fit into single barreled belt wearstrip with 1.75 in (44.5 mm) spacing.
- Available in 10 ft (3 m) increments.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).



Series 1400 Mold to Width Flat Top



Series 1400 Mold to Width Flat Top 85 mm

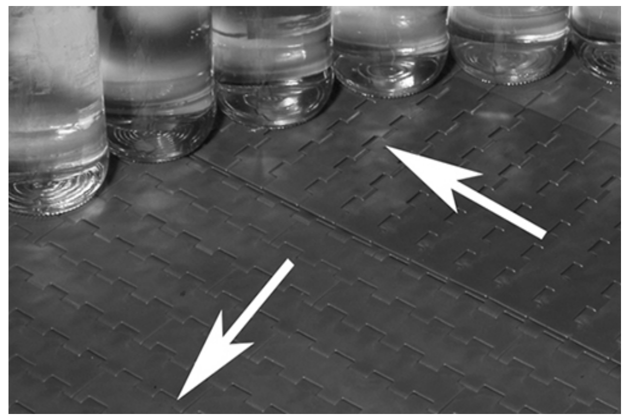
Belt Data

Belt Width		Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength[1]		Temperature range (continuous)		Belt weight			
								Tab		No tab	
inch	mm			lb	kg	°F	°C	lb/ft	kg/m	lb/ft	kg/m
3.25	83	Acetal	Nylon	700	318	-50 to 200	-46 to 93	0.80	1.19	0.75	1.12
	85	Acetal	Nylon	700	318	-50 to 200	-46 to 93	0.80	1.19	-	-
4.5	114	Acetal	Nylon	850	386	-50 to 200	-46 to 93	1.13	1.68	1.07	1.59
6.0	152	Acetal	Nylon	1200	544	-50 to 200	-46 to 93	1.40	2.08	1.35	2.01
7.5	191	Acetal	Nylon	1550	703	-50 to 200	-46 to 93	1.75	2.60	1.71	2.54
6.0	152	Polypropylene	Nylon	850	386	34 to 220	1 to 104	0.95	1.14	0.90	1.34
4.5	114	HHR nylon	Nylon	850	386	-50 to 310	-46 to 154	0.95	1.41	1.07	1.59
6.0	152	HHR nylon	Nylon	1200	544	-50 to 310	-46 to 154	1.18	1.76	1.35	2.01
7.5	191	HHR nylon	Nylon	1550	703	-50 to 310	-46 to 154	1.47	2.19	1.71	2.54

[1] Ratings are based on non-tabbed belts using the maximum number of sprockets.

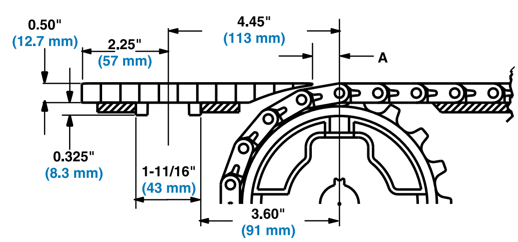
ONEPIECE™ Live Transfer Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

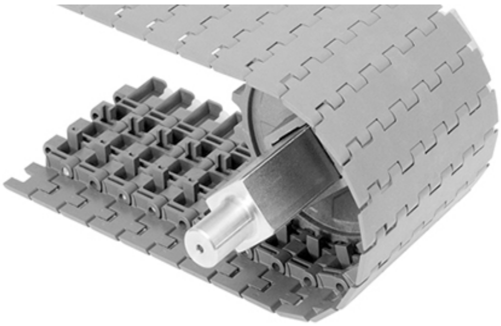
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of the belt.
- Tracking tabs support the belt in heavy, side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts*.
- Most sprockets use the split design, so shafts do not have to be removed for retrofits and changeovers.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Available in 10 ft (3 m) increments.



Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	850	386	-50 to 200	-46 to 93	1.25	1.86

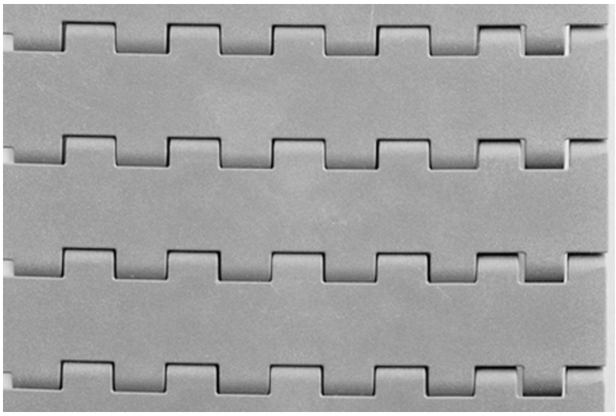
6 in (152 mm) Flat Top Mold to Width Self-Clearing Edge

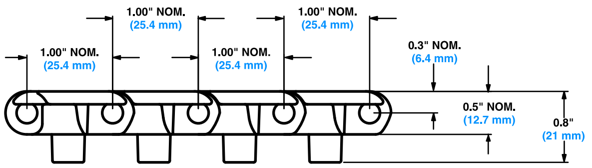
	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	-	-
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Belt is bi-directional. It can be used for left-hand and right-hand transfers.
- 100% self-clearing transfers of all container types, including energy drink cans, when used with finger transfer plates.
- All sprockets are plastic.
- Most sprockets use the split design so shafts do not have to be removed for retrofits and changeovers.

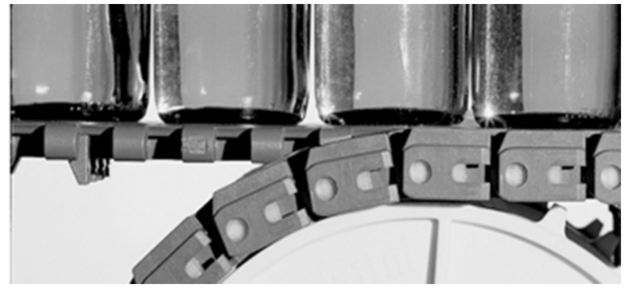


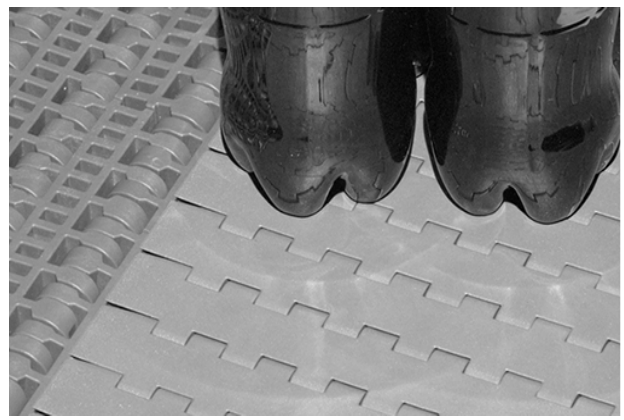


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	1000	454	-50 to 200	-46 to 93	1.08	1.61

ONEPIECE™ 9.3 in (236 mm) Live Transfer Flat Top

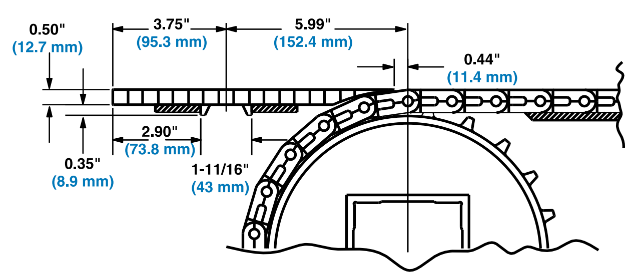
	in	mm
Pitch	1.00	25.4
Molded Width	9.3	236
Width Increments	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

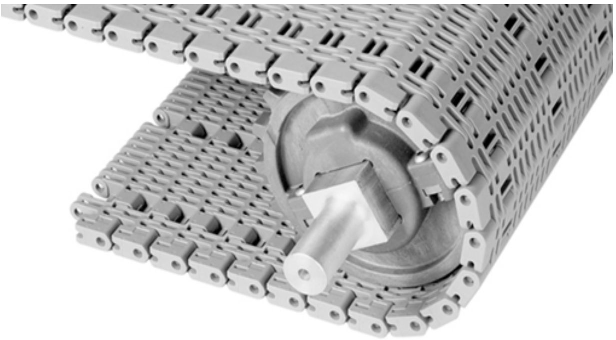
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, flat surface with fully flush edges.
- Transfer edge is an integral part of this belt.
- Tracking tabs support the belt in heavy, side-loading applications.
- Nylon rods provide superior wear resistance.
- Slidelox are available in polypropylene or acetal.
- Designed for smooth, self-clearing, right angle transfers onto takeaway belts.
- Provides excellent lateral movement of PET, glass, and other containers. Provides excellent belt and sprocket durability, especially in tough, glass applications.
- Addition of a fixed frame support can be necessary. The support ensures that the transfer belt does not snag when it intersects with the takeaway belt. Add support below the transfer belt, before the transfer. See *Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts*.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Sprockets are all plastic, with large lug teeth for excellent durability and wear life.
- When moving products from transfer belt to takeaway belt, ensure the transfer belt surface is no more than 0.06 in (1.5 mm) above the takeaway belt surface. When product is moving from the infeed belt onto the transfer belt, ensure the belts surfaces are level.
- Tracking tab height: 0.35 in (8.9 mm).
- Tab spacing: 1.6875 in (43 mm).
- Available in 10 ft (3 m) increments.



Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	1550	703	-50 to 200	-46 to 93	1.86	2.77

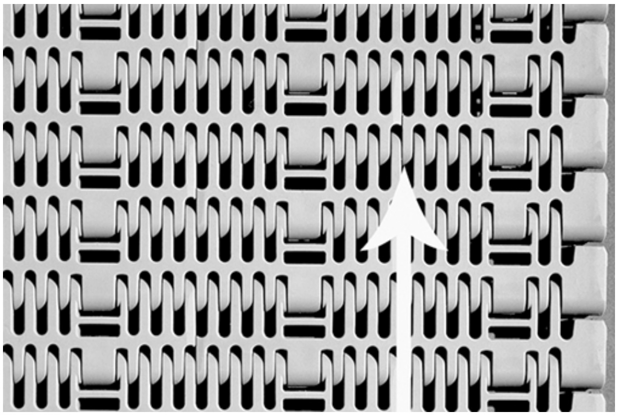
Flush Grid

	in	mm
Pitch	1.0	25.4
Minimum Width	9	229
Width Increments	1.0	25.4
Opening Size (approx.)	0.17 × 0.30	4.2 × 7.6
Open Area	21%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

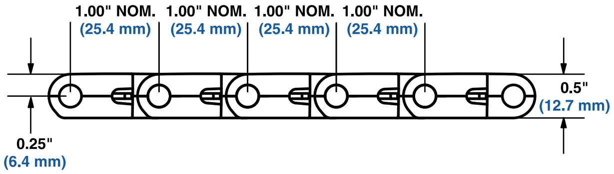


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Polypropylene belts are gray with blue polypropylene Slidelox. Acetal belts are gray with yellow acetal Slidelox.
- Slidelox are available in polypropylene or acetal.
- Installation is the same as current Series 1400 belts, with the addition of a locked sprocket location chart and preferred run direction.
- Minimum sprocket spacing: 3 in (76.2 mm)
- Recommended adjusted belt pull: greater than 900 lb/ft (1339 kg/m). Maximum recommended sprocket spacing: 6 inches (152.4 mm).



Arrow indicates run direction

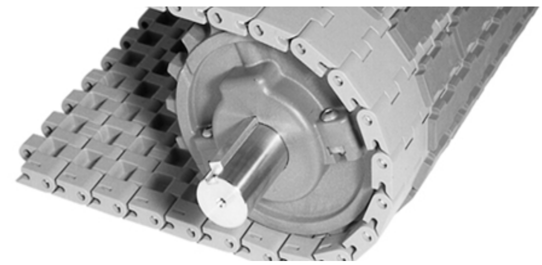


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1800	2679	34 to 220	1 to 104	1.61	7.86
Polypropylene	Nylon	1800	2679	34 to 220	1 to 104	1.66	8.10
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	2.52	12.30

[1] Belt strength is divided by 2 when using 6 in (15.2 cm) sprocket spacing; full strength when using 3 in (7.6 cm) sprocket spacing.

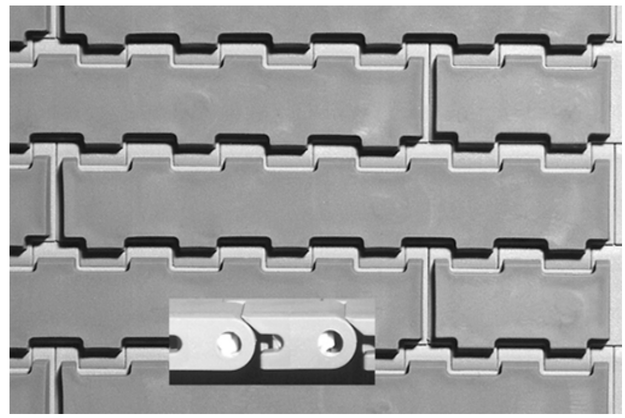
Flat Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

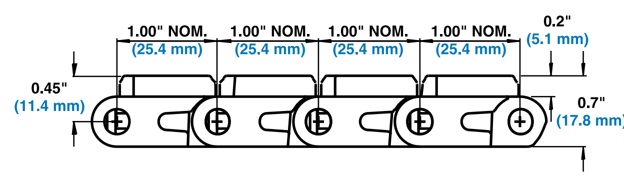


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in gray polypropylene with gray rubber, gray polypropylene with black rubber, white polypropylene with white rubber, and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Standard indents for Friction Top surface: 2.0 in (50.8 mm) and 0.22 in (5.6 mm). Indent availability varies by material. Contact Intralox Customer Service for more information.



Inset: Slidelox rod retention feature



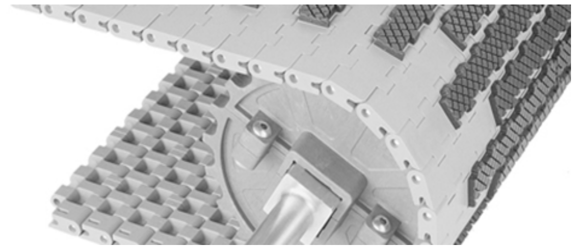
Belt Data

Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/gray	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	64 Shore A		
Polypropylene	Gray/black	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	55 Shore A	a	
Polypropylene	White/white	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	55 Shore A	a	c
Polyethylene	Black/black	Nylon	1000	1488	-50 to 120	-46 to 49	2.70	13.18	50 Shore A	a	
Polypropylene	Black/TPV 65A black	Nylon	1800	2678	34 to 150	1 to 66	2.62	12.79	65 Shore A		

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

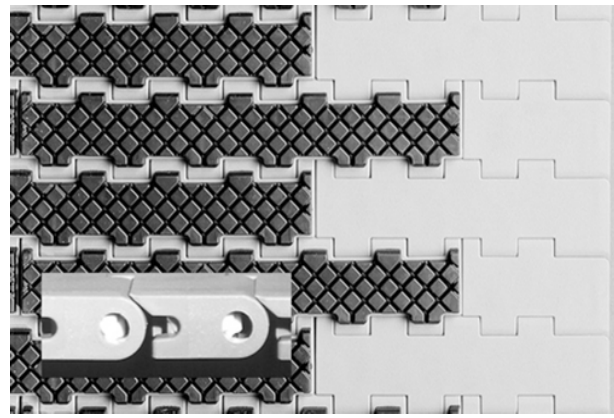
Square Friction Top

	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

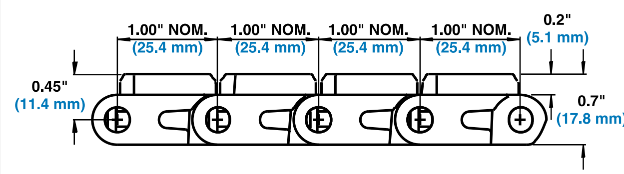


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in gray polypropylene with black rubber and black polyethylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).



Inset: Slidelox rod retention feature



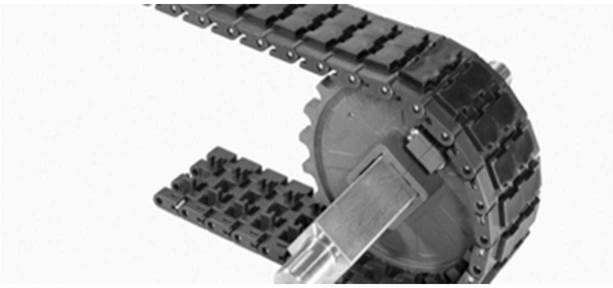
Belt Data

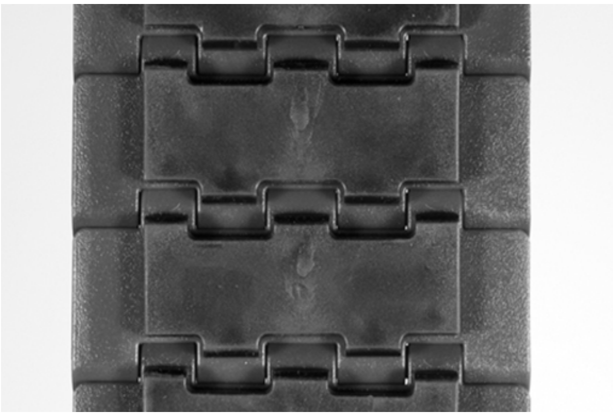
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Nylon	1800	2678	34 to 150	1 to 66	2.60	12.69	50 Shore A	a	
Polyethylene	Black/Black	Nylon	1000	1488	-50 to 120	-46 to 49	2.68	13.08	50 Shore A	a	

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

3.25 in Mold to Width Flat Friction Top with Tabs

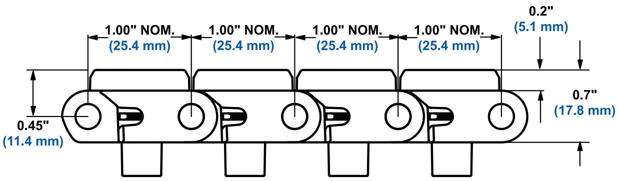
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in blue acetal with black rubber.
- Tracking tabs provide lateral tracking.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- One sprocket can be placed on the 3.25 in (83 mm) Mold To Width tabbed belt.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Indent for Friction Top surface: 0.5 in (12.7 mm).
- Available in 10 ft. (3 m) increments.



Belt Data

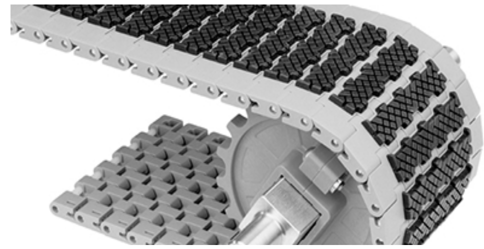
Base belt material	Base/friction color	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight		Friction Top hardness	Agency acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC
Acetal	Blue/Black	Nylon	700	318	-10 to 130	-23 to 54	0.94	1.40	54 Shore A	See note.[1]	See note.[2]

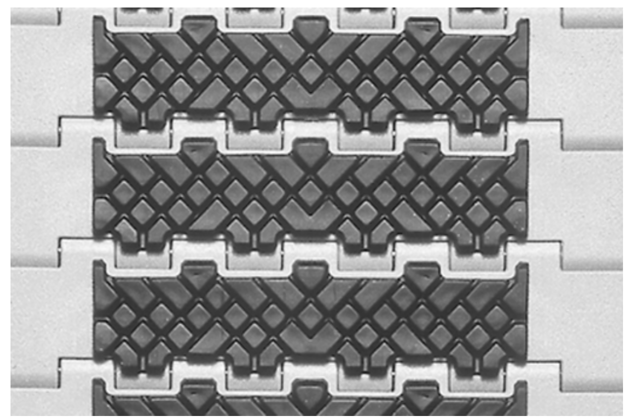
SECTION 2
1400

[1] FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
[2] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

Mold to Width Square Friction Top

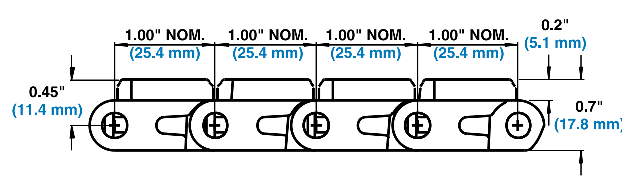
	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in gray polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the effective maximum degree of incline. Take these items into consideration when designing conveyor systems utilizing these belts.
- Sprockets are all plastic.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.



Belt Data											
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Nylon	800	386	34 to 150	1 to 66	1.15	1.71	50 Shore A	a	

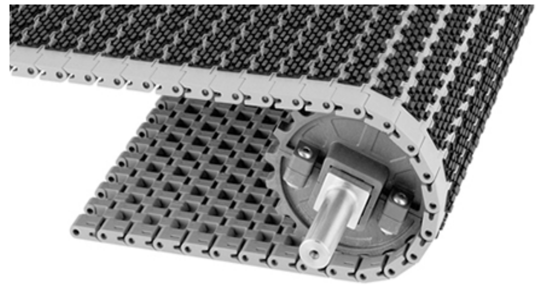
• - Fully compliant

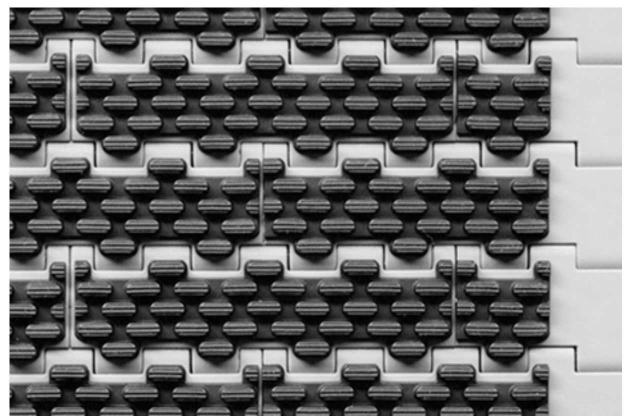
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.

b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

Oval Friction Top

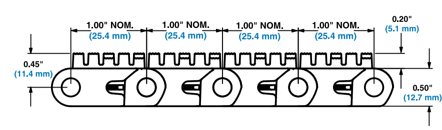
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in gray polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Rubber indent: 1.0 in (25.4 mm).



Belt Data

Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Nylon	1800	2678	34 to 150	1 to 66	2.29	11.18	55 Shore A	a	

• - Fully compliant

a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.

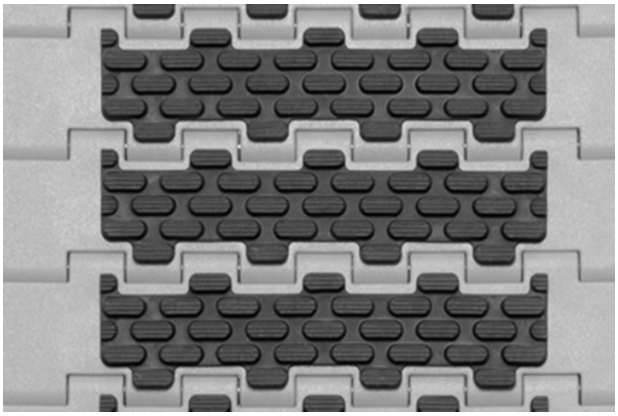
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

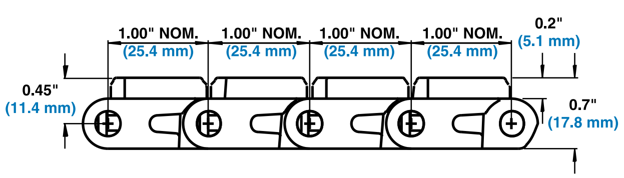
Mold to Width Oval Friction Top

	in	mm
Pitch	1.00	25.4
Molded Width	6	152
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Available in gray polypropylene with black rubber.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- If a center-drive setup is used, it can be necessary to retain the belt laterally, by placing collars at the backbend roller, before the drive.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Sprockets are all plastic.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Up to three sprockets can be placed on the 6.0 in (152 mm) mold to width belt.
- Width tolerances: +0.000/-0.020 in (+0.000/-0.500 mm).
- Rubber indent: 1.0 in (25.4 mm).
- Available in 10 ft (3 m) increments.





Belt Data

Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb	kg	°F	°C	lb/ft	kg/m		FDA (USA)	EU MC[b]
Polypropylene	Gray/Black	Nylon	800	386	34 to 150	1 to 66	1.15	1.71	55 Shore A	a	

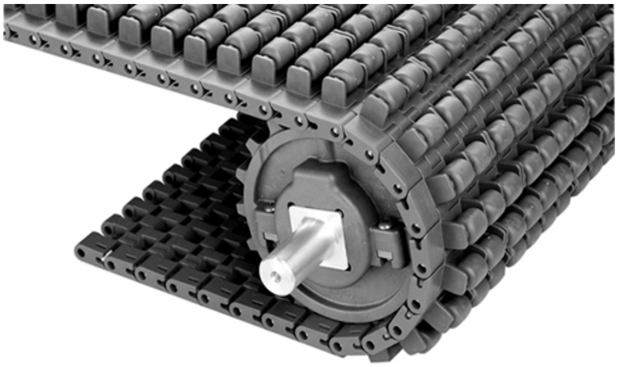
• - Fully compliant

a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.

b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

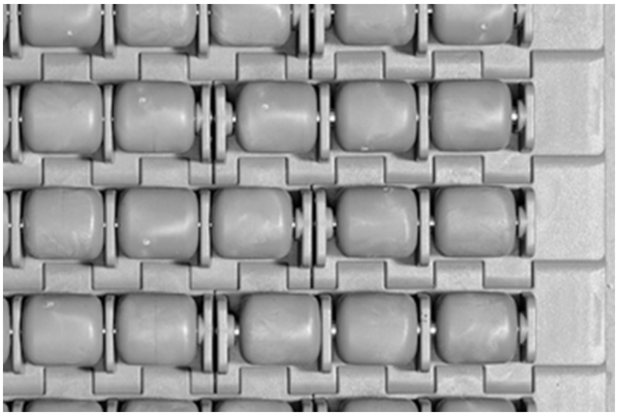
Roller Top

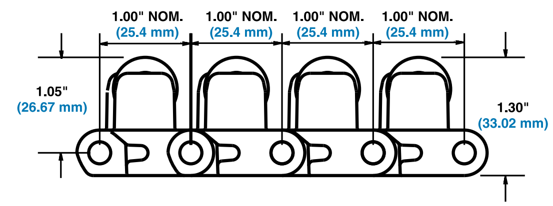
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Roller Diameter	0.70	17.8
Roller Length	0.83	21.0
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edges.
- Available in white or gray acetal.
- Stainless steel roller axle pins provide durability.
- Slidelox are available in polypropylene or acetal.
- Robust design offers excellent belt and sprocket durability.
- Allows low back-pressure accumulation for gentle product handling.
- 144 rollers per square foot of belt provide greater product-to-roller contact.
- Back-up load is 5–10% of product weight.
- Roller spacing: 1 in (25.4 mm).
- Standard roller indent: 0.75 in (19 mm)



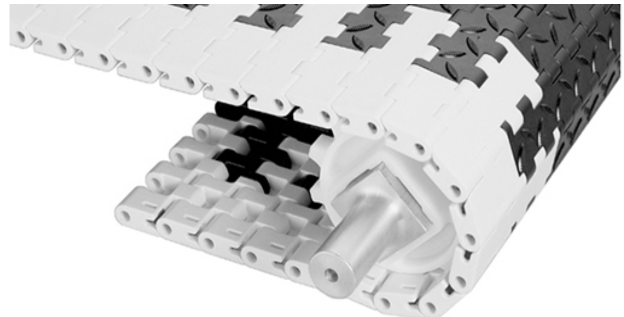


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2500	3720	-50 to 200	-46 to 93	5.83	28.47

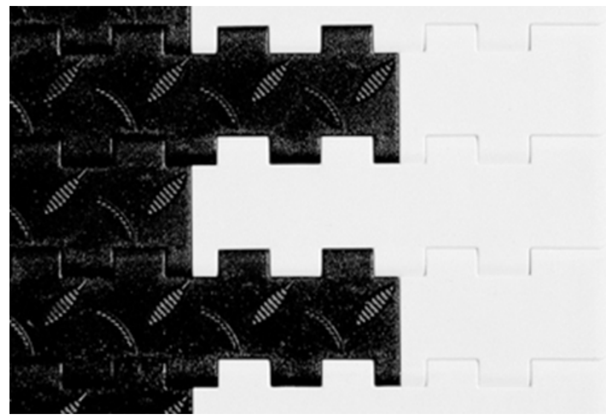
Non Skid

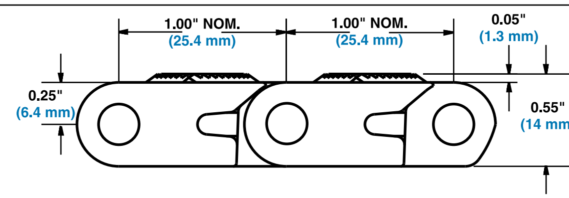
	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Robust design offers excellent belt and sprocket durability.
- Edges have a Flat Top surface, without treads.
- Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Diamond tread pattern provides a Non Skid walking surface to increase safety.
- Slidelox are available in polypropylene or acetal.
- Minimum nominal alternating edge indents: 2 in (51 mm) and 3 in (76 mm).
- 1.00 (25.4 mm) pitch accommodates small drive sprockets for low-profile people carriers.



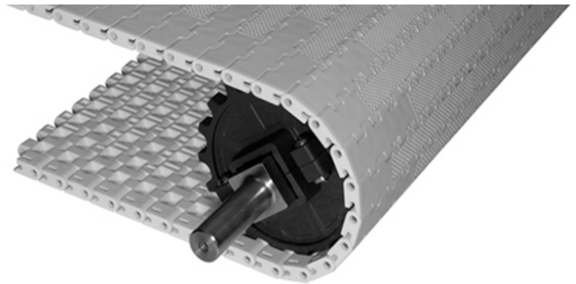


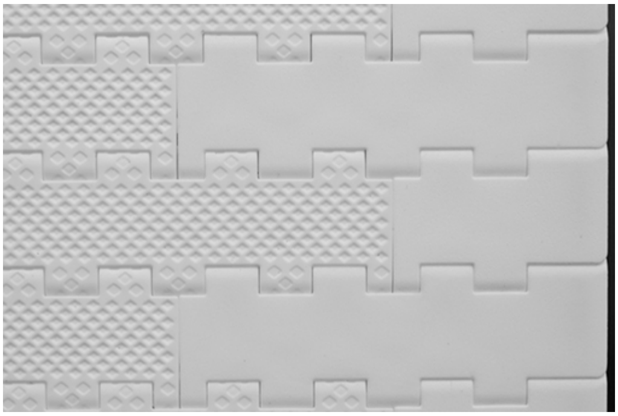
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HSEC acetal	Nylon	1875	2790	-50 to 200	-46 to 93	2.78	13.57
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	2.32	11.33

Embedded Diamond Top

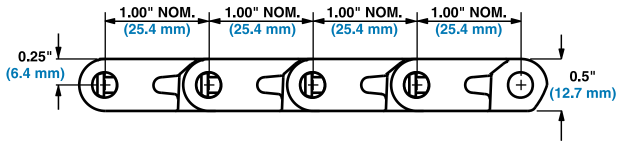
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	304.8
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Robust design offers excellent belt and sprocket durability.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.
- Minimum nominal alternating edge indents: 3 in (76 mm) and 4 in (102 mm).

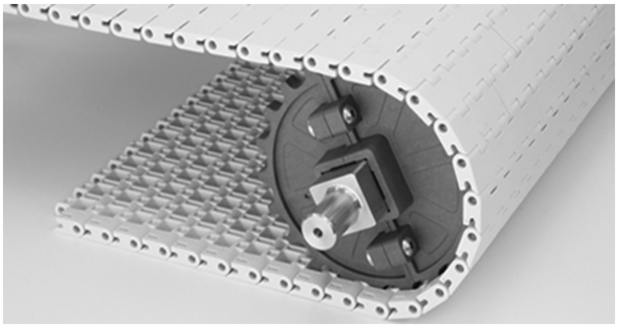


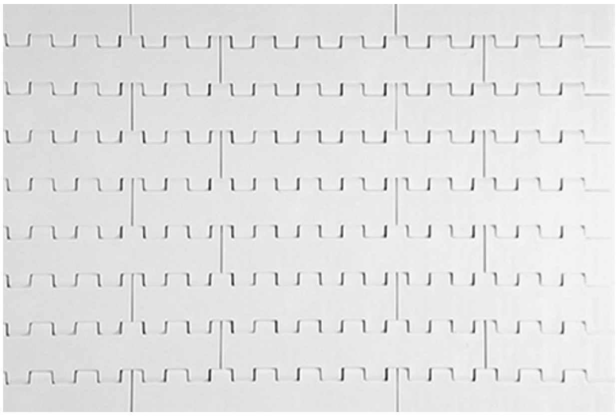
Belt Data

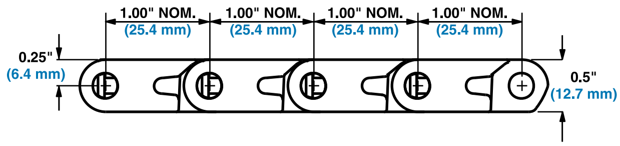
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	1800	2678	34 to 220	1 to 104	1.70	8.30

Flat Top Easy Release PLUS

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

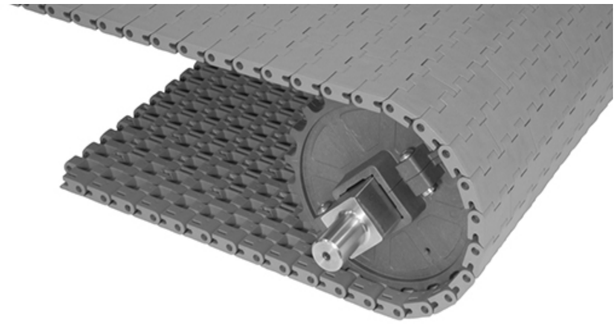
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Easy Release PLUS material resists rubber adhesion and has minimal dimensional expansion when exposed to oil and heat.
- Slidelox are polypropylene.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Split sprockets are designed with thick, lug-style teeth for excellent durability and wear life.

Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Easy Release PLUS	Orange polypropylene (non-FDA)	1600	2380	34 to 220	1 to 104	2.00	9.78

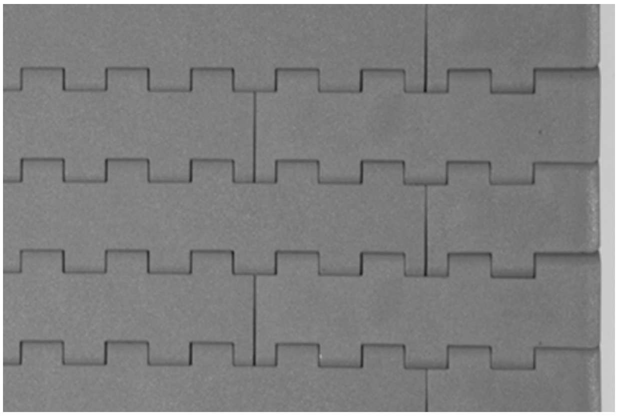
Flat Top Easy Release Traceable Polypropylene

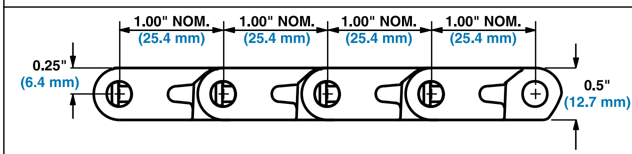
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed surface with fully flush edges.
- Slidelox are detectable polypropylene.
- Robust design offers excellent belt and sprocket durability, especially in tough glass applications.
- Sprockets are all plastic, with large, lug-style teeth for excellent durability and wear life.
- Most sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.

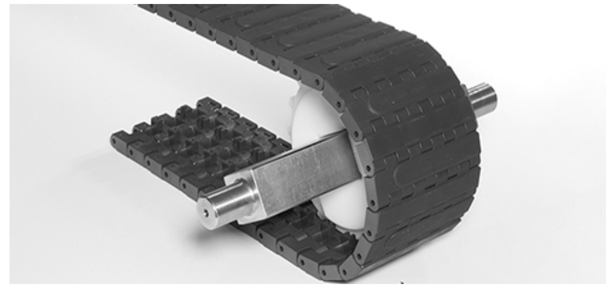


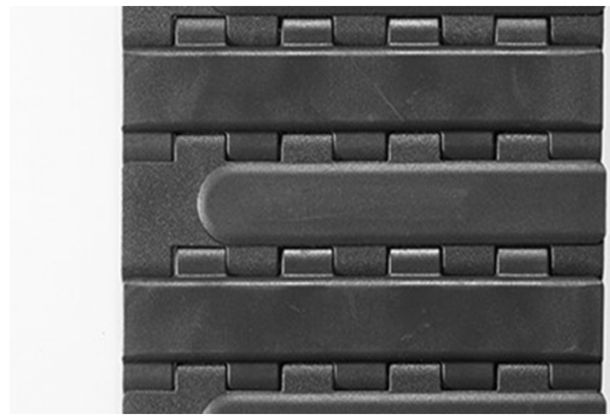


Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Easy Release Traceable PP	Orange polypropylene (non-FDA)	1200	1790	34 to 220	1 to 104	1.86	9.08

ProTrax™ with Tabs

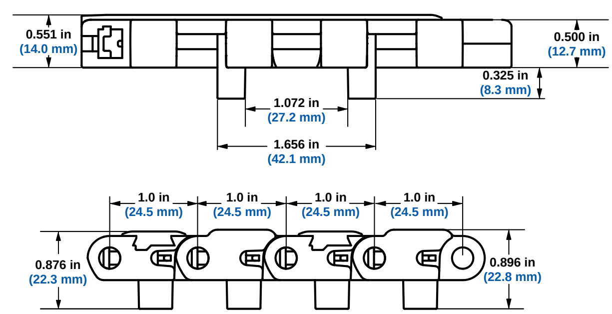
	in	mm
Pitch	1.00	25.4
Molded Widths	4.5	114.3
Opening Size (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Powerful magnets are embedded in the belts.
- Tracking tabs prevent lateral movement.
- Slidelox provide rod and cap retention.
- Standard configuration consists of magnetic modules and S1400 Raised Flat Top modules alternating every other row to maximize wear resistance.
- Ideal for incline, decline, vertical switch, pan indexing, and metering applications.
- Only needs one drive sprocket and one idle sprocket per belt strand.
- Both strands of the belt should be installed so that they run in the same direction.
- Determine belt spacing based on maximum surface area contact with the bottom surface of the conveyed product.
- Sprockets are all plastic with stainless steel fasteners and large, lug-style teeth for excellent durability and wear life.
- Most sprockets feature a split design so shafts do not have to be removed for retrofits and changeovers.
- Tabs fit into a straight track style carryway with 1.75 in (44.5 mm) spacing.

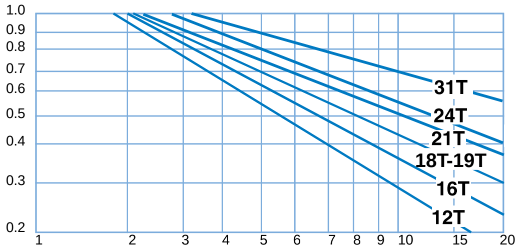


Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Straight belt strength		Temperature range (continuous)		Belt weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Nylon	550	250	-50 to 200	-46 to 93	1.46	2.18
HHR nylon	Nylon	550	250	-50 to 310	-46 to 154	1.296	1.95

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway[3]
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	2	3	2
10	254	2	3	2
12	305	3	3	2
14	356	3	4	3
16	406	3	4	3
18	457	3	4	3
20	508	5	5	3
24	610	5	5	3
30	762	5	6	4
32	813	7	7	4
36	914	7	7	4
42	1067	7	8	5
48	1219	9	9	5
54	1372	9	10	6
60	1524	11	11	6
72	1829	12	13	7
84	2134	15	15	8
96	2438	17	17	9
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[4]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

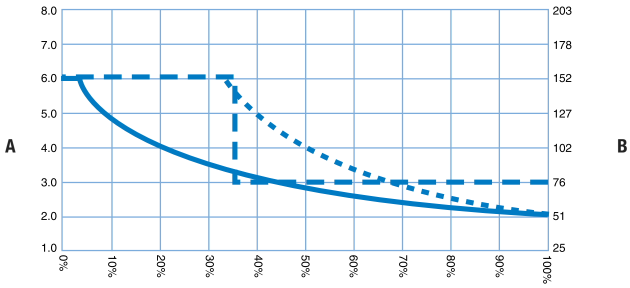


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

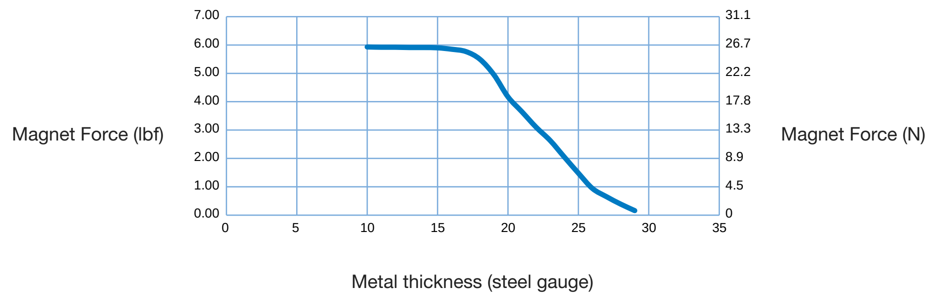
A Sprocket spacing, in
B Sprocket spacing, mm

Long dashed line: Flush Grid
Short dashed line: Round bores
Solid line: All other styles

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] For Friction Top applications, use caution and contact Intralox Customer Service.
[4] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*. For Flush Grid, see Locked Sprocket Location chart in the Installation Instruction Guidelines or call Intralox Customer Service.

S1400 ProTrax with Tabs

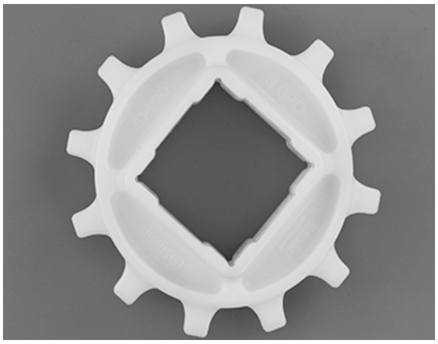
Magnet Force vs. Metal Thickness



Note: Magnet force shows is typical for an aluminized steel product with a flat surface and maximum surface area contact. Results can vary, based on material and surface texture.

Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
12 (3.41%)	3.9	99	3.9	99	1.5	38	-	1.5	-	40
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	30, 40, 50	60
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60



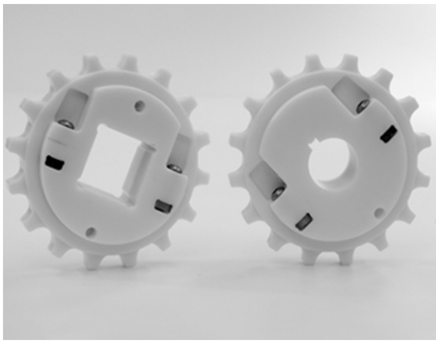
Glass Filled Nylon Split Sprocket[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round[3]	Square	Round[3]	Square
16 (1.92%)	5.1	130	5.2	132	2.0	51	1 to 2 in 1/16 increments	1.5	25 to 50 in 5 increments	40
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2 in 1/16 increments	1.5 2.5	25 to 50 in 5 increments	40 60
21 (1.12%)	6.7	170	6.8	172	2.0	51	1 to 2 in 1/16 increments[4]	1.5 2.5	25 to 50 in 5 increments	40 60

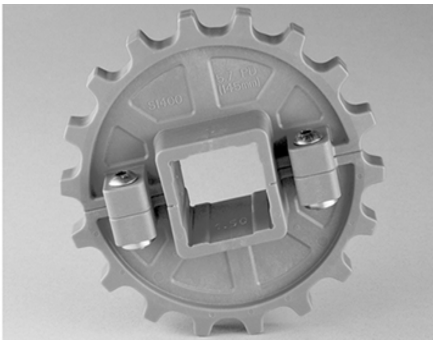
[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.
[3] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[4] Tight fit round bores are available in 1-1/4, 1-3/16, 1-1/2, and 1-7/16 in

Maximum Belt Rating for Glass Filled Nylon Round Bore Split Sprockets Based on Round Bore Size Range[1]															
No. of Teeth	Nom. Pitch Diameter		1 in - 1-3/16 in		1-1/4 in - 1-3/8 in		1-7/16 in - 1-3/4 in		1-13/16 in - 2 in		25 mm - 35 mm		40 mm - 50 mm	
	in	mm	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m
16	5.1	130	1500	2232	1740	2589	2100	3125	2160	3214	1140	1697	2160	3214
18	5.7	145	1800	2679	2040	3036	2400	3572	3240	4822	1440	2143	2460	3661
21	6.7	170	1350	2009	1650	2455	2100	3125	3000	4464	1050	1563	2400	3572

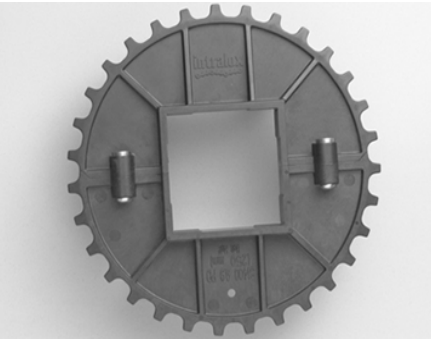
Nylon FDA Split Sprocket[2]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[3]	Square in	Round mm[2]	Square mm
12 (3.41%)	3.9	99	3.9	99	0.75	19	1.25	1.5		40
16 (1.92%)	5.1	130	5.2	132	1.5	38	1.25 1.5	1.5	30	
18 (1.52%)	5.7	145	5.8	148	1.5	38	1.25	1.5	25, 30, 40	40



Enduralox Polypropylene Composite Split Sprocket[4]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[5]	Square in	Round mm[2]	Square mm
16 (1.92%)	5.1	130	5.2	132	2.0	51		1.5		40
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5 2.5		40 60
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5 2.5		40
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5		



Polyurethane Composite Split Sprocket[6]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
31 (0.51%)	9.9	251	10.1	257	1.50 1.67	38 44		3.5 2.5[7]		



[1] The belt rating based on round bore sprocket size is used to determine sprocket spacing as a function of belt strength utilized. It can also be used for all other calculations. However, if the rating for the belt material and belt style is lower then the belt rating based on the round bore sprocket size, then the lower rating must be used for all calculations other than sprocket spacing.

[2] Contact Customer Service for lead times.

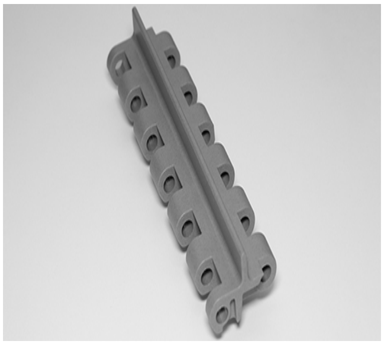
[3] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[4] **Contact Customer Service for lead times.**

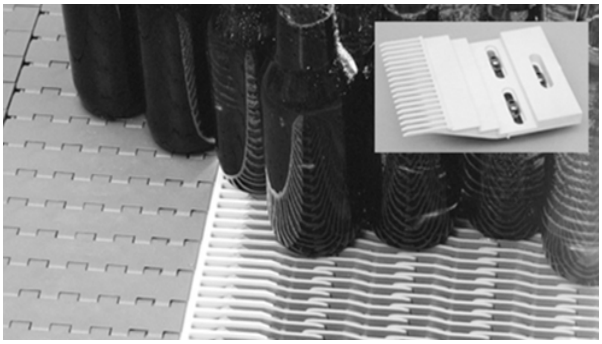
[5] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[6] **Contact Customer Service for lead times.**

[7] The 2.5" square bore is created by using a bore adapter in the 3.5" square bore sprocket.

Flat Top Base Flights (Streamline)			
Available flight Height		Available Materials	
in	mm		
0.43	11	Easy Release Traceable polypropylene	

- Flight is smooth (streamline) on both sides.
- Each flight rises out of the center of its supporting module, molded as a part. No fasteners are required.
- The minimum indent is a function of belt width. Contact Intralox Customer Service for valid indent increments.

Self-Clearing Finger Transfer Plates[1]				
Available Width		No. of Fingers	Available Materials	
in	mm			
6	152	18	Glass-filled thermoplastic	

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.

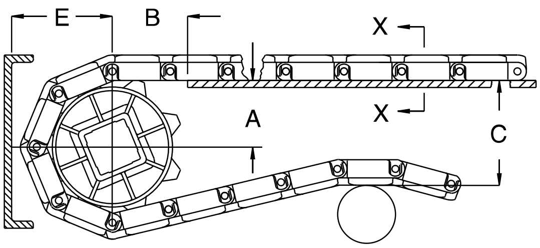
[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

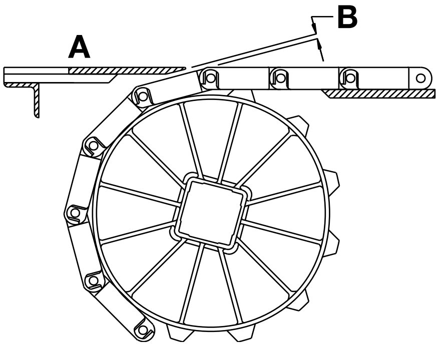
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1400 Embedded Diamond Top, Flat Top, Flush Grid										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.86	98	2.24	57
4.9	124	15	2.10-2.15	53-55	2.06	52	4.81	122	2.72	69
5.1	130	16	2.26-2.32	57-59	2.11	54	5.13	130	2.88	73
5.7	145	18	2.59-2.63	66-67	2.22	56	5.76	146	3.19	81
6.7	170	21	3.07-3.10	78-79	2.44	62	6.71	170	3.75	95
7.7	196	24	3.55-3.58	90-91	2.64	67	7.66	195	4.14	105
9.9	251	31	4.67	119	3.07	78	9.88	251	5.25	133
Series 1400 Flat Friction Top, Oval Friction Top, Square Friction Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.06	103	2.44	62
4.9	124	15	2.10-2.15	53-55	2.06	52	5.01	127	2.92	74
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
5.7	147	18	2.59-2.63	66-67	2.22	56	5.96	151	3.39	86
6.7	170	21	3.07-3.10	78-79	2.44	62	6.91	176	3.87	98
7.7	196	24	3.55-3.58	90-91	2.64	67	7.86	200	4.34	110
9.9	251	31	4.67	119	3.07	78	10.08	256	5.45	138
Series 1400 Roller Top										
3.9	99	12	1.62-1.68	41-43	1.80	46	4.66	118	3.04	77
4.9	124	15	2.10-2.15	53-55	2.06	52	5.61	142	3.52	89
5.1	130	16	2.26-2.31	57-59	2.11	54	5.93	151	3.68	93
5.7	145	18	2.59-2.63	66-67	2.22	56	6.56	167	3.99	101
6.7	170	21	3.07-3.10	78-79	2.44	62	7.51	191	4.47	113
7.7	196	24	3.55-3.58	90-91	2.64	67	8.46	215	4.94	125
9.9	251	31	4.67	119	3.07	78	10.68	271	6.05	154
Series 1400 Non Skid, ProTrax										
3.9	99	12	1.62-1.68	41-43	1.80	46	3.91	99	2.29	58
4.9	124	15	2.05-2.10	52-53	2.06	52	4.86	123	2.77	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.18	132	2.93	74
5.7	145	18	2.59-2.63	66-67	2.22	56	5.81	148	3.24	82
6.7	170	21	3.07-3.10	78-79	2.44	62	6.76	172	3.72	94
7.7	196	24	3.55-3.58	90-91	2.64	67	7.71	196	4.19	106
9.9	251	31	4.67	119	3.07	78	9.93	252	5.30	135

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

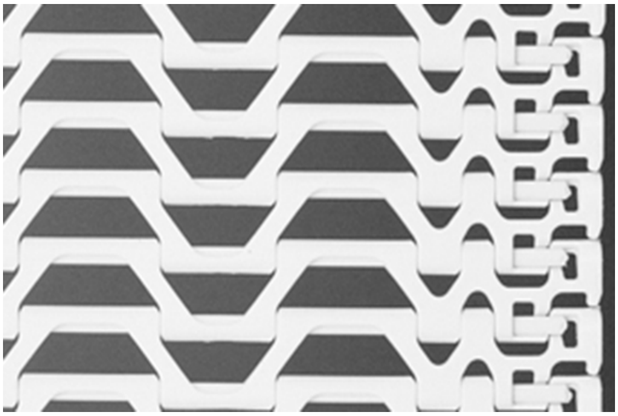
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.9	99	12	0.066	1.7
4.9	124	15	0.053	1.3
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
7.7	196	24	0.033	0.8
9.9	251	31	0.025	0.6

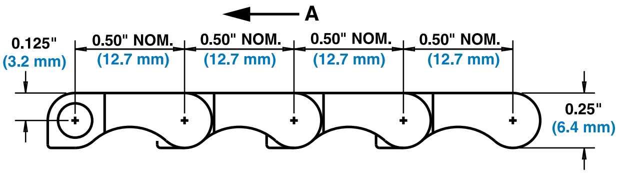
Flush Grid

	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	0.50	12.7
Opening Sizes (approximate)	0.87 × 0.30	22.1 × 7.6
	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface with fully flush edges.
- The detectable material has surface resistivity per ASTM_D257 of 545 Ohms per square.
- Rod diameter: 0.140 in (3.6 mm).
- Designed for a 0.5 in (12.7 mm) diameter nosebar.





A - Preferred running direction

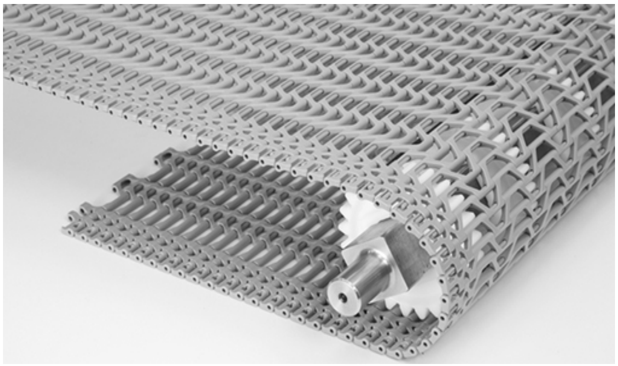
Belt Data

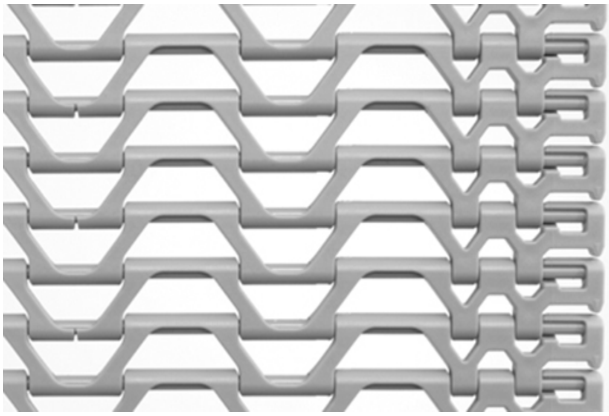
Belt material	Standard rod material Ø 0.140 in (3.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	125	186	34 to 220	1 to 104	0.44	2.12
Polypropylene	Acetal	150	223	34 to 200	1 to 93	0.51	2.40
HR nylon	Nylon	175	260	-50 to 240	-46 to 116	0.58	2.83
HHR nylon	HHR nylon	175	260	-50 to 310	-46 to 154	0.58	2.83
Acetal	Acetal	240	357	-50 to 200	-46 to 93	0.73	3.56
Detectable acetal	Acetal	200	298	-50 to 200	-46 to 93	0.69	3.35
Detectable polypropylene A22	Acetal	80	119	0 to 150	-18 to 66	0.57	2.78
X-Ray Detectable Acetal[1]	Acetal	240	357	-50 to 200	-46 to 93	0.78	3.66

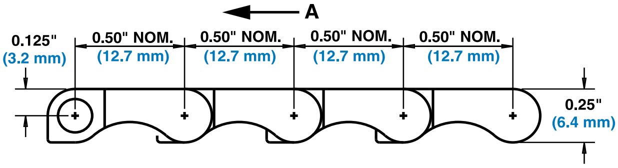
[1] Designed specifically for detection by X-ray machines.

Flush Grid with Contained Edge

	in	mm
Pitch	0.50	12.7
Minimum Width	8	203
Width Increments	2.0	50.8
Minimum Opening Size (approx.)	0.87 × 0.30	22.1 × 7.6
Maximum Opening Size (approx.)	0.66 × 0.30	16.8 × 7.6
Open Area	48%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







A - Preferred run direction

Product Notes

- **Always check with Customer Service for precise belt width measurement and stock status before designing a conveyor or ordering a belt.**
- Smooth upper surface with fully flush edges.
- Recessed rod retention feature provides superior rod containment.
- Available in 2 in (50.8 mm) increments.
- Designed for a 0.5 in (12.7 mm) diameter nosebar.
- Rod diameter: 0.140 in (3.6 mm).

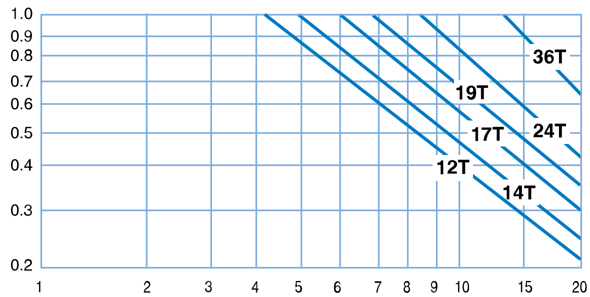
Belt Data

Belt material	Standard rod material Ø 0.140 in (3.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
HR nylon	Nylon	175	260	-50 to 240	-46 to 116	0.58	2.83

SECTION 2
1500

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
8	203	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
22	559	5	5	3
24	610	7	5	3
26	660	7	6	4
28	711	7	6	4
30	762	7	6	4
32	813	9	7	4
34	864	9	7	4
36	914	9	7	4
38	965	9	8	5
40	1016	11	8	5
42	1067	11	8	5
44	1118	11	9	5
46	1168	11	9	5
48	1219	13	9	5
50	1270	13	10	6
52	1321	13	10	6
54	1372	13	10	6
56	1422	15	11	6
58	1473	15	11	6
60	1524	15	11	6
62	1575	15	12	7
64	1626	17	12	7
For other widths, use an odd number of sprockets at Maximum 4 in (102 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

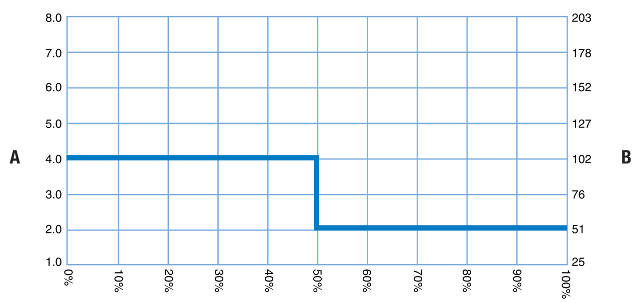


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



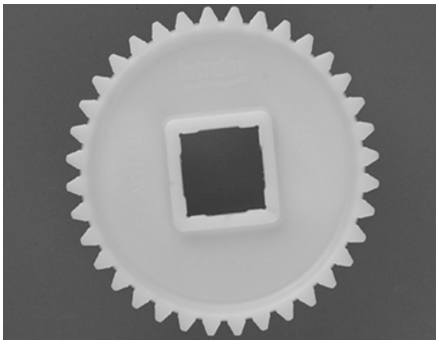
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] Belts are available in 0.50 in (12.7 mm) increments beginning with 8 in (203 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. See Locked Sprocket Location chart in the Installation Instruction Guidelines or contact Intralox Customer Service for lockdown location.

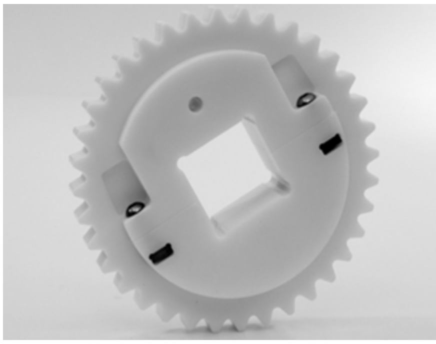
Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	U.S. Square in	Metric Round mm[2]	Metric Square mm
10 (4.89%)	1.6	41	1.8	46	0.65	17		5/8		
12 (3.41%)	1.9	48	2.1	53	0.65	17	1	1.0	25	
14 (2.51%)	2.3	58	2.4	61	0.75	19	3/4, 1, 1-3/16, 1-1/4	1.0	25	
17 (1.70%)	2.7	69	2.9	73	0.75	19	3/4, 1, 1-3/16, 1-1/4, 1-3/8		25	
19 (1.36%)	3.1	79	3.2	82	0.75	19	1, 1-3/8			
24 (0.86%)	3.8	97	4.0	101	0.75	19	1	1.5	25	40
36 (0.38%)	5.7	145	5.9	150	0.75	19	1	1.5		40



Nylon FDA Split Sprockets[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[4]	U.S. Square in	Metric Round mm[4]	Metric Square mm
24 (0.86%)	3.8	97	4.0	101	1.5	38				40
36 (0.38%)	5.7	145	5.9	150	1.5	38				40



Flush Grid Base Flights (Streamline)

Available Flight Height in	Available Flight Height mm	Available Materials
1	25	Acetal, HR nylon

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flush Grid flight is smooth (streamlined) on both sides.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent is a function of belt width. Minimum indent range: 3 in (76 mm) to 3.75 in (95 mm).

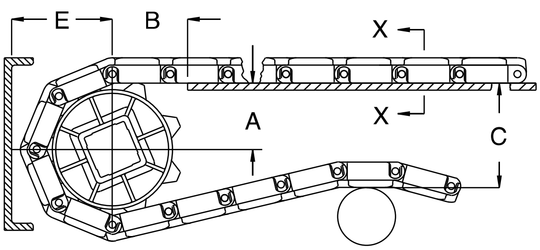
[1] Contact Intralox Customer Service for lead times.
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Contact Intralox Customer Service for lead times.
[4] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

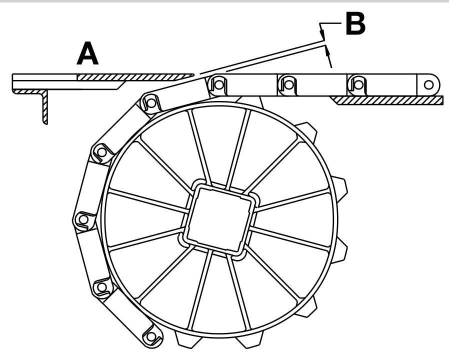
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1500 Flush Grid, Flush Grid with Contained Edge										
1.6	41	10	0.64-0.68	16-17	1.13	29	1.62	41	1.00	25
1.9	48	12	0.81-0.84	21	1.24	31	1.93	49	1.15	29
2.3	58	14	0.97-1.00	25	1.34	34	2.25	57	1.31	33
2.7	69	17	1.21-1.24	31	1.49	38	2.72	69	1.55	39
3.1	79	19	1.37-1.39	35	1.59	40	3.04	77	1.71	43
3.8	97	24	1.77-1.79	45	1.76	45	3.83	97	2.10	53
5.7	145	36	2.73-2.74	69-70	2.71	55	5.74	146	3.06	78

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

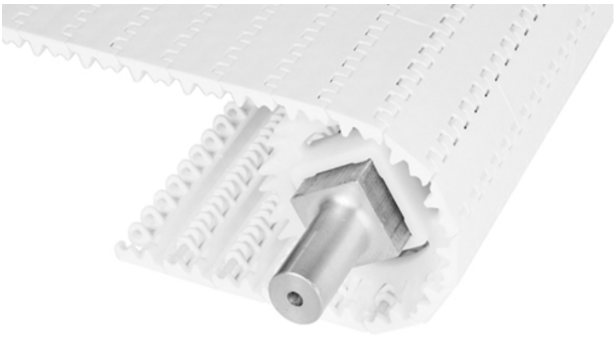


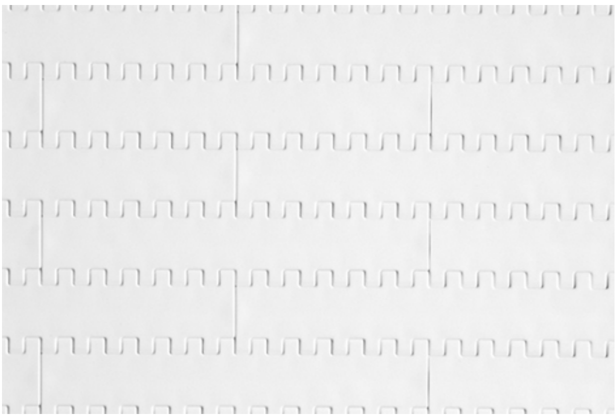
A Top surface of dead plate
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
1.6	41	10	0.040	1.0
1.9	48	12	0.033	0.8
2.3	58	14	0.028	0.7
2.7	69	17	0.023	0.6
3.1	79	19	0.021	0.5
3.8	97	24	0.017	0.4
5.7	145	36	0.011	0.3

Open Hinge Flat Top

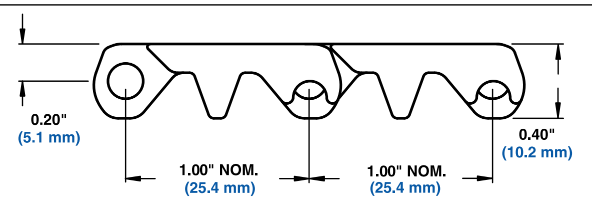
	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approx.)	—	—
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radius corners.
- No pockets or sharp corners to catch and hold debris.
- Cam-link designed hinges - expose more hinge and rod area as belt goes around the sprocket. This exclusive Intralox feature allows unsurpassed cleaning access to this area.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm). Contact Intralox Customer service for information on custom heights.



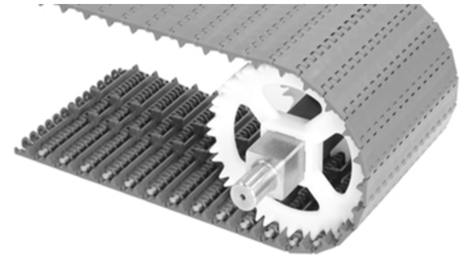
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.05	5.13
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.10	5.37
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.58	7.71
Acetal	Polyethylene[1]	1000	1490	-50 to 150	-46 to 66	1.58	7.71
Hi-Temp	Hi-Temp	1000	1488	70 to 400	21 to 204	1.54	7.52
X-Ray Detectable Acetal[2]	Blue polyethylene	1000	1490	-50 to 150	-46 to 66	1.915	9.35

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.
[2] Designed specifically for detection by X-ray machines.

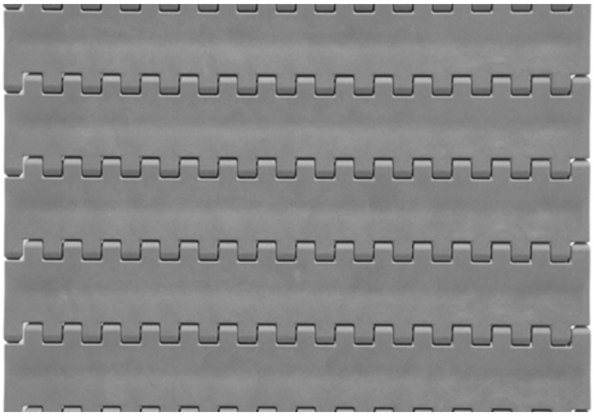
Mold to Width Open Hinge Flat Top

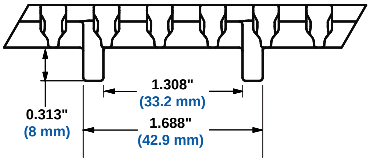
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	190.5
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



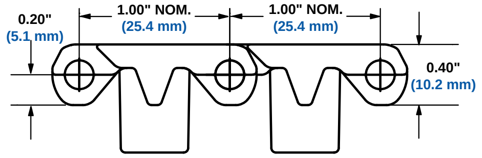
Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Tracking tabs provide lateral tracking.
- Uses recessed rods.
- Available in 10 ft (3 m) increments.
- Do not use with sprockets smaller than a 3.9 in (99 mm) diameter (12 tooth) sprocket.





Front view

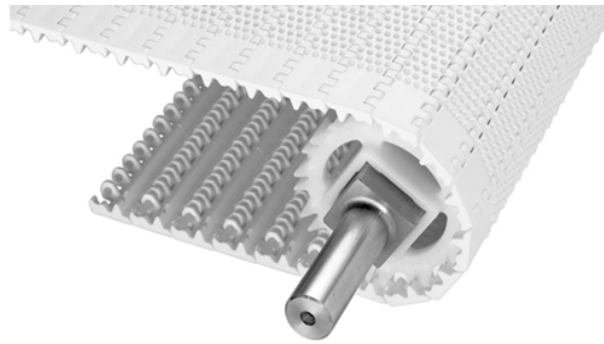


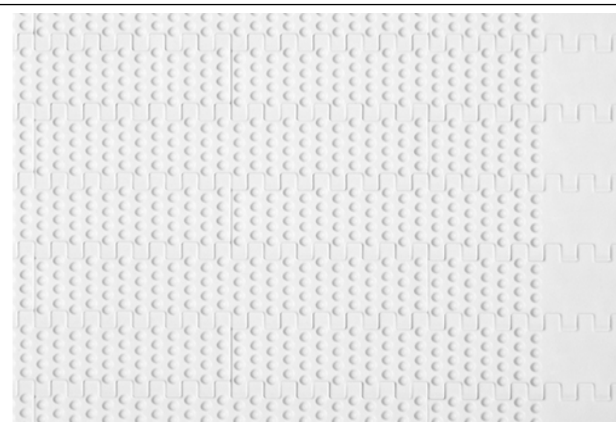
Side view

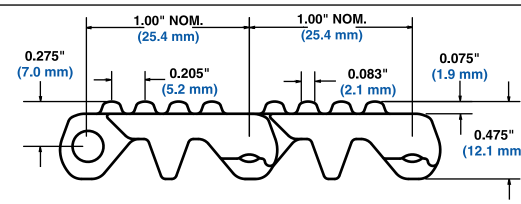
Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal	Polyethylene	625	283	-50 to 150	-46 to 66	1.02	1.52

Nub Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Open Area	0%	
Product Contact Area	10%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Not recommended for product accumulation conditions. Contact Intralox Sales Engineering for information about friction values between product and belt.
- Standard flights available in polypropylene, polyethylene, and acetal. Flights are molded as part of the belt, and can be cut to any size.
- Recommended for products large enough to span the distance between the nubs [0.250 in (6.35 mm)].
- Standard nub indent: 1.3 in (33.0 mm).
- Flight height: 4 in (102 mm).

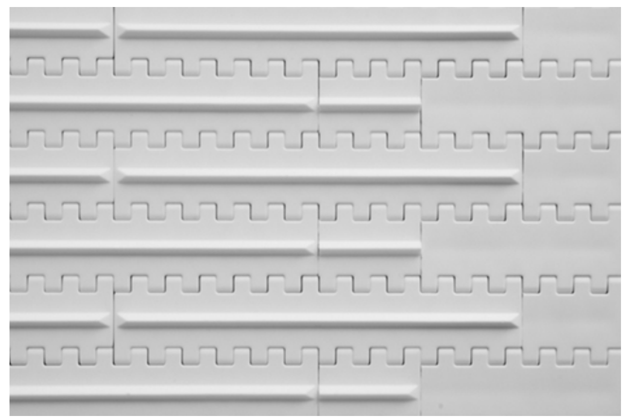
Belt Data

Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.13	5.52
Polyethylene	Polyethylene	350	520	-50 to 150	-46 to 66	1.18	5.76
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.74	8.49
Acetal	Polyethylene[1]	1000	1490	-50 to 150	-46 to 66	1.74	8.49
X-Ray Detectable Acetal	X-Ray Detectable Acetal	1400	2083	-50 to 200	-46 to 93	2.01	9.81

[1] Polyethylene rods can be used in cold applications when impacts or sudden starts/stops occur. Please note lower rating.

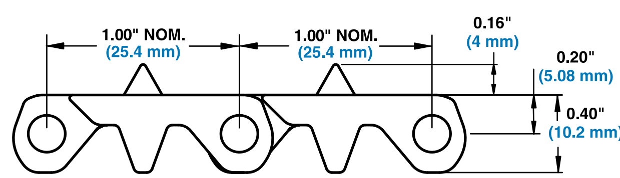
Mini Rib

	in	mm
Pitch (nominal)	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Opening Size (approx.)	—	—
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- No-Cling flights are available.
- Standard flight height: 4 in (102 mm). Flights can be cut to custom heights.
- 0.16 in (4 mm) Mini Rib on surface accommodates gradual inclines and declines. Not recommended for product accumulation conditions.
- Minimum nominal alternating edge indents: 1.5 in (38 mm) and 2 in (51 mm).

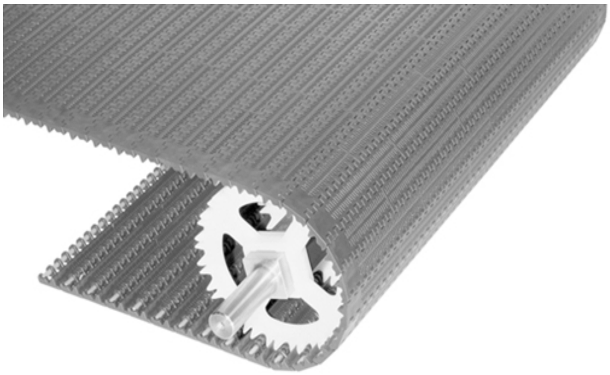


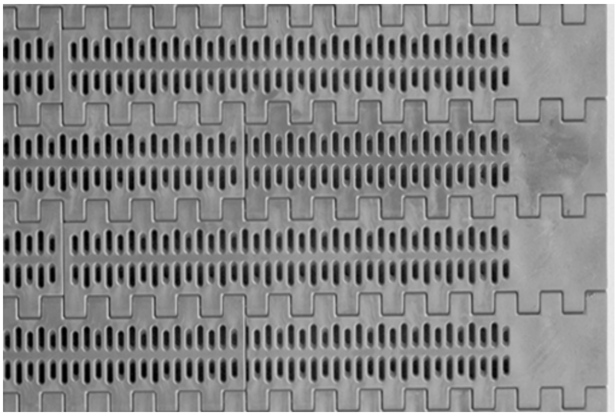
Belt Data

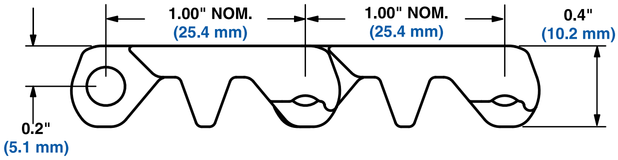
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	1.135	5.54
Acetal	Polypropylene	1400	2100	34 to 200	1 to 93	1.705	8.32

Mesh Top

	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Min. Opening Size (approx.)	0.06 x 0.12	1.5 x 3.0
Max. Opening Size (approx.)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

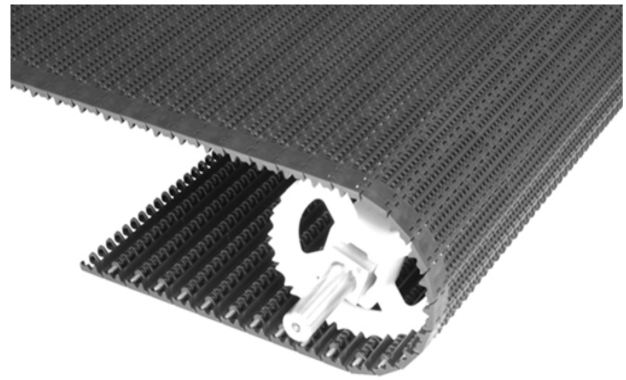
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- No-Cling flights are available.
- Standard Mesh Top indent: 1.0 in (25.4 mm).
- Standard flight height: 4 in (102 mm). Flights can be cut to custom heights.

Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1200	1780	34 to 200	1 to 93	1.40	6.84
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.94	4.59
Low Moisture Abrasion Resistant	HR nylon	1100	1637	0 to 212	-18 to 100	1.18	5.76

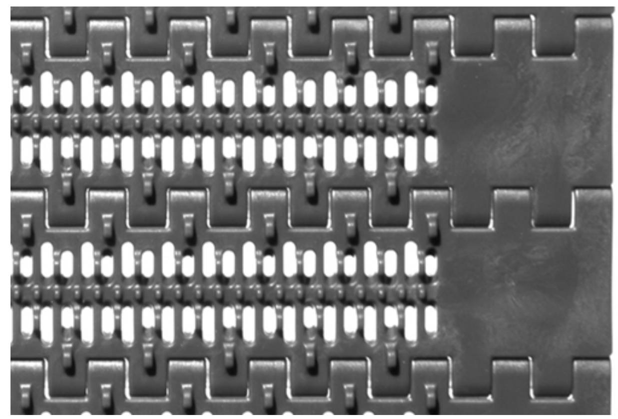
Mesh Nub Top

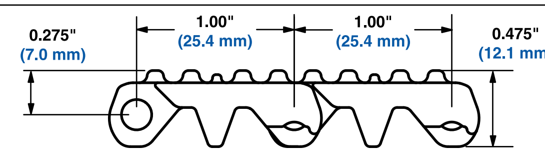
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Width Increments	0.50	12.7
Min. Opening Size (approx.)	0.06 x 0.12	1.5 x 3.0
Max. Opening Size (approx.)	0.06 x 0.20	1.5 x 5.1
Open Area	16%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- No Cling flights are available.
- Standard Mesh Nub Top indent: 1.0 in (25.4 mm).
- Standard flight height: 4 in (102 mm). Flights can be cut to custom heights.

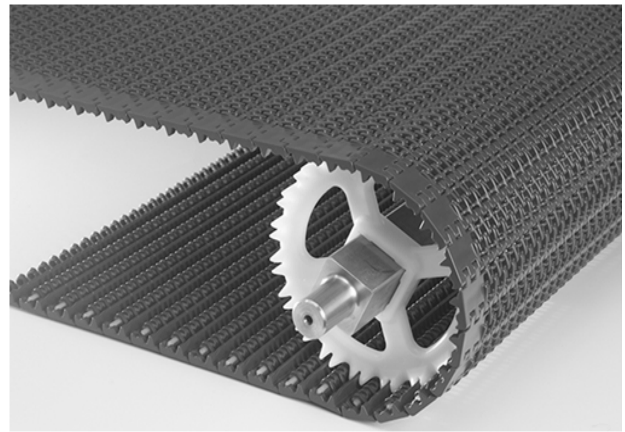




Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	1200	1780	34 to 200	1 to 93	1.45	7.08
Polypropylene	Polypropylene	700	1040	34 to 220	1 to 104	0.98	4.81

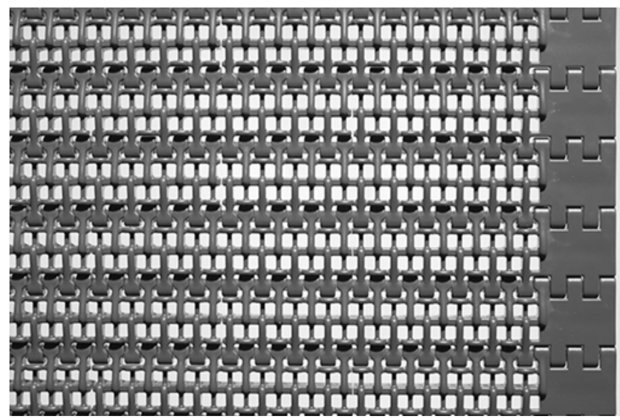
Raised Open Grid

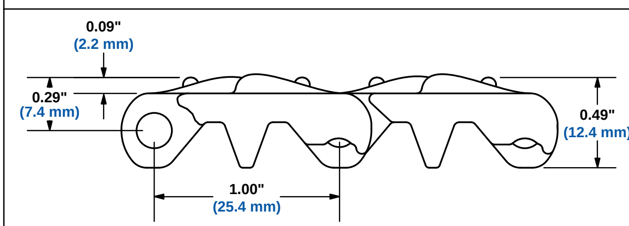
	in	mm
Pitch	1.00	25.4
Minimum Width	5	127
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approx.)	0.20 x 0.16	5.1 x 4.1
Open Area	28%	
Min Open Area	n/a	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Open area is designed to limit water film formation and maximize water drainage.
- Like Series 800 and Series 1800, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Standard Raised Open Grid indent: 1 in (25.4 mm).

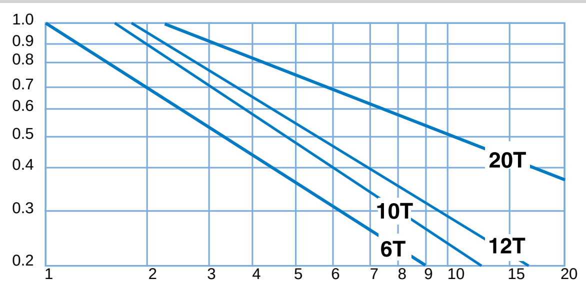




Belt Data							
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Polypropylene	800	1190	34 to 200	1 to 93	1.32	6.44
Polypropylene	Polypropylene	400	595	34 to 220	1 to 104	0.89	4.35
Polyethylene	Polyethylene	200	298	-50 to 150	-46 to 66	0.92	4.49

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing.	Maximum 12 in (305 mm) centerline spacing

Strength Factor

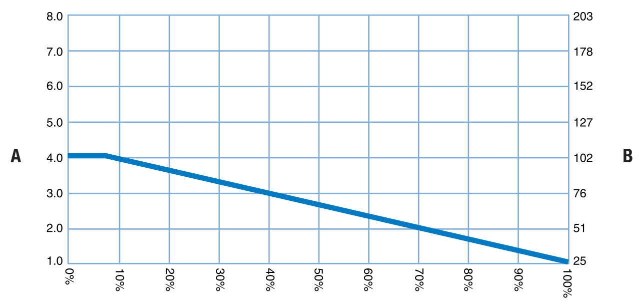


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



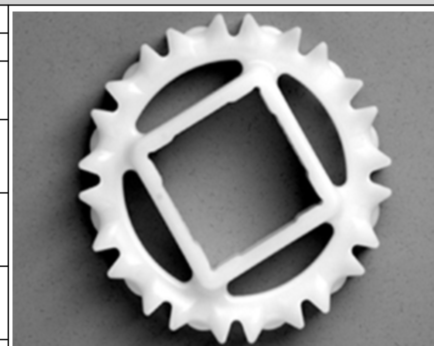
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] Belts are available in 0.50 in (12.7 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

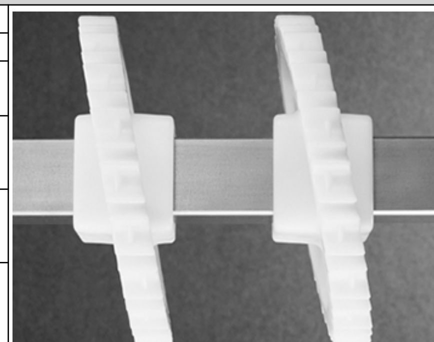
EZ Clean™ Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm[2]	Available Bore Sizes Metric Square mm
6 (13.40%)	2.0	51	1.8	46	1.0	25	1.0		25	
10 (4.89%)	3.2	81	3.2	81	1.0	25	1.0	1.5	25	40
12 (3.41%)	3.9	99	3.8	97	1.0	25		1.5		40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40



Angled EZ Clean™ Sprocket[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40



UHMW Polyethylene Sprocket[4]

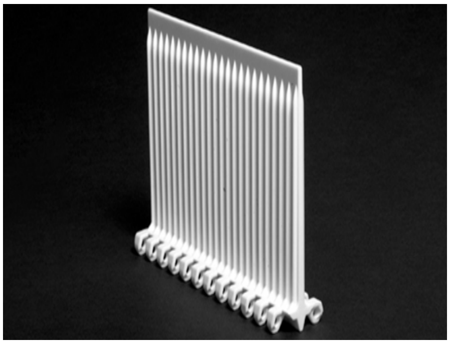
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
16 (1.92%)	5.3	135	5.1	130	1.0	25				40

[1] Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 500 lb/ft (744 kg/m) is de-rated to 500 lb/ft (744 kg/m) All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Contact Intralox Customer Service for lead times.
[4] Contact Customer Service for lead times.

Open Hinge Flat Top Base Flight (No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
4.0	102	Polypropylene, polyethylene, acetal

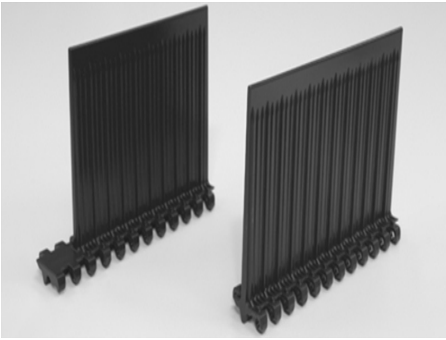
- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Minimum indent: 1.0 in (25.4 mm)
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



Mesh Nub Top Base Flights (No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
4.0	102	Acetal, polyethylene

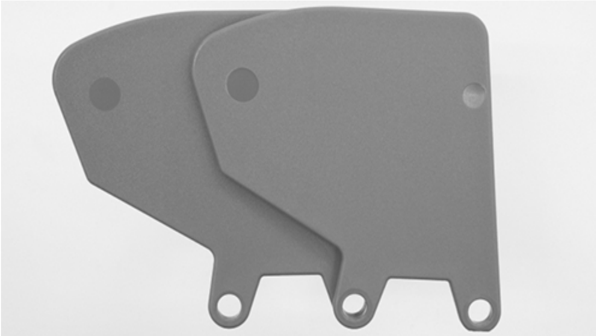
- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent: 1.0 in (25.4 mm).



Sideguards

Available Sizes in	Available Sizes mm	Available Materials
2	51	Polypropylene
3	76	

- Standard sideguard orientation is angled inward toward the product (product friendly). If needed, sideguards can be angled outward toward the conveyor.
- When going around the 6 and 10 tooth sprocket, sideguards fan out, opening a gap at the top of the sideguard that can allow small products to fall out. The sideguards stay completely closed when going around the 12, 16, and 20 tooth sprockets.
- Normal gap between the sideguards and the edge of a flight: 0.3 in (7.6 mm).
- Minimum indent: 1.0 in (25 mm)



SECTION 2

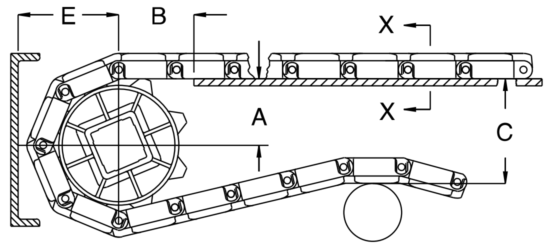
1600

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

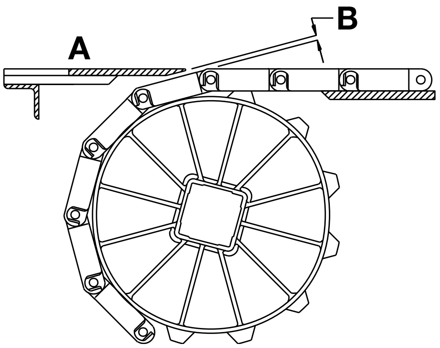
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1600 Mesh Top, Open Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.39	162	3.46	88
Series 1600 Mesh Nub Top, Nub Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.08	53	1.34	34
3.2	81	10	1.34-1.42	34-36	1.56	40	3.31	84	1.96	50
3.9	99	12	1.67-1.73	42-44	1.70	43	3.94	100	2.27	58
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.47	164	3.53	90
Series 1600 Mini Rib										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.16	55	1.42	36
3.2	81	10	1.34-1.42	34-36	1.56	40	3.40	86	2.04	52
3.9	99	12	1.67-1.73	42-44	1.70	43	4.02	102	2.35	60
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.55	166	3.62	92

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



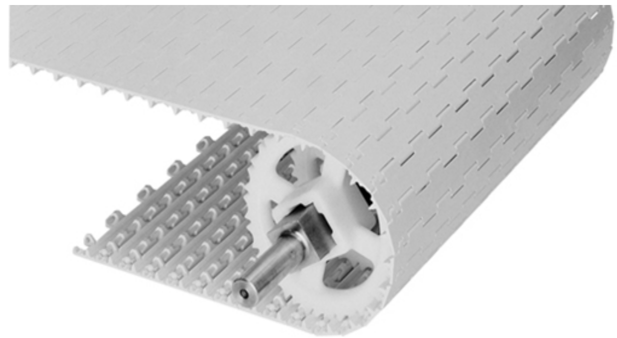
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

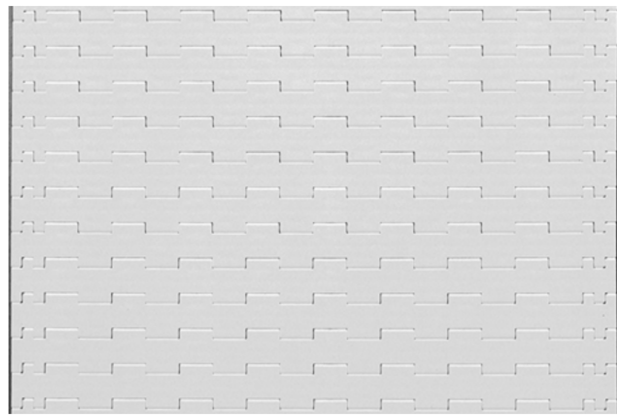
SeamFree™ Minimum Hinge Flat Top

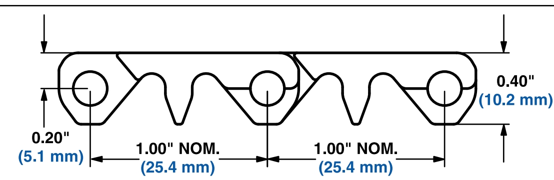
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	1.00	25.4
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Fully sculpted and radiused corners with no pockets or sharp corners to catch and hold debris.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- The drive bar on the underside of this belt combines with a patent-pending flume feature to channel water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Designed for use with S1600 Angled EZ Clean sprockets. Also compatible with standard S1600 EZ Clean sprockets.
- Belts over 18 in (457 mm) are built with multiple modules per row, but seams are minimized.

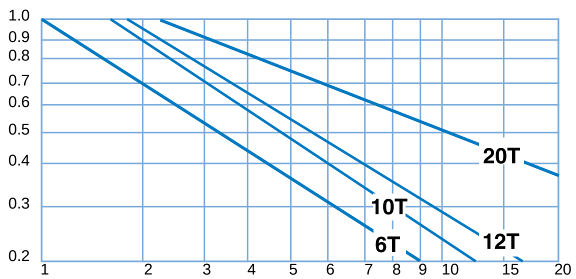




Belt Data							
Belt Material	Standard Rod Material Ø 0.18 in (4.6 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	350	520	-50 to 200	-46 to 93	1.47	7.18
Acetal	Polypropylene	325	480	34 to 200	1 to 93	1.40	6.84
Acetal	Polyethylene	225	330	-50 to 150	-46 to 66	1.40	6.83

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
4	102	2	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	3	2
8	203	3	3	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	5	4	3
15	381	5	4	3
16	406	5	4	3
18	457	5	4	3
20	508	5	5	3
24	610	7	5	3
30	762	9	6	4
32	813	9	7	4
36	914	9	7	4
42	1067	11	8	5
48	1219	13	9	5
54	1372	15	10	6
60	1524	15	11	6
72	1829	19	13	7
84	2134	21	15	8
96	2438	25	17	9
120	3048	31	21	11
144	3658	37	25	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

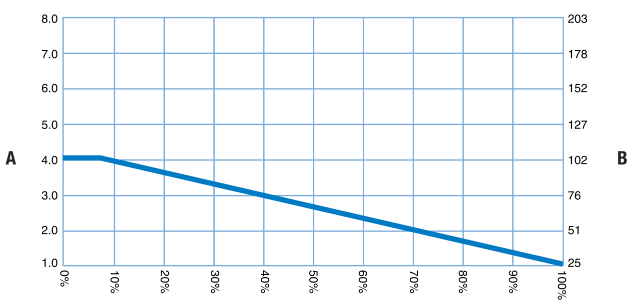


Speed/Length Ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



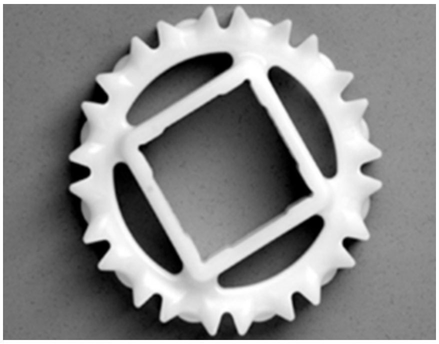
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] Belts are available in 1.0 in (25.4 mm) increments beginning with 4 in (101.6 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only.

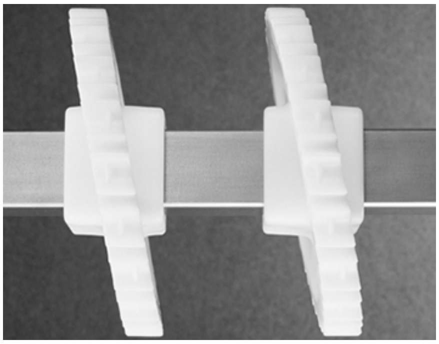
EZ Clean™ Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in[2]	U.S. Square in	Metric Round mm[2]	Metric Square mm
6 (13.40%)	2.0	51	1.8	46	1.0	25	1.0		25	
10 (4.89%)	3.2	81	3.2	81	1.0	25	1.0	1.5	25	40
12 (3.41%)	3.9	99	3.8	97	1.0	25		1.5		40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40



Angled EZ Clean™ Sprocket[3]

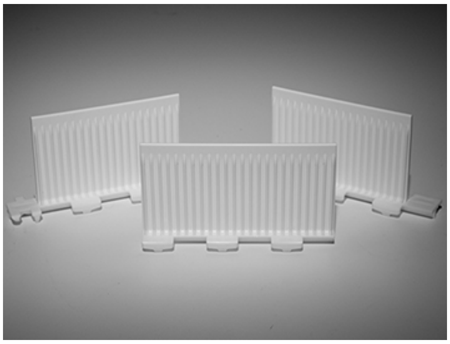
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
12 (3.41%)	3.9	99	3.8	97	2.0	50.8		1.5		40
16 (1.92%)	5.2	132	5.1	130	2.0	50.8		1.5		40
20 (1.23%)	6.4	163	6.4	163	2.0	50.8		1.5		40



Minimum Hinge Flat Top Base Flights (Double No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
3.0	76.2	Acetal

- The No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to a minimum height of 0.5 in (12.7 mm).
- Flights of even-inch widths come standard with 1 in (25.4 mm) indents. Flights of odd-inch widths are available for retrofits and require machined indents, which have contain marks and evidence of modification.



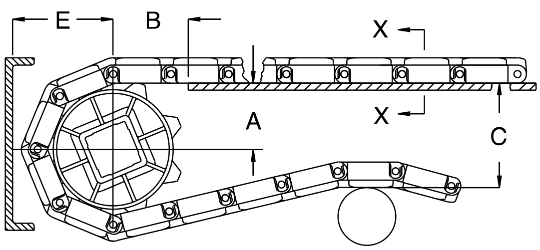
[1] Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 500 lb/ft (744 kg/m) is de-rated to 500 lb/ft (744 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Contact Intralox Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

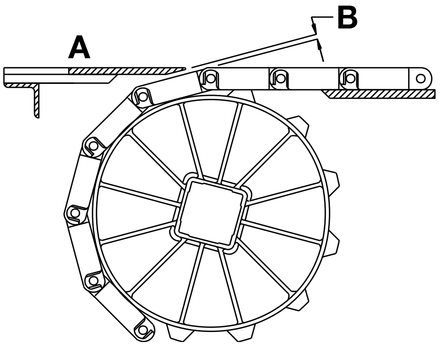
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1650 Seamfree Minimum Hinge Flat Top										
2.0	51	6	0.67-0.80	17-20	1.10	28	2.00	51	1.26	32
3.2	81	10	1.34-1.42	34-36	1.56	40	3.24	82	1.88	48
3.9	99	12	1.67-1.73	42-44	1.70	43	3.86	98	2.19	56
5.2	132	16	2.31-2.36	59-60	1.99	51	5.13	130	2.83	72
6.4	163	20	2.96-3.00	75-76	2.25	57	6.40	163	3.46	88

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

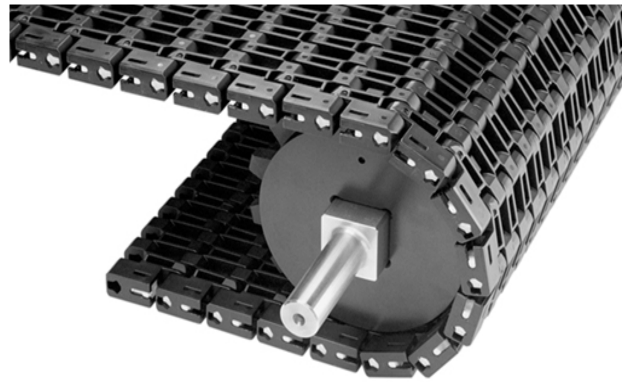


A Top surface of dead plate
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
3.2	81	10	0.079	2.0
3.9	99	12	0.066	1.7
6.4	163	20	0.039	1.0

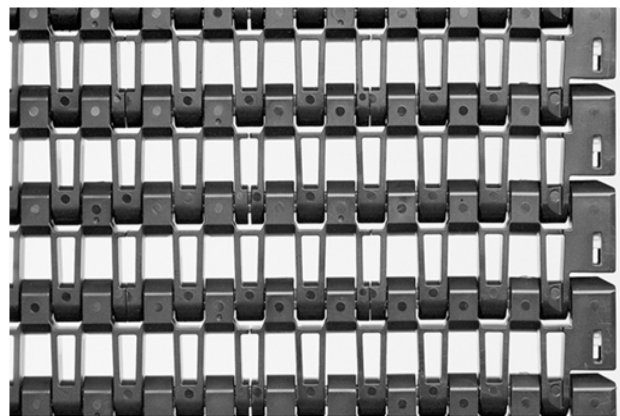
Flush Grid

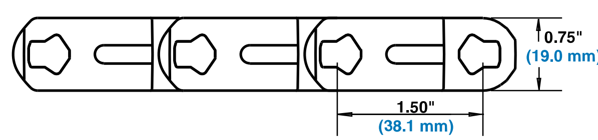
	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.62 × 0.50	15.7 × 12.7
	0.70 × 0.26	17.8 × 6.6
Open Area	37%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Abrasion resistant nylon used in modules and rods.
- Slidelox are highly visible, orange acetal.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- Ultra abrasion resistant polyurethane sprockets with large lug teeth.





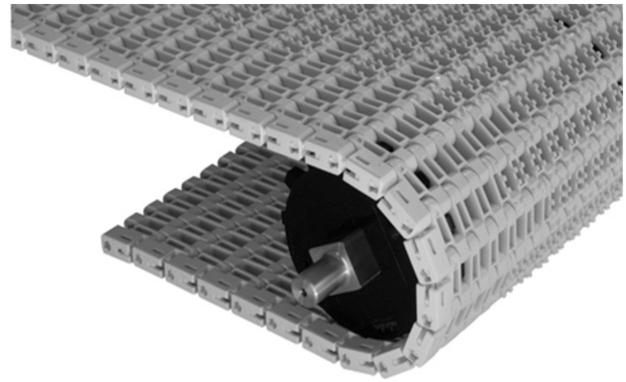
Belt Data

Belt material	Standard rod material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt strength		Temperature range (continuous)[1]		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
AR nylon	Nylon	1800	2678	-50 to 240	-46 to 116	2.21	10.78
Detectable nylon	Nylon	1500	2232	-50 to 180	-46 to 82	2.28	11.13
Low Wear Plus	Nylon	500	744	0 to 120	-18 to 49	2.56	12.50

[1] Sprocket temperatures must be limited to -40°F to 160°F (-40 °C to 70°C). Belt used in temperature range of 212°F to 240°F (100°C to 116°C) are not FDA-compliant.

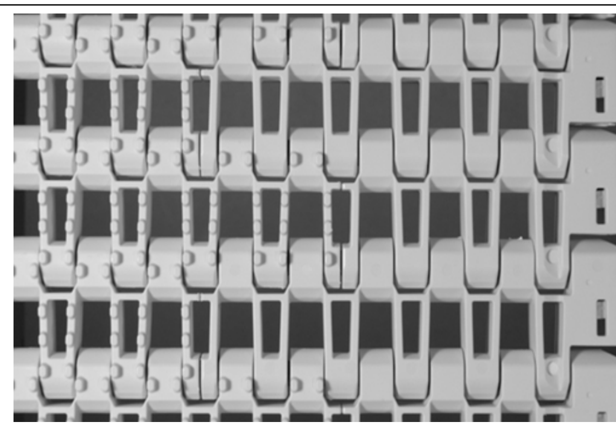
Flush Grid Nub Top

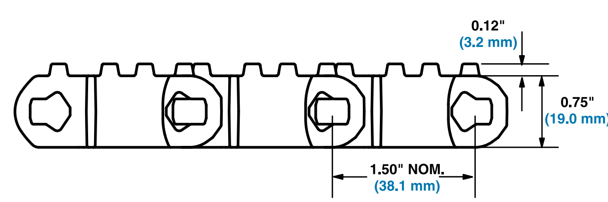
	in	mm
Pitch	1.50	38.1
Minimum Width	16	406.4
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.70 × 0.26	18 × 7
Open Area	37%	
Product Contact Area	8%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Abrasion resistant nylon used in modules and rods.
- Slidelox are highly visible, orange acetal.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Abrasion resistant system lasts 2.5 to 3 times longer than conventional modular plastic belts.
- Multi-rod hinge design significantly reduces cam shaft requirements. Every row contains two rectangular rods.
- Ultra abrasion-resistant, polyurethane split sprockets with large lug teeth.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- Minimum nominal alternating edge indents: 4 in (102 mm) and 6 in (152 mm).





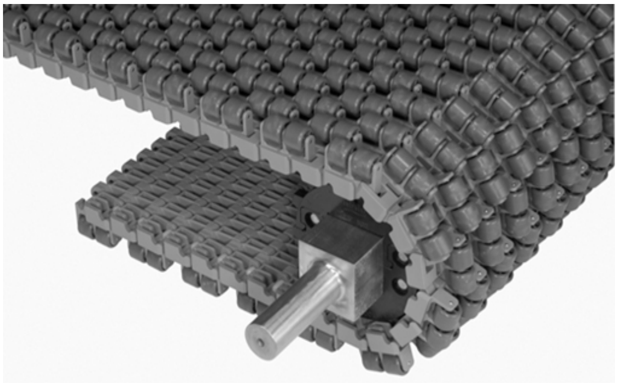
Belt Data

Belt material	Standard rod material 0.25 × 0.17 in (6.4 × 4.3 mm)	Belt strength		Temperature range (continuous)[1]		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
AR nylon	Nylon	1800	2678	-50 to 240	-46 to 116	2.21	10.78
Easy Release Traceable PP	Nylon	1500	2230	34 to 220	1 to 104	1.84	8.98
Low Wear Plus	Low Wear Plus	500	744	0 to 120	-18 to 49	2.58	12.60

[1] Sprocket temperatures must be limited to -40°F to 160°F (-40°C to 70°C). Belt used in temperature range of -212°F to 240°F (100°C to 116°C) are not FDA-compliant.

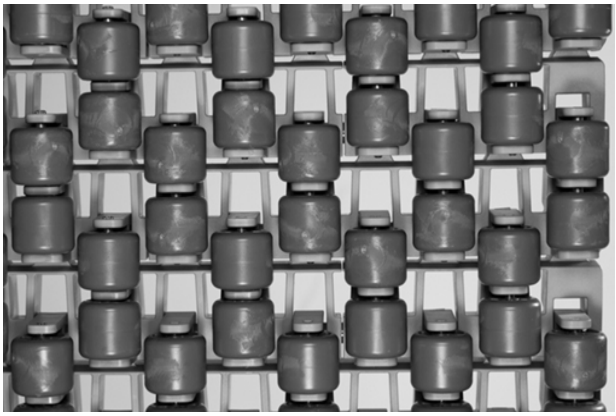
Transverse Roller Top™ (TRT™)

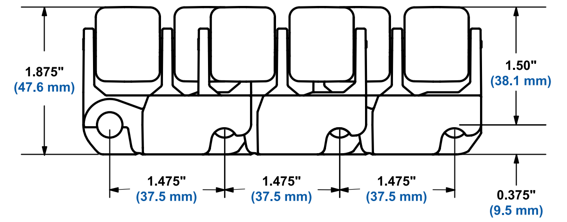
	in	mm
Pitch	1.475	37.5
Minimum Width	12	304.8
Width Increments	2.00[1]	50.8
Min Opening Size (approx.)	0.62 x 0.50	16 x 13
Max. Opening Size (approx.)	0.70 x 0.26	18 x 7
Open Area	26%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Must be assembled in two-row increments.
- Roller axles are stainless steel for durability and long-lasting performance.
- Ultra abrasion resistant, polyurethane split sprockets with large lug teeth.
- Split sprockets are available.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (21 mm).
- Roller spacing: 1.0 in (25.4 mm).
- Minimum return roller diameter: 6.0 in (152.4 mm).





Belt Data							
Belt material	Standard rod material Ø 0.312 in (7.9 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	4.70	22.96

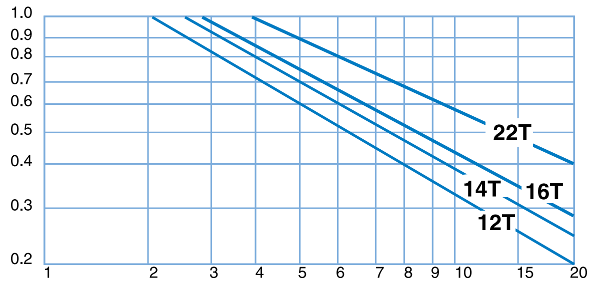
[1] Available in width increments of 2 in (50.8 mm) except 14 in (356 mm) wide belt not available.

Sprocket and Support Quantity Reference Flush Grid and Flush Grid Nub Top				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	Place wearstrips in a chevron pattern or use a flat continuous carryway. Do not use straight, parallel wearstrips.	Place wearstrips in a chevron pattern or use a flat continuous returnway. Do not use straight, parallel wearstrips.
6	152	2		
7	178	3		
8	203	3		
9	229	3		
10	254	3		
12	305	3		
14	356	3		
15	381	3		
16	406	5		
18	457	5		
20	508	5		
24	610	5		
30	762	7		
32	813	9		
36	914	11		
42	1067	13		
48	1219	15		
54	1372	17		
60	1524	19		
72	1829	23		
84	2134	27		
96	2438	31		
120	3048	39		
144	3658	47		
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[3, 4]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

[1] Belts are available in 1.00 in (25.4 mm) increments, beginning at 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.
[4] For drive shaft, use an odd number of sprockets at maximum of 3.00 in (76.2 mm) centerline spacing.

Sprocket and Support Quantity Reference Transverse Roller Top				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	3	2	2
8	203	3	2	2
9	229	3	3	2
10	254	3	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	9	5	4
42	1067	9	6	5
48	1219	11	7	5
54	1372	11	7	6
60	1524	13	8	6
72	1829	15	9	7
84	2134	17	11	8
96	2438	21	12	9
120	3048	25	15	11
144	3658	29	17	13
For other widths, use an odd number of sprockets at maximum 4 in (102 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

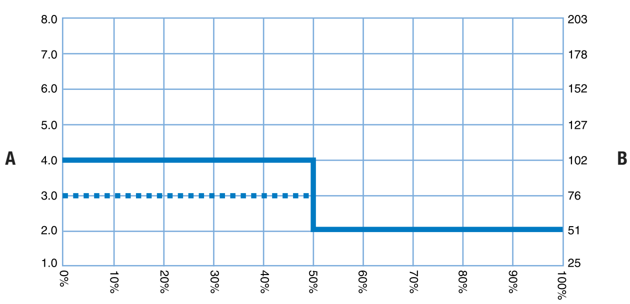


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft$_L$ centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



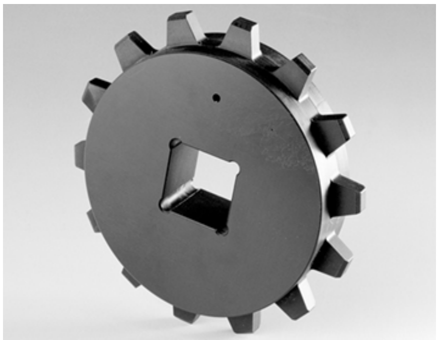
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Solid line: Flush Grid and Flush Grid Nub Top
Dashed line: Transverse Roller Top

[1] Belts are available in 1.00 in (25.4 mm) increments beginning with 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

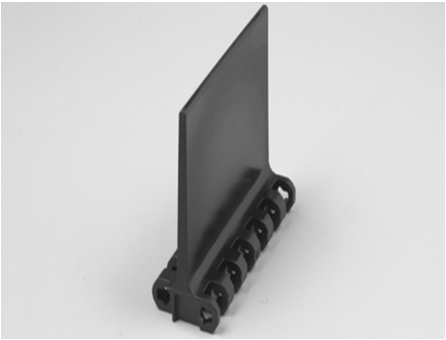
Ultra Abrasion Resistant Polyurethane Sprockets[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
12 (3.41%)	5.8	147	5.85	149	1.5	38		1.5		40
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5		40
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5 2.5		40 60
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5		



Ultra Abrasion Resistant Polyurethane Split Sprockets										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
14 (2.51%)	6.7	170	6.80	173	1.5	38		1.5 2.5		40 60
16 (1.92%)	7.7	196	7.74	197	1.5	38		1.5 2.5		40 60
22 (1.02%)	10.5	267	10.59	269	1.5	38		2.5 3.5		60

Streamline Flights		
Available Flight Height		Available Materials
in	mm	
4.0	102	Nylon (AR), detectable nylon
6.0	152	

- Flights are smooth (streamlined) on both sides.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent: 2.0 in (51 mm).



SECTION 2
1700

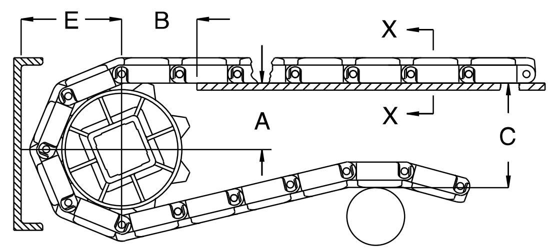
[1] Contact Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

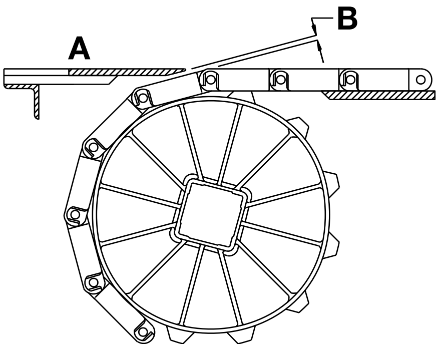
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1700 Flush Grid										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.67	144	3.27	83
6.7	170	14	2.85-2.93	72-74	2.63	67	6.61	168	3.74	95
7.7	196	16	3.33-3.40	85-86	2.81	71	7.56	192	4.22	107
10.5	267	22	4.78-4.83	121-123	3.30	84	10.41	264	5.64	143
Series 1700 Flush Grid Nub Top										
5.8	147	12	2.36-2.46	60-62	2.42	61	5.79	147	3.39	86
6.7	170	14	2.85-2.93	72-74	2.63	67	6.73	171	3.86	98
7.7	196	16	3.33-3.40	85-86	2.81	71	7.68	195	4.34	110
10.5	267	22	4.78-4.83	121-123	3.30	84	10.53	267	5.76	146
Series 1700 Transverse Roller Top										
5.8	147	12	2.42-2.52	61-64	2.36	60	6.92	176	4.46	113
6.7	170	14	2.91-3.00	74-76	2.56	65	7.87	200	4.93	125
7.7	196	16	3.40-3.47	86-88	2.73	69	8.81	224	5.41	137
10.5	267	22	4.84-4.90	123-124	3.20	81	11.67	296	6.83	173

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

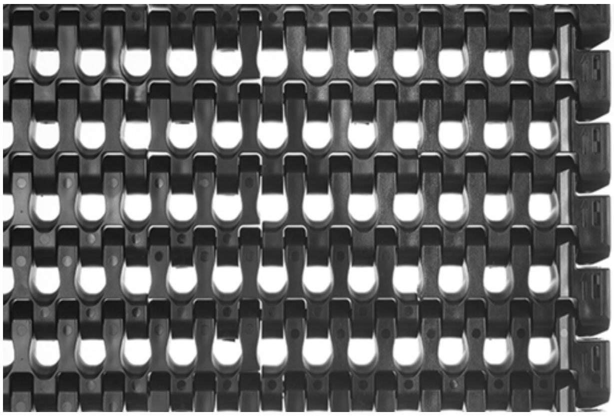
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.8	147	12	0.099	2.5
6.7	170	14	0.085	2.2
7.7	196	16	0.074	1.9
10.5	267	22	0.054	1.4

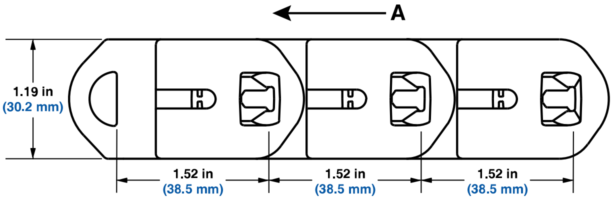
Flush Grid

	in	mm
Pitch	1.52	38.6
Minimum Width	12	304.8
Maximum Width	120	3048
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.66 x 0.53	16.7 x 13.5
Open Area	21%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Highly visible Slidelox rod retention feature.
- Provides excellent belt and sprocket durability, especially in tough-material handling applications.
- Large belt openings allow high-volume water flow and drainage.
- Semi-circle rod design significantly reduces rod wear and pitch elongation, and delivers predictable performance for maintenance planning in tough applications.
- Ultra abrasion-resistant polyurethane sprockets. Sprockets have large lug teeth that provide reliable engagement, extend sprocket life, and clear debris from the drive pockets.
- Conveyor requirements: Intralox recommends steel carryways with either a chevron pattern or a flat continuous carryway. Do not use straight, parallel wearstrips. Do not use on pusher conveyors.
- For specific design guidelines, contact Intralox Customer Service.





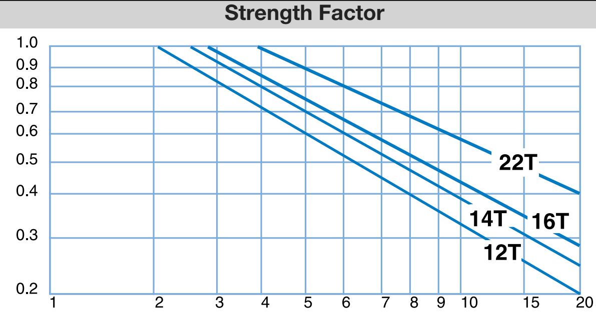
A - Preferred run direction

Belt Data							
Belt material	Standard rod material 0.25 x 0.17 in (6.4 x 4.3 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Low Wear Plus	Stainless steel	1200	1790	0 to 120	-18 to 49	7.10	34.66
Low Moisture Abrasion Resistant	Stainless steel	1800	2680	0 to 212	-18 to 100	6.73	32.86

Sprocket and Support Quantity Reference Flush Grid

Belt Width Range[1] in	Belt Width Range[1] mm	Minimum Number of Sprockets Per Shaft[2]	Wearstrips: Carryway	Wearstrips: Returnway
12-14	305-356	5	For specific carryway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.	For specific returnway guidelines, contact Intralox Customer Service, or see the S1750 Design Guidelines.
15-18	381-457	7		
20	508	9		
24	610	11		
30	762	13		
32	813	15		
36	914	17		
42	1067	19		
48	1219	23		
54	1372	25		
60	1524	29		
72	1829	35		
84	2134	41		
96	2438	47		
108	2743	53		
120	3038	59		
For other widths, use an odd number of sprockets at maximum 2 in (51 mm) centerline spacing.[3, 4]				

Strength Factor

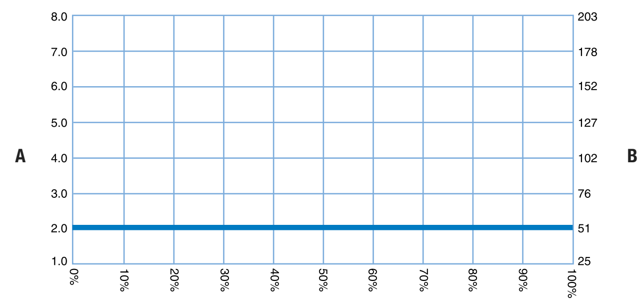


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft$_L$ centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



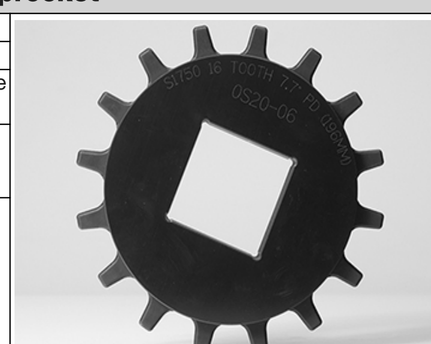
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Solid line: Flush Grid
Dashed line: Transverse Roller Top

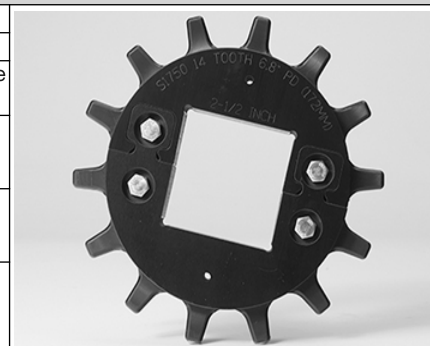
Ultra Abrasion Resistant Polyurethane Sprocket[5]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
16 (1.92%)	7.8	198	7.9	201	1.5	38		2.5		60
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5 3.5		60



[1] Belts are available in 1.00 in (25.4 mm) increments beginning with 12 in (305 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only.
[4] For drive shaft, use an odd number of sprockets at maximum of 2.00 in (50.8 mm) centerline spacing.
[5] **Contact Customer Service for lead times.**

Ultra Abrasion Resistant Split Sprocket Data[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
14 (2.51%)	6.8	173	6.9	175	1.5	38		1.5 2.5		40 60
16 (1.92%)	7.8	198	7.9	201	1.5	38		1.5 2.5		40 60
22 (1.02%)	10.6	269	10.9	277	1.5	38		2.5 3.5		60



3-Piece Streamline Flights

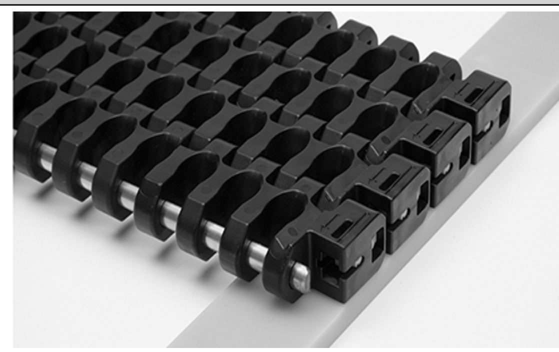
Available Flight Height in	Available Flight Height mm	Available Materials
3.0	76	Low Wear Plus, Low Moisture Abrasion Resistant
4.0	102	

- Flight consists of 3 pieces: the base module, the attachment, and the rod.
- Flight is smooth (streamlined) on both sides.
- Available with zero indent. The first available indent is 1.625 in (41 mm). Contact Intralox Customer Service for more information.
- Flights can be cut as short as 1.5 in (38 mm) if necessary for a particular application. If a shorter flight is needed, the flight base module without a flight attachment functions as a 0.75 in (19 mm) raised link. Contact Intralox Customer Service for more information.

Urethane Wearstrip

Dimensions in	Dimensions mm	Available Colors
0.50 x 2 x 216	13 x 51 x 5486	Blue

- Intended for dry, aqueous, and solid fatty food applications. Do not use for liquid-oil applications.
- Contact Intralox Customer Service for friction and belt strength analysis.
- Temperature range is 32°F (0°C) to 120°F (49°C).



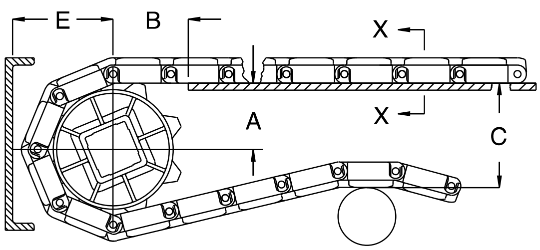
[1] Contact Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

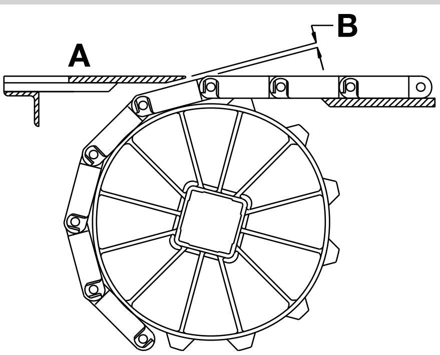
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1750 Flush Grid										
6.8	173	14	2.72-2.81	69-71	2.83	72	6.81	173	4.06	103
7.8	198	16	3.21-3.29	82-84	3.04	77	7.77	197	4.54	115
10.6	269	22	4.67-4.73	119-120	3.68	93	10.65	271	5.98	152

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



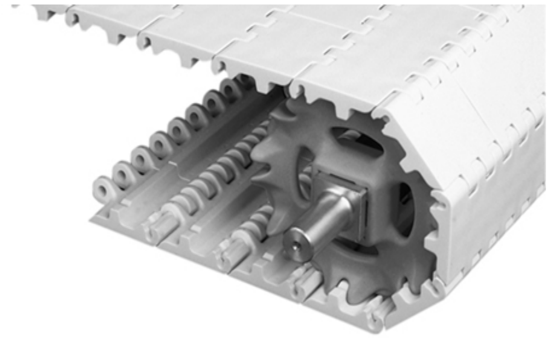
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.8	173	14	0.085	2.2
7.8	198	16	0.075	1.9
10.6	269	22	0.054	1.4

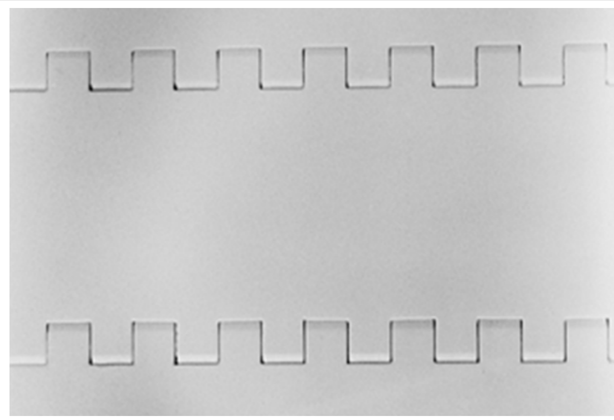
Flat Top

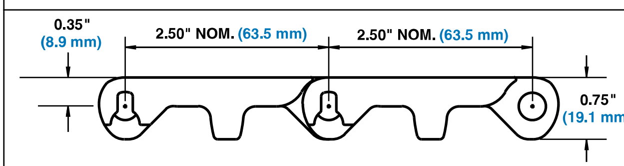
	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Impact resistant belt designed for abusive applications.
- Cam-link hinges provide easy cleaning with greater hinge and rod exposure as the belt moves around the sprockets.
- Like Series 800 and Series 1600, the drive bar on the underside of this belt channels water and debris to the outside of the belt for easier, faster cleanup. Drive bar effectiveness is proven both in-house and in field tests.
- Easy retrofit from Series 800 without extensive conveyor frame changes for most meat industry applications since the A, B, C, and E dimensions are within 0.25 in (6 mm) of Series 800.





Belt Data

Belt material	Standard rod material Ø 0.312 in (7.9 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	1200	1786	34 to 220	1 to 104	2.06	10.06
Acetal	Polyethylene	1200	1786	-50 to 150	-46 to 66	3.36	16.40
Acetal	Polypropylene	1500	2232	34 to 200	1 to 93	3.36	16.40
X-Ray Detectable Acetal[1]	Polyethylene	1000	1490	-50 to 150	-46 to 66	3.77	18.41
PK	PK	1200	1786	-40 to 200	-40 to 93	3.36	16.41

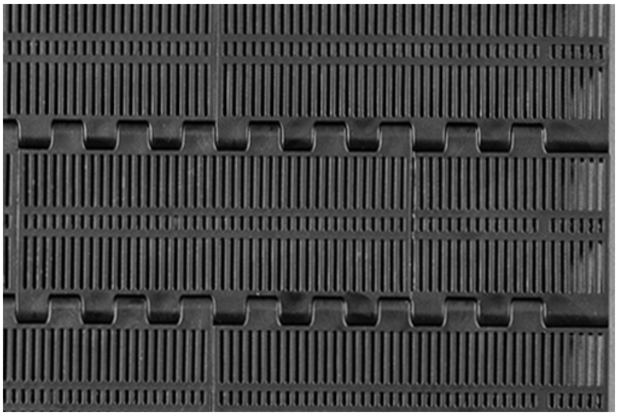
[1] Designed specifically for detection by X-ray machines.

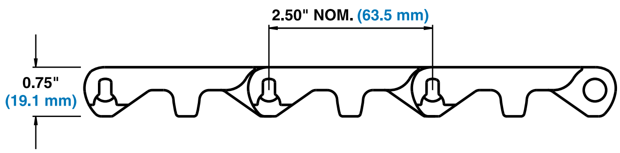
Mesh Top

	in	mm
Pitch	2.50	63.5
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.07 × 0.75	1.7 × 19.1
Open Area	32%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges with recessed rods prevent edge damage and rod migration.
- Flights and other accessories are available.

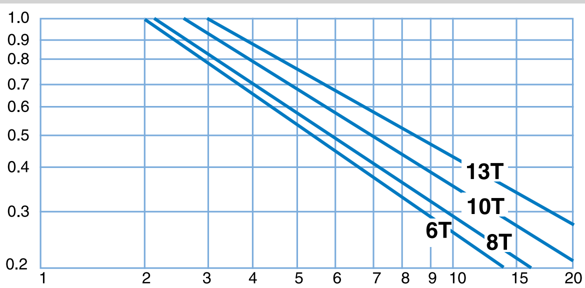




Belt Data							
Belt material	Standard rod material Ø 0.312 in (7.9 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Polypropylene	800	1190	34 to 220	1 to 104	1.44	7.03
UV Resistant PP	Acetal	1100	1640	34 to 200	1 to 93	1.55	7.56
UV resistant acetal	Acetal	1500	2230	-50 to 200	-46 to 93	2.27	11.08
Polyethylene	Polyethylene	400	595	-50 to 150	-46 to 66	1.50	7.32
Nylon	Nylon	1000	1488	-50 to 240	-46 to 116	1.81	8.84

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
5	127	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
9	229	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	3	4	3
24	610	5	4	3
30	762	5	5	4
32	813	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
For other widths, use odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

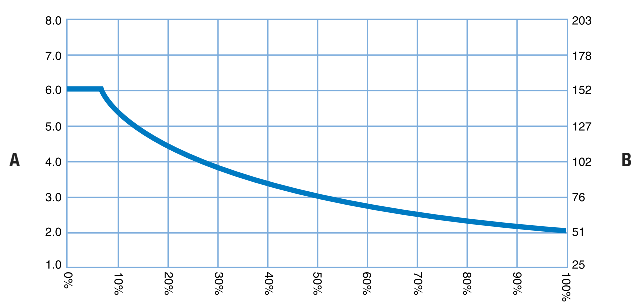


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



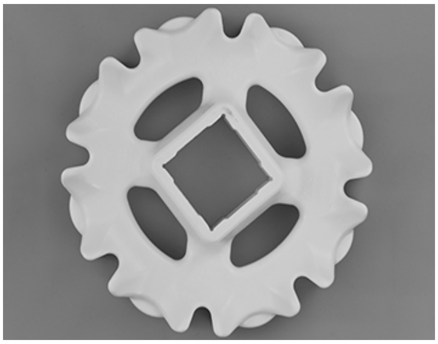
Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with 5.0 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

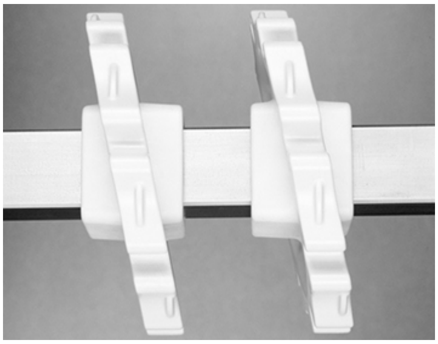
EZ Clean™ Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
6 (13.40%)	5.0	127	4.6	117	1.5	38		1.5		40
8 (7.61%)	6.5	165	6.2	157	1.5	38		1.5		40
10 (4.89%)	8.1	206	7.8	198	1.5	38		1.5		40
13 (2.91%)	10.5	267	10.3	262	1.5	38		1.5		40
								2.5		60



Angled EZ Clean™ Sprocket[2]

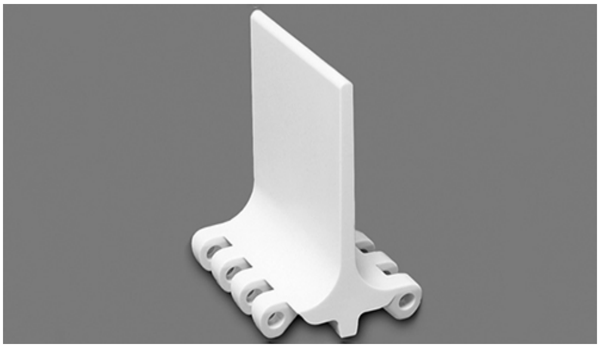
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
8 (7.61%)	6.5	165	6.2	157	2.0	50.8		1.5		40



Impact Resistant Flights

Available Flight Height in	Available Flight Height mm	Available Materials
4.0	102	Polypropylene, polyethylene, acetal, X-Ray Detectable Acetal

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).



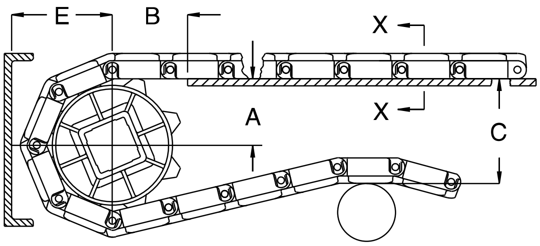
[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

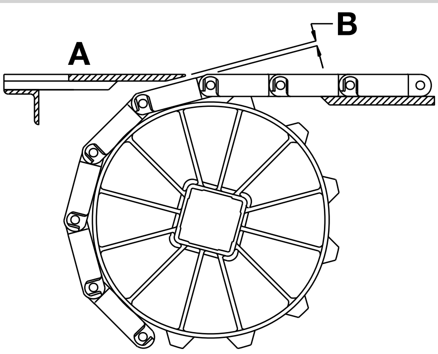
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1800 Flat Top, Mesh Top										
5.0	127	6	1.77-2.10	45-53	1.87	47	4.95	126	2.91	74
6.5	165	8	2.62-2.87	66-73	2.23	57	6.48	165	3.68	93
8.1	206	10	3.45-3.65	88-93	2.59	66	8.04	204	4.46	113
10.5	267	13	4.67-4.82	119-123	3.02	77	10.40	264	5.64	143

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

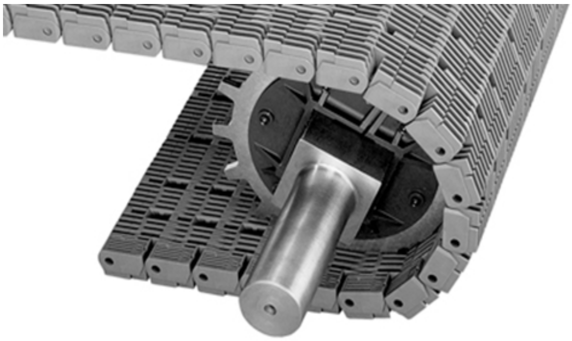


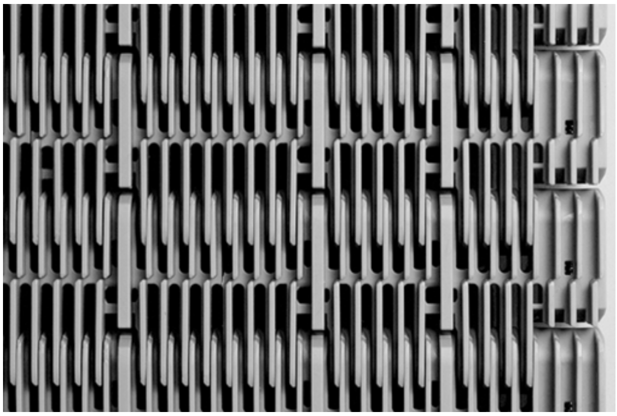
A Top surface of dead plate
B Dead plate gap

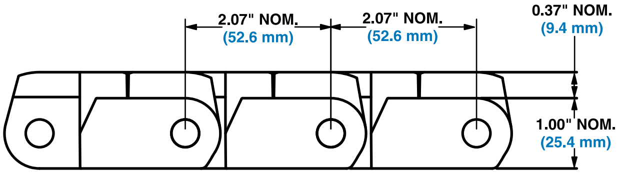
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.0	127	6	0.150	3.8
6.5	165	8	0.108	2.8
8.1	206	10	0.091	2.3
10.5	267	13	0.074	1.9

Raised Rib

	in	mm
Pitch	2.07	52.6
Minimum Width	15	381
Width Increments	1.00	25.4
Opening Sizes (approx.)	-	-
Open Area	27%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Shuttleplug; unheaded	







Product Notes

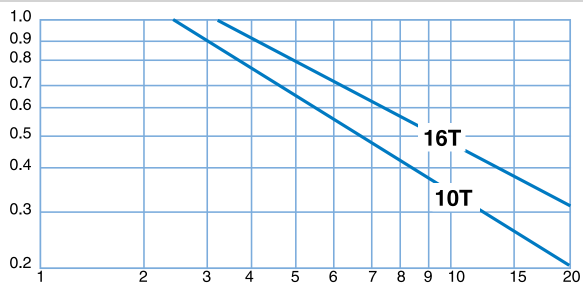
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Engineered resin module material provides increased resistance to chemicals and temperature changes.
- Tall belt ribs and strong fingers enable robust transfers.
- Increased module thickness and rod diameter provide superior belt strength and increased belt life.
- Minimal back tension required.
- Split sprockets available for easy installation.

Belt Data

Belt material	Standard rod material 0.38 (9.7 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Enduralox polypropylene	Polypropylene	4000	5952	34 to 220	1 to 104	3.90	19.04

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
15	381	3	3	3
18	457	3	3	3
24	610	5	4	3
30	762	5	5	4
36	914	7	5	4
42	1067	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[3]			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

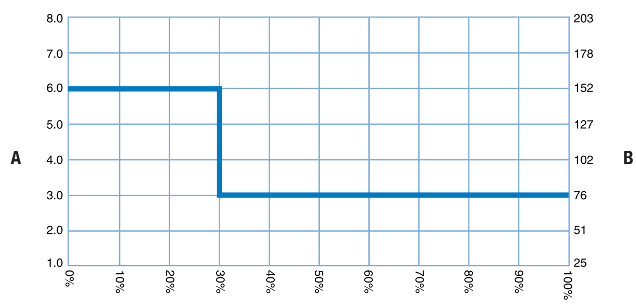


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

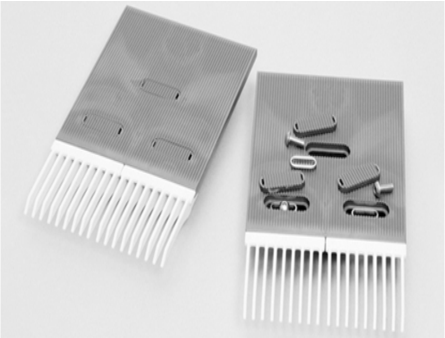
A Sprocket spacing, in
B Sprocket spacing, mm

Split Metal Sprocket										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
10 (4.89%)	6.7	170	7.0	177	1.7	43		2.5		60
15 (2.19%)	10.0	254	10.3	262	1.7	43		3.5		
16 (1.92%)	10.6	269	11.0	279	1.7	43	3.5	3.5		90

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. See Locked Sprocket Location chart in the Installation Instruction Guidelines or contact Intralox Customer Service for lockdown location.

Two-Material Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
6.0	152	18	Glass-filled thermoplastic fingers, acetal backplate

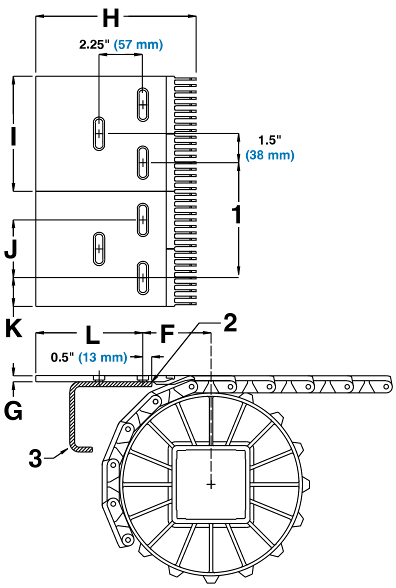


- Provides high-strength fingers combined with a low-friction backplate.
- Low-friction backplate is permanently attached to the two high-strength finger inserts.
- Eliminates product transfer and tipping problems. The 18 fingers extend between the belt ribs, allowing smooth, continuous product flow as the belt engages the sprockets.
- Easily installed on the conveyor frame with supplied shoulder bolts. Caps snap easily into place over the bolts, keeping foreign materials out of the slots.
- The extended backplate has three attachment slots. Mounting hardware is sold separately and includes stainless steel oval washers and bolts. Plastic bolt covers are also included.

Dimensional Requirements for Finger Transfer Plate Installation

	Two-Material	
	in	mm
F	3.50	89
G	0.31	8
H	9.56	243
I	5.91	150
J	3.00	76
K	1.45	37
L	5.50	140
Spacing at ambient temperature	**Enduralox PP**	
	5.98	151.9

Two-material glass handling finger transfer plate shown



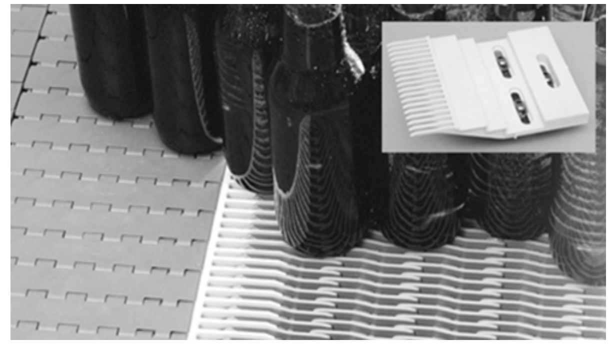
1 Spacing
2 0.5 in (13 mm) Radius (leading edge of frame member)
3 Frame member

SECTION 2 1900

Self-Clearing Finger Transfer Plates[1]

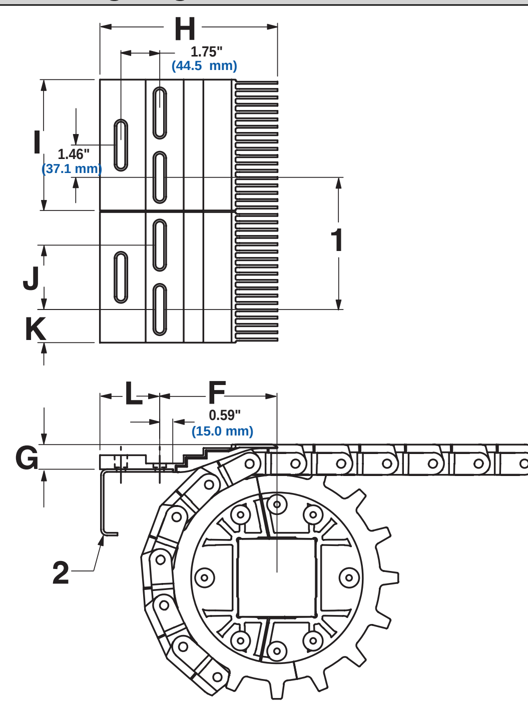
Available Width		No. of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic

- Consists of a finger transfer plate and a transfer edge belt that are designed to work together.
- Molded with robust tracking tabs for belt support in heavy side-loading conditions.
- Flat, smooth top surface provides excellent lateral movement of containers.
- Fully flush edges, headed rod retention system, and nylon rods for superior wear resistance.
- Eliminates the need for a sweeper bar, a pusher arm, or wide transfer plates. Transfers are smooth and 100% self-clearing, making right angle transfers possible for all container types.
- Ideal for warmer/cooler applications with frequent product changeovers.
- Bi-directional system allows same transfer belt use for both left-hand and right-hand transfers.
- Compatible with any series and style of Intralox belt on the discharge and infeed conveyors.
- Capable of transferring product to and from Intralox Series 400, Series 1200, and Series 1900 Raised Rib belts.
- Robust design for durability in tough, glass applications.
- Easily installed and secured to mounting plates of any thickness with stainless steel bolts and oval washers that allow movement with belt expansion and contraction.
- Stainless steel hardware is sold separately.



Dimensional Requirements for Self-Clearing Finger Transfer Plate Installations[2]

	Self-Clearing	
	in	mm
F	5.25	133.4
G	1.15	29.2
H	8.05	204.5
I	5.93	150.6
J	2.92	74.2
K	1.51	38.4
L	2.71	68.8



Spacing at ambient temperature

PP	5.98 in	151.9 mm

1 Spacing
2 Frame Member

[1] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

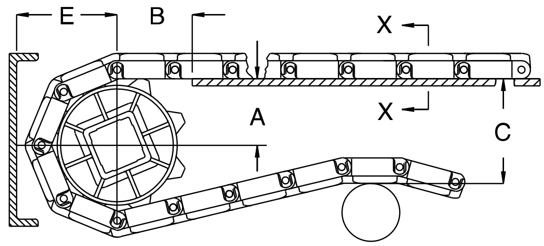
[2] Licensed under Rexnord U.S. Patent Nos. 7,314,130 and 7,448,490

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

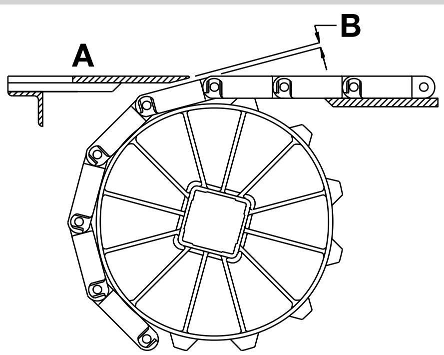
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 1900 Raised Rib										
6.7	170	10	2.69-2.85	68-72	2.82	72	7.08	180	4.29	109
10.0	254	15	4.37-4.48	111-114	3.52	89	10.33	262	5.91	150
10.6	269	16	4.71-4.81	120-122	3.65	93	11	279	6.25	159

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.

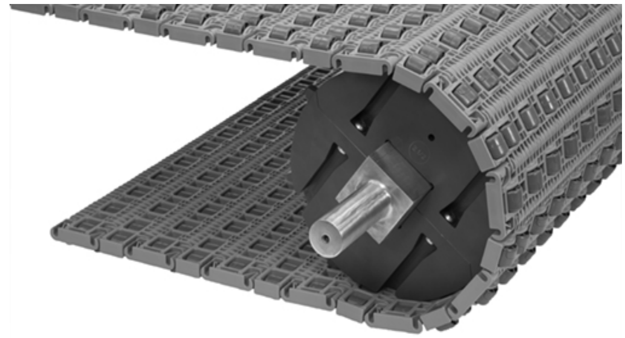


A Top surface of dead plate
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.7	170	10	0.164	4.2
10.0	254	15	0.109	2.8
10.6	269	16	0.102	2.6

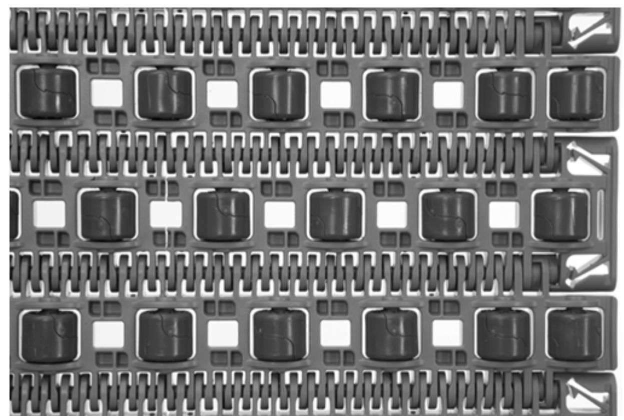
Transverse Roller Top™ (TRT™)

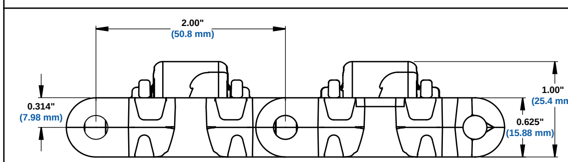
	in	mm
Pitch	2.00	50.8
Minimum Width	8	203
Width Increments	2.00	50.8
Opening Sizes (approx.)	0.43 x 0.53	10.9 x 13.5
Open Area	17.8%	
Hinge Style	Open	
Drive Method	Center	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers with plastic axles.
- Designed for 90-degree transfers.
- Sprockets have large lug teeth.
- S4400 alternating tooth, glass-filled split sprockets are recommended.
- Robust design offers excellent belt and sprocket durability, especially in tough, material-handling applications.
- Contact Intralox Customer Service for detailed conveyor design guidelines.
- Adjust belt length in 4 in (10.16 cm), two-row increments.
- Roller diameter: 0.95 in (24.1 mm).
- Roller length: 0.825 in (20.9 mm).
- Standard roller indent: 0.26 in (6.6 mm).
- Roller spacing: 2 in (50.8 mm), alternating.



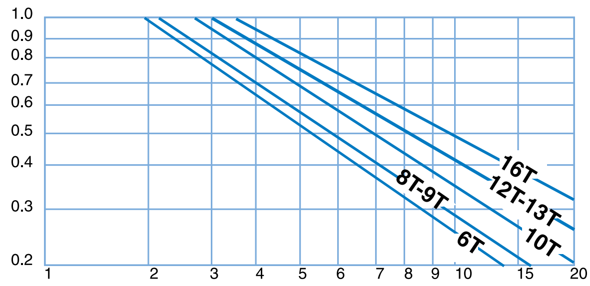


Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2200	3270	34 to 200	1 to 93	2.25	10.985

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
10-14	254-356	2	3	2
16-18	406-457	3	3	3
20-24	508-610	3	4	3
26	660	4	4	3
28-32	711-813	4	5	3
34-36	864-914	5	5	4
38-42	965-1067	5	6	4
44	1118	6	6	5
46-50	1168-1270	6	7	5
52-54	1321-1372	7	7	5
56-60	1422-1524	7	8	6
62	1575	8	8	6
64-68	1626-1727	8	9	6
70-72	1778-1829	9	9	6
74-78	1879-1981	9	10	7
80	2032	10	10	7
Maximum 9 in (229 mm) centerline spacing, minimum indent from flush edge			Maximum 9 in (229 mm) centerline spacing	Maximum returnway spacing 12 in (304.8 mm)

Strength Factor

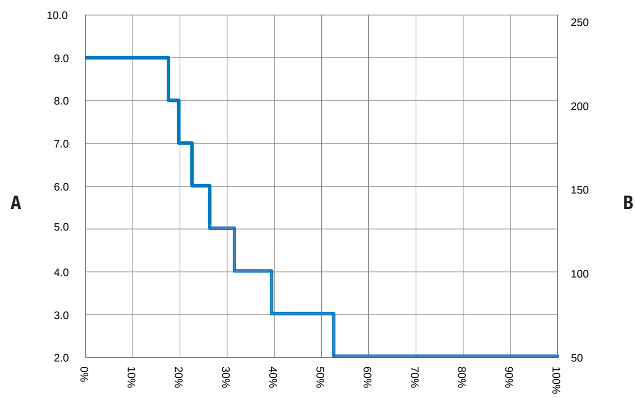


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

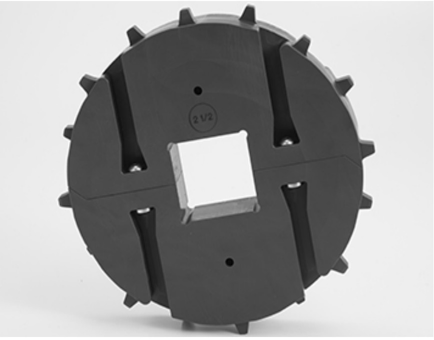
Solid line: Square bore sprockets
Dashed line: Round bore sprockets

Glass Filled Nylon Alternating Tooth Split Sprockets[3]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.7	170	1.9	48		1.5 2.5		40 60
12 (3.41%)	7.8	198	8.0	198	1.9	48		1.5 2.5		40 60
16 (1.92%)	10.3	262	10.5	267	1.9	48		1.5 2.5		40 60

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 2.00 in (51 mm) increments beginning with minimum width of 10 in (254 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Contact Intralox Customer Service for lead times.

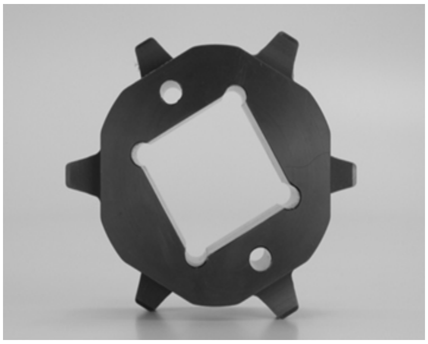
Nylon Alternating Tooth Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
8 (7.61%)	5.3	135	5.5	140	1.9	48		1.5		40
16 (1.92%)	10.3	262	10.5	267	1.9	48		3.5		



Nylon Alternating Tooth Sprocket[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
6 (13.40%)	4.0	102	4.2	107	1.9	48		1.5		40



Glass Filled Nylon Alternating Tooth Sprocket[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.5	165	6.5	165	2.0	51		1.5 2.5		40 60
12 (3.41%)	7.8	198	7.8	198	2	51		1.5 2.5		40 60
16 (1.92%)	10.3	262	10.4	264	2	51		2.5		60

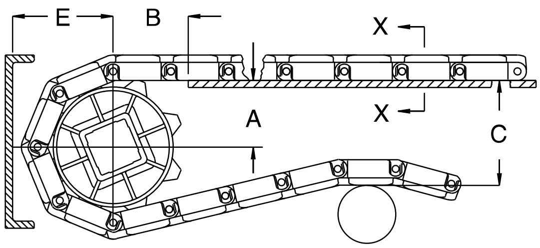
[1] Contact Intralox Customer Service for lead times.
[2] Contact Customer Service for lead times.
[3] Contact Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.

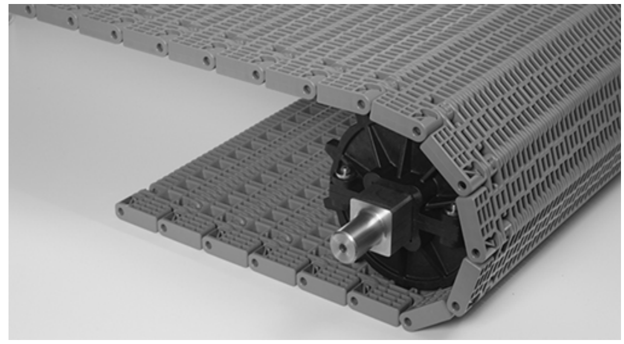


A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
4.0	102	6	1.43-1.70	36-43	1.85	47	4.40	112	2.76	70
5.3	135	8	2.12-2.32	54-59	2.24	57	5.64	143	3.38	86
6.5	165	10	2.79-2.95	71-75	2.39	61	6.90	175	4.01	102
7.8	198	12	3.45-3.58	88-91	2.64	67	8.16	207	4.64	118
10.3	262	16	4.75-4.85	121-123	3.10	79	10.70	272	5.91	150

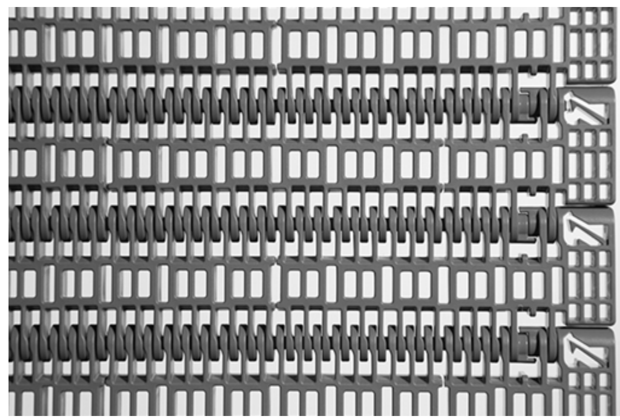
Flush Grid

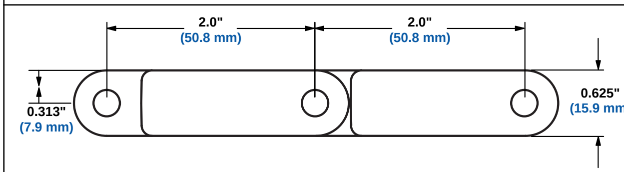
	in	mm
Pitch	2.00	50.8
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.24 x 0.23	6.1 x 5.8
Open Area	35%	
Hinge Style	Open	
Drive Method	Center-driven	
Rod Retention; Rod Type	Barn door; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Opening size prevents 0.25 in (6.35 mm) or larger bolt from falling through the belt surface.
- Smooth upper surface and straightforward design provide free product movement.
- Sprockets have large lug teeth.

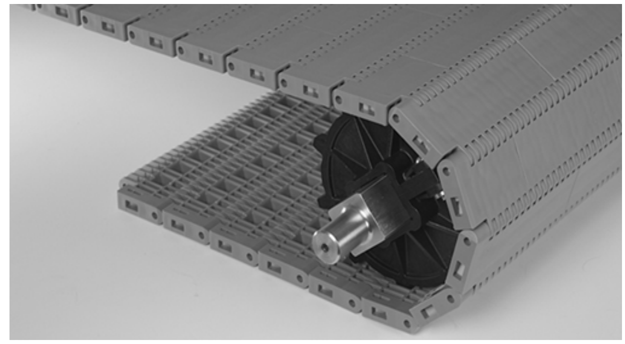




Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2400	3572	34 to 220	1 to 104	1.54	7.52
Polypropylene	Polypropylene	2200	3274	34 to 220	1 to 104	1.54	7.52

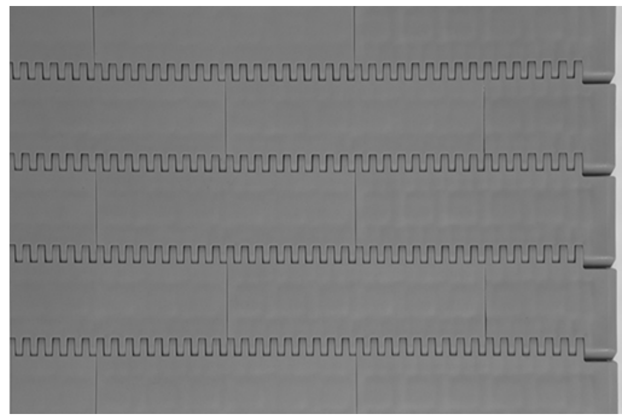
Flat Top

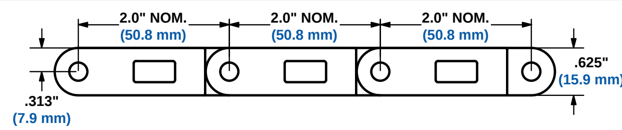
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Sizes (approx.)	—	—
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface.
- Fully flush edges.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are glass-reinforced polypropylene.



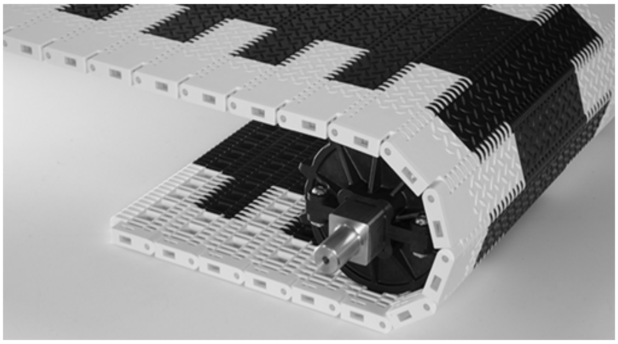


Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.07	14.96
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.08	15.04
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.08	15.04
Polypropylene	Nylon	2900	4316	34 to 220	1 to 104	1.97	9.62
Easy Release Traceable polypropylene	Nylon	2500	3720	34 to 220	1 to 104	2.26	11.03

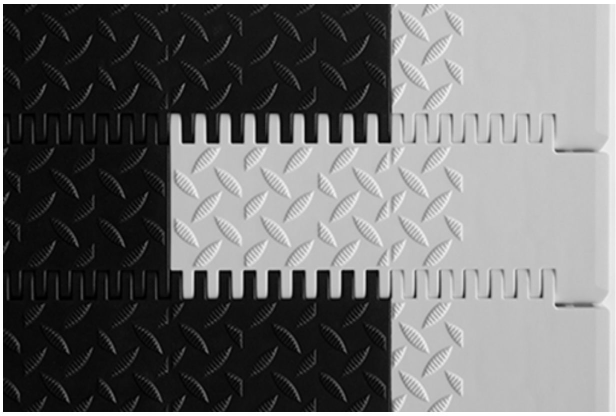
Non Skid

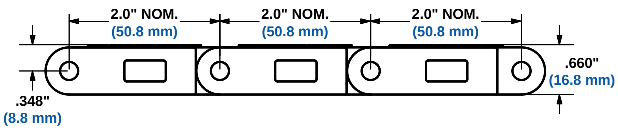
	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Sizes (approx.)	—	—
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Slidelox are glass-reinforced polypropylene.
- Diamond tread pattern provides a non-skid walking surface to increase safety.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.

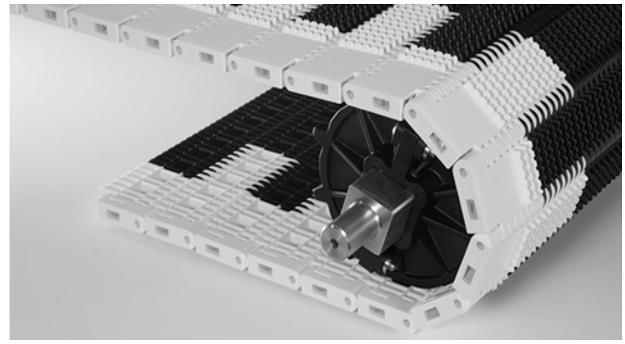


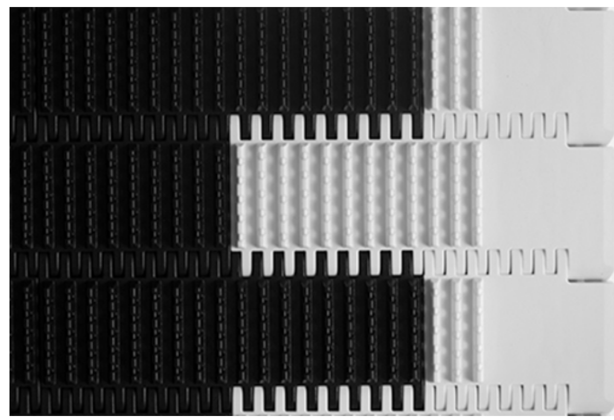


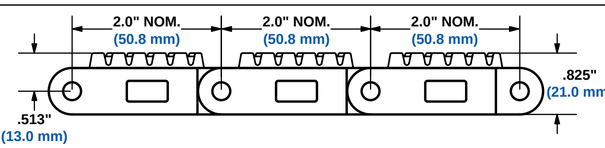
Belt Data							
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.09	15.09
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.10	15.14
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.10	15.14
Polypropylene	Nylon	2900	4316	34 to 220	1 to 104	1.98	9.67
FR Anti-Static	Nylon	2000	2976	-50 to 150	-46 to 66	3.00	14.65

Non Skid Raised Rib

	in	mm
Pitch	2.00	50.8
Minimum Width	5.00	127
Width Increments	1.00	25.4
Opening Sizes (approx.)	—	—
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

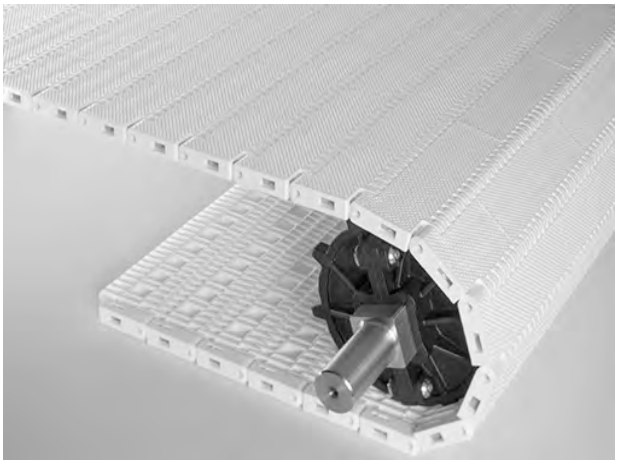
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Edges have Flat Top surface with no tread pattern.
- Slidelox are glass-reinforced polypropylene.
- Non-skid tread pattern increases safety.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Finger transfer plates are available. Finger transfer plates remove debris from the belt surface.
- Flat Top indent: 2.0 in (50 mm) from the belt edge.

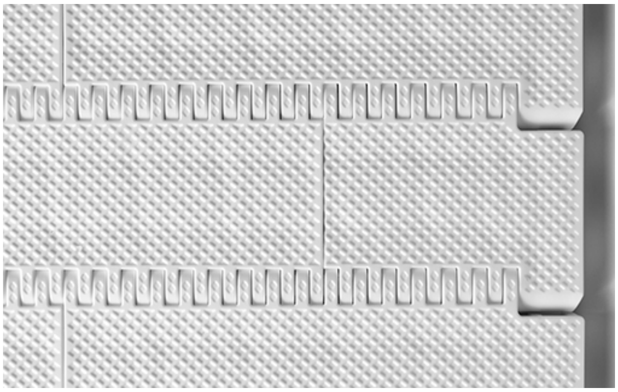
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	4400	6548	-50 to 200	-46 to 93	3.39	16.55
HSEC acetal	Nylon	4100	6101	-50 to 200	-46 to 93	3.39	16.55
AC/EC	Nylon	4400	6548	-50 to 200	-46 to 93	3.39	16.55

Embedded Diamond Top

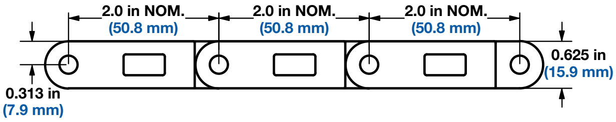
	in	mm
Pitch	2	50.8
Minimum Width	5	127.0
Width Increments	1.00	25.4
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Slidelox®; unheaded	





Product Notes

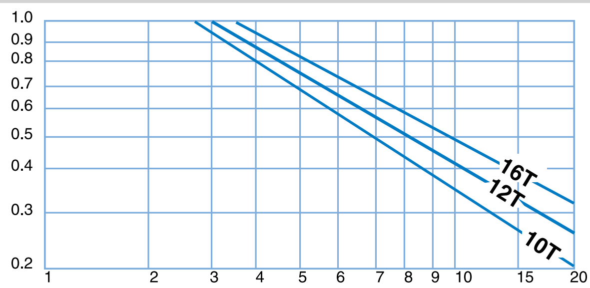
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges.
- Slidelox is glass-reinforced polypropylene.
- The Embedded Diamond Top pattern allows sticky materials to release easily from the belt.



Belt Data							
Belt Material	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength		Temperature Range (continuous)		Belt Weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Polypropylene	Nylon	2900	4320	34 to 200	1 to 93	1.97	9.62

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
2	51	1	2	2
4	102	1	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	3	3	3
16	406	3	3	3
18	457	3	3	3
20	508	5	4	3
24	610	5	4	3
30	762	5	5	4
32	813	7	5	4
36	914	7	5	4
42	1087	7	6	5
48	1219	9	7	5
54	1372	9	7	6
60	1524	11	8	6
72	1829	13	9	7
84	2134	15	11	8
96	2438	17	12	9
120	3048	21	15	11
144	3658	25	17	13
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

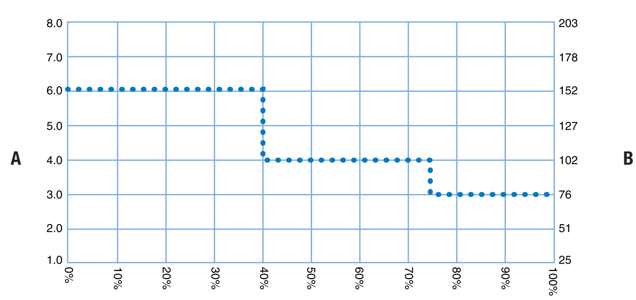


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

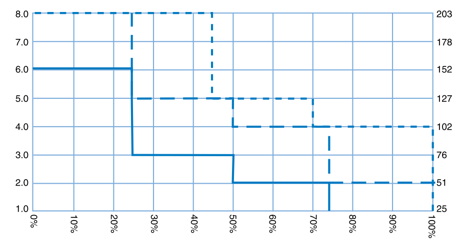
A Sprocket spacing, in
B Sprocket spacing, mm

Dashed line: Flat Top, Non Skid, Non Skid Raised Rib square bore

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

Sprocket Spacing as a Function of Belt Strength Utilized

Sprocket spacing, in



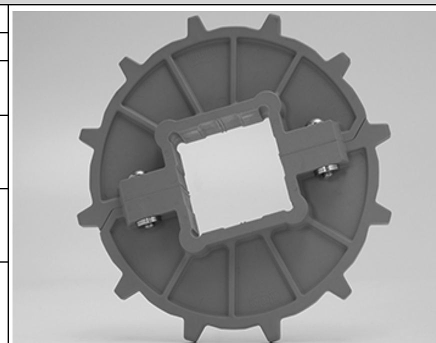
Sprocket spacing, mm

Percentage of allowable belt strength utilized

Solid line: Flush Grid–Round Bore
Long dash line: Flush Grid–Square Bore
Short dash line: Flush Grid–Dual Tooth

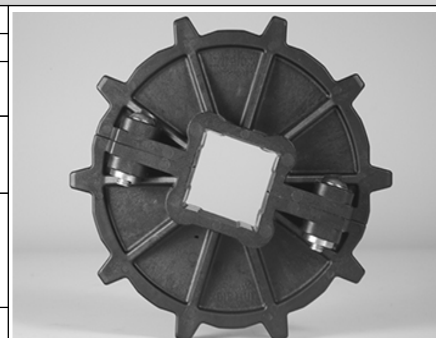
Enduralox Polypropylene Composite Split Sprockets[1, 2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
10 (4.89%)	6.5	165	6.7	170	1.5	38		1.5 2.5		40 60
12 (3.41%)	7.8	198	8	203	1.5	38		1.5 2.5		40 60
16 (1.92%)	10.3	262	10.5	267	1.5	38	2.5[3] 3.5[3]	2.5[3]	60[3] 90[3]	60[3]



Glass Filled Nylon Split Sprockets[4]

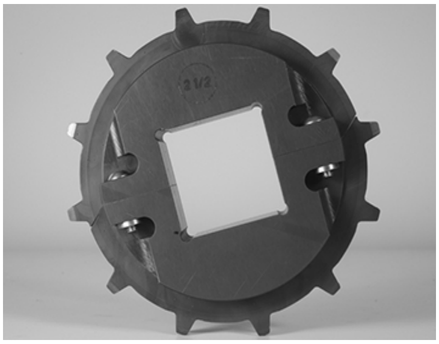
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
10 (4.89%)	6.5	165	6.7	170	1.45	37		1.5[5] 2.5		40[5] 60
12 (3.41%)	7.8	198	8	203	1.45	37		1.5[5] 2.5 3.5		40[5] 60 90
16 (1.92%)	10.3	262	10.5	267	1.45	37		2.5 3.5		60 90



[1] Contact Intralox Customer Service for lead times.
[2] Hardware made from 316 stainless steel
[3] Bores are over-sized
[4] Contact Intralox Customer Service for lead times.
[5] 1.5 in and 40-mm bores have a hub width of 1.95 in (50 mm).

Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
16 (1.92%)	10.3	262	10.5	267	1.9	38		1.5		40

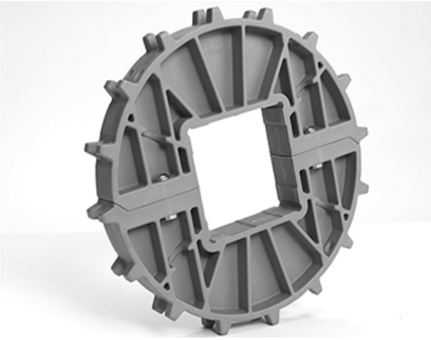


Glass Filled Nylon Sprockets[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
10 (4.89%)	6.5	165	6.5	165	2	51		1.5 2.5		40 60
12 (3.41%)	7.8	198	7.8	198	2	51		1.5 2.5		40 60

Enduralox Polypropylene Composite Dual Tooth Split Sprockets[3, 4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
16 (1.92%)	10.3	262	10.5	267	1.5	38		3.5[5]		90[3]

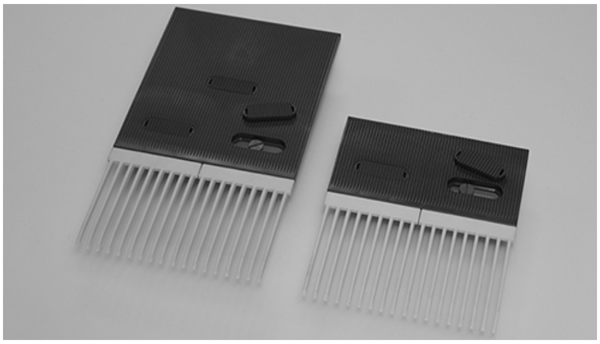


[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.
[3] Contact Intralox Customer Service for lead times.
[4] Hardware made from 316 stainless steel
[5] Bores are over-sized

Finger Transfer Plates

Available Widths		Number of Fingers	Available Materials
in	mm		
6	152	18	Glass-filled thermoplastic fingers, acetal back plate

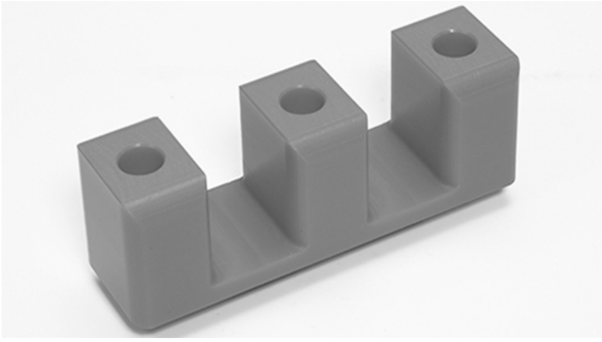
- For use with Series 4500 Non Skid Raised Rib belt styles.
- Fingers extend between the ribs to prevent hardware from dropping off the end of the conveyor.
- Plastic shoulder bolts and bolt covers are included for installing the standard two-material finger transfer plates.
- Easily installed on the conveyor frame.
- Available in two different configurations. The standard configuration features long fingers with a short back plate. Standard Extended Back configuration features long fingers with an extended back plate. The short back plate has two attachment slots and the extended back plate has three attachment slots.



Flat Top Wheel Chocks

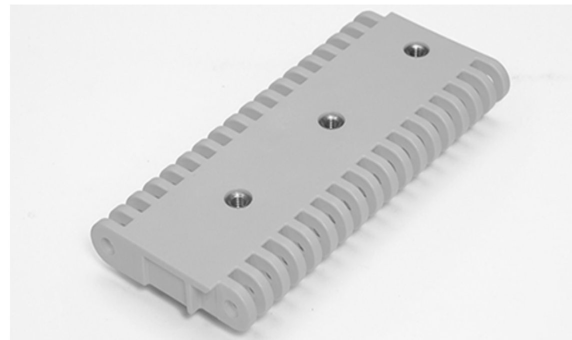
Available Height		Available Width		Available Materials
in	mm	in	mm	
1.6	41	5	127	UHMW
1.97	50	5	127	UHMW

- Fasteners and modified S4500 Flat Top modules are required.
- Fastener torque specification: 40-45 in/lb (4.5-5 N/m).
- Minimum indent from the edge of the belt without wheel chocks: 2.0 in (50 mm).



Insert Nuts

Available Base Belt Style - Material	Available Insert Nut Sizes
Flat Top - Acetal	6 mm –1 mm 8 mm–1.25 mm
Flat Top - Polypropylene	6 mm –1 mm 8 mm–1.25 mm



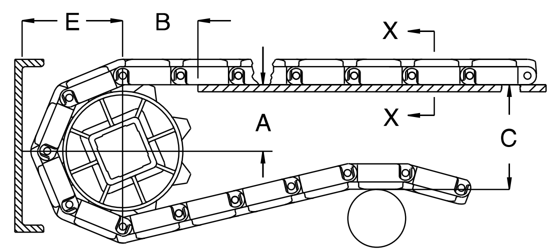
- Insert Nuts allow easy attachment of fixtures to the belt.
- Square insert nuts are provided. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened.
- Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- Do not locate sprockets in-line with the insert nuts. Contact Intralox Customer Service for sprocket and insert nut placement.
- Fasteners and modified Series 4500 Flat Top modules are required.
- Fastener torque specification: 40-45 in-lb (4.5-5.0 N-m).
- Minimum indent from the belt edge: 2.5 in (63 mm)
- Minimum distance between nuts along the length of the belt: 1.0 in (25 mm)
- Contact Intralox Customer Service for assistance with insert nut placement.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

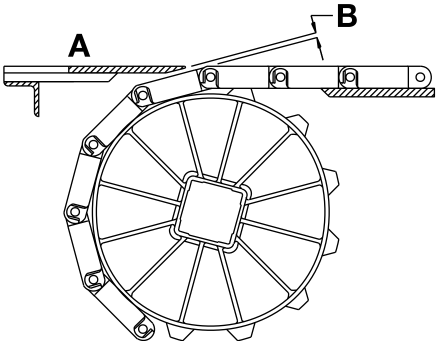
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 2900 Flat Top, Flush Grid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.47	164	3.61	92
7.8	198	12	3.46-3.59	88-91	2.63	67	7.80	198	4.28	109
10.3	262	16	4.71-4.81	120-122	3.15	80	10.25	260	5.50	140
Series 2900 Non Skid										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.56	167	3.70	94
7.8	198	12	3.46-3.59	88-91	2.63	67	7.89	200	4.36	111
10.3	262	16	4.71-4.81	120-122	3.15	80	10.34	263	5.59	142
Series 2900 Non Skid Raised Rib										
6.5	165	10	2.77-2.92	70-74	2.40	61	6.67	169	3.81	97
7.8	198	12	3.46-3.59	88-91	2.63	67	8.00	203	4.48	114
10.3	262	16	4.71-4.81	120-122	3.15	80	10.45	265	5.70	145

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



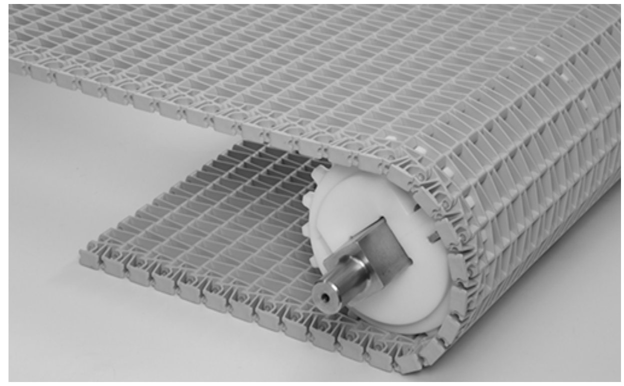
A Top surface of dead plate

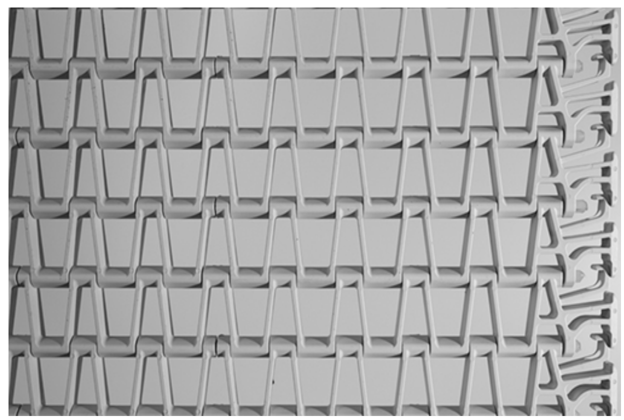
B Dead plate gap

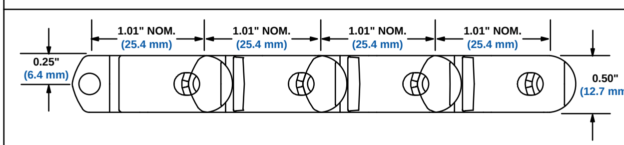
Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.4	163	10	0.160	4.1
7.8	198	12	0.130	3.3
10.1	257	16	0.100	2.5

Flush Grid

	in	mm
Pitch	1.01	25.7
Minimum Width	6	152.4
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.7 x 0.5	17.8 x 12.7
Open Area	58%	
Hinge Style	Closed	
Drive Method	Center (preferred)/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Open surface enhances spray-through cleaning performance and airflow cooling performance, depending on the application.
- PVDF is a polymer material proven for long-term use in washer environments.
- Easy to retrofit from existing steel belting with virtually no conveyor changes.
- Available with split steel sprockets for longer sprocket life and easier replacement.

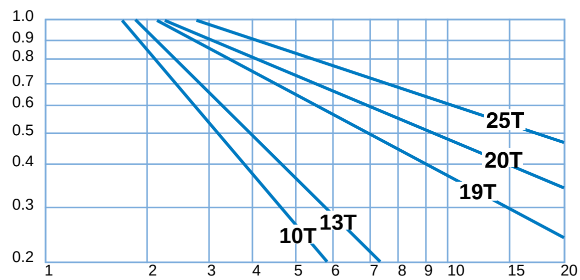
Belt Data

Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
PVDF	PVDF	1000	1490	34 to 200	1 to 93	1.57	7.64
Polypropylene	Polypropylene	750	1120	34 to 220	1 to 104	0.82	4.00
Acetal	Polypropylene	900	1340	34 to 200	1 to 93	1.14	5.57

Sprocket and Support Quantity Reference

Belt Width Range[1] in	Belt Width Range[1] mm	Minimum Number of Sprockets Per Shaft[2]	Wearstrips: Carryway	Wearstrips: Returnway
12	305	3	2	Minimum 3 in (76.2 mm) diameter rollers.
24	610	6	4	
36	914	9	6	
48	1219	12	8	
60	1524	15	10	
72	1829	18	12	
84	2134	21	14	
96	2438	24	16	
For other widths, use an odd number of sprockets at Maximum 4 in (102 mm) centerline spacing.[3]				

Strength Factor

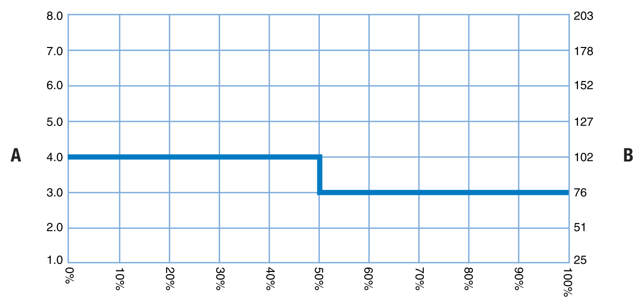


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized

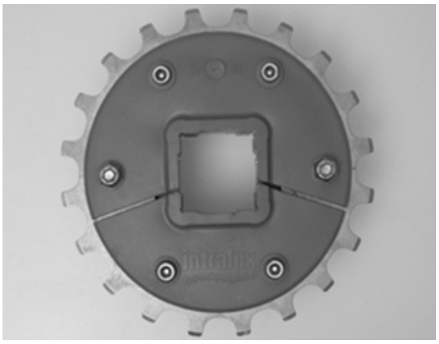


Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

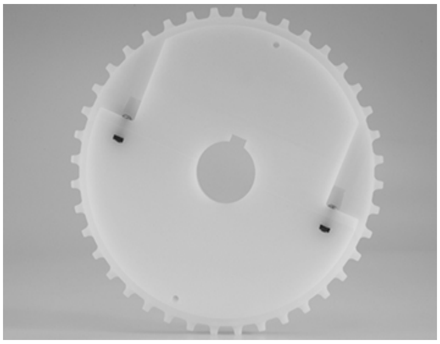
Split Metal Sprocket[4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
20 (1.23%)	6.5	165	6.5	165	1.7	43	2-3/16 2-7/16 2-11/16 3-7/16	2.5		
25 (0.8%)	8.1	206	8.1	206	1.7	43	2-7/16 2-11/16 3-7/16	2.5		

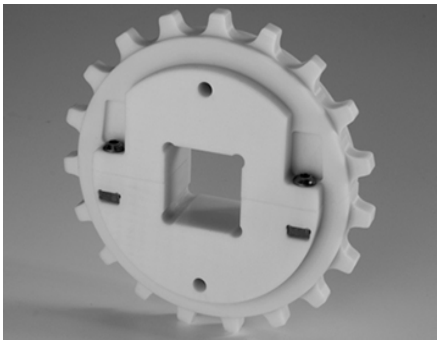


[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 6 in (152.4 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. See Center Sprocket Offset chart for lockdown location.
[4] Contact Intralox Customer Service for lead times.

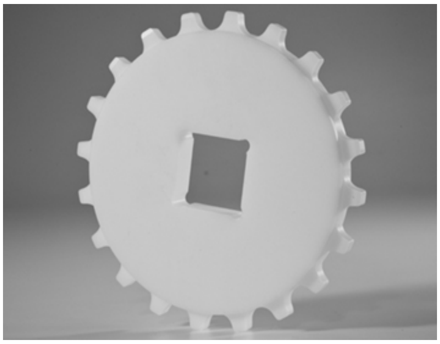
UHMW Polyethylene Split Sprockets[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-7/16 2-11/16 3-7/16		60	



Nylon FDA Split Sprockets[2]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
13 (2.90%)	4.2	107	4.2	107	1.48	38	1-1/4	1-1/2		40
19 (1.38%)	6.1	155	6.1	155	1.48	38	1-1/4	1-1/2		40



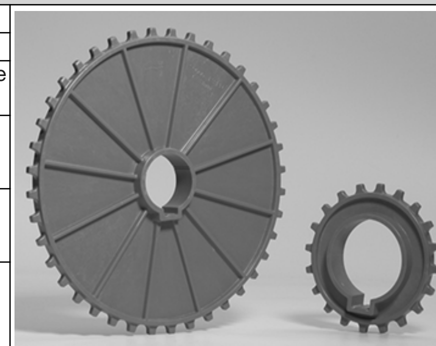
Acetal Sprockets[3]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
20 (1.23%)	6.5	165	6.5	165	0.75	19		1.5		



[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.
[3] Contact Intralox Customer Service for lead times.

Enduralox Polypropylene Composite Sprocket[1]

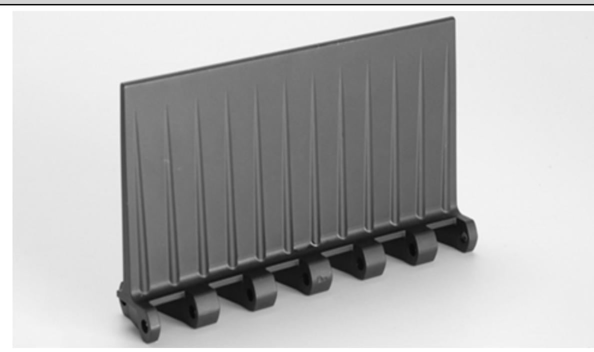
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
20 (1.23%)	6.5	165	6.5	165	1.48	38	2-7/16 3-7/16		90	
25 (0.8%)	8.1	206	8.1	206	1.48	38	2-7/16 3-7/16		90	
40 (0.31%)	12.9	328	13.0	330	1.48	38	2-11/16		60	



Flat Top Base Flights (No-Cling)

Available Flight Height in	Available Flight Height mm	Available Materials
3	76	Polypropylene, nylon

- No-Cling vertical ribs are on both sides of the flight.
- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Minimum indent without sideguards: 2.0 in (50.8 mm).

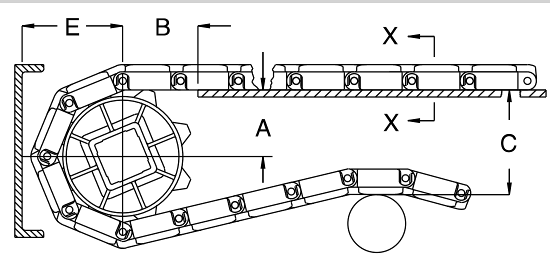


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description: Pitch Diameter in	Pitch Diameter mm	No. Teeth	A Range (Bottom to Top) in	A Range (Bottom to Top) mm	B in	B mm	C in	C mm	E in	E mm
Series 9000 Flush Grid										
3.3	84	10	1.30-1.38	33-35	1.65	42	3.26	83	1.95	50
4.2	107	13	1.80-1.86	46-47	1.85	47	4.22	107	2.42	61
6.1	155	19	2.78-2.82	71-72	2.23	57	6.14	156	3.38	86
6.5	165	20	2.94-2.98	75-76	2.35	60	6.46	164	3.54	90
8.1	206	25	3.75-3.78	95-96	2.63	67	8.06	205	4.34	110

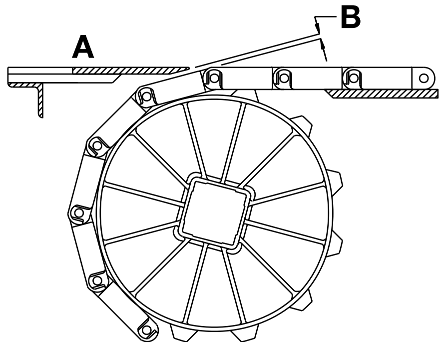
[1] Contact Intralox Customer Service for lead times.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



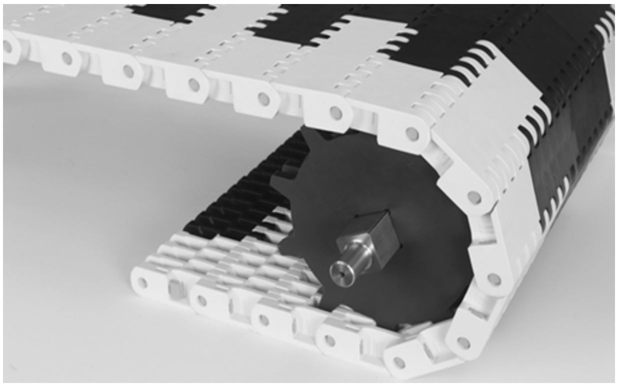
A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.3	84	10	0.081	2.1
4.2	107	13	0.061	1.5
6.1	155	19	0.042	1.1
6.5	164	20	0.040	1.0
8.1	205	25	0.032	0.8

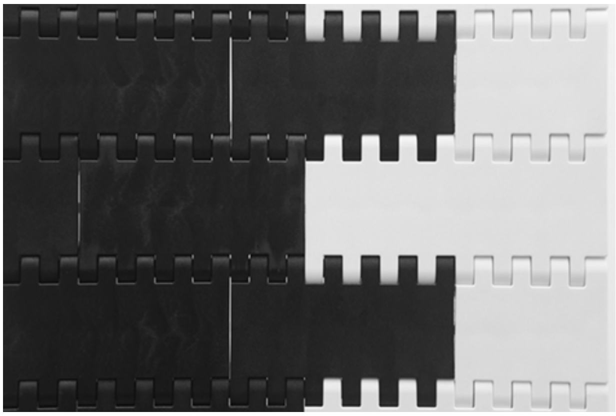
Flat Top

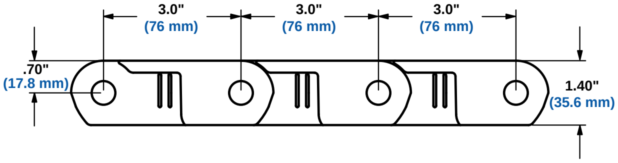
	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Slidelox are an acetal copolymer.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Wheel chock attachments are available.

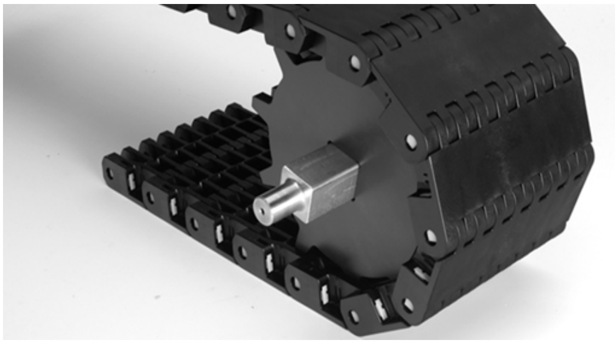




Belt Data							
Belt material	Standard rod material Ø 0.50 in (12.7 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	10,000	14,882	-50 to 200	-46 to 93	6.36	31.05
HS EC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.36	31.05

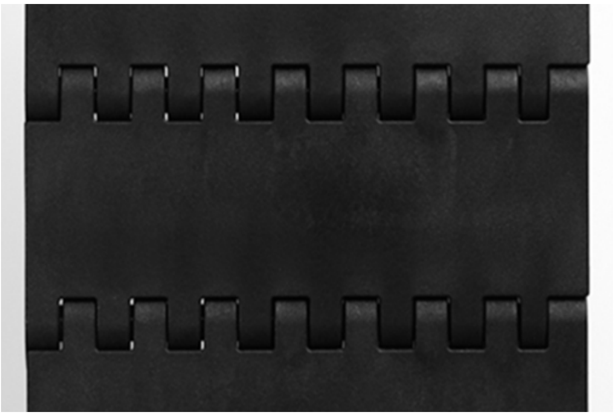
Mold to Width Flat Top

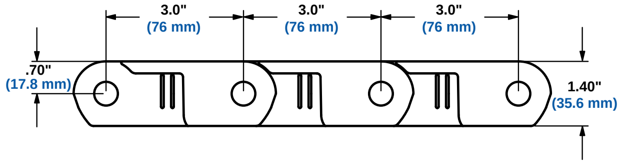
	in	mm
Pitch	3.0	76
Molded Widths	3.9	100
	7.9	200
Opening Size (approximate)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth, closed upper surface with fully flush edges.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Slidelox are an acetal copolymer.

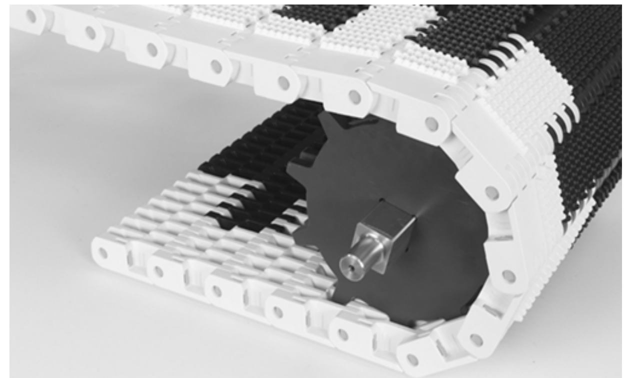


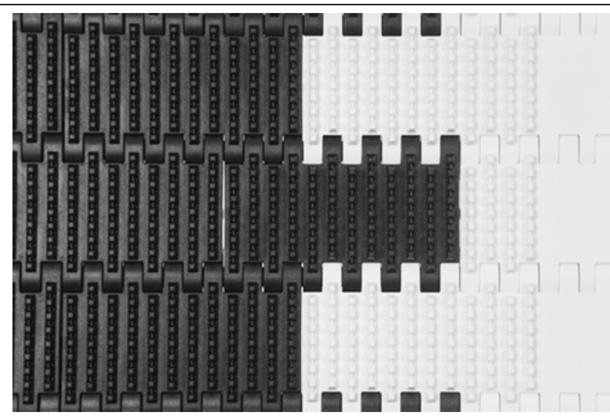


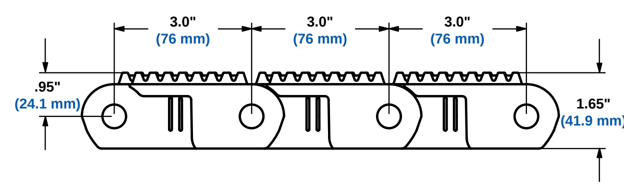
Belt Data									
Belt material	Belt Width		Standard rod material Ø 0.50 in (12.7 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
Acetal	3.9	100	Nylon	2,500	1,134	-50 to 200	-46 to 93	2.08	3.10
Acetal	7.9	200	Nylon	5,800	2,631	-50 to 200	-46 to 93	4.15	6.18
HS EC acetal	3.9	100	Nylon	2,000	907	-50 to 200	-46 to 93	2.08	3.10
HS EC acetal	7.9	200	Nylon	4,700	2,132	-50 to 200	-46 to 93	4.15	6.18

Non Skid Raised Rib

	in	mm
Pitch	3.0	76
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	0.98	25
Opening Sizes (approx.)	-	-
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	







Product Notes

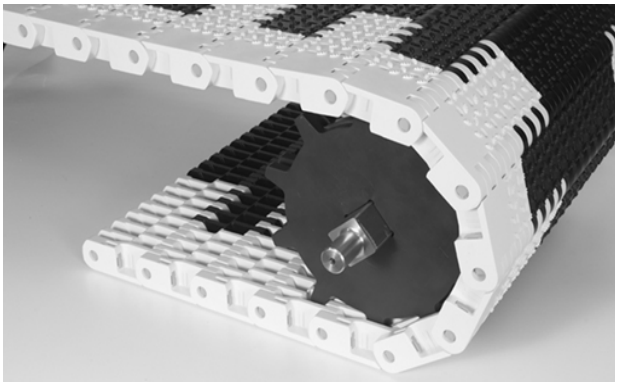
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Closed upper surface with fully flush edges.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Edges have Flat Top surface, with no tread pattern.
- Slidelox are an acetal copolymer.
- Tread pattern provides a non-skid walking surface to increase safety.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Finger plates are available to shed objects from the belt surface.
- Flat Top indent: 2.0 in (50 mm) from belt edge.

Belt Data

Belt material	Standard rod material Ø 0.50 in (12.7 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb./ft.	kg/m	°F	°C	lb./ft.²	kg/m²
HS EC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.85	33.44

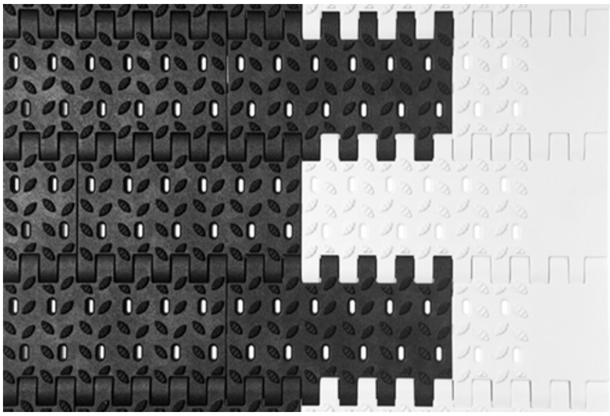
Non Skid Perforated

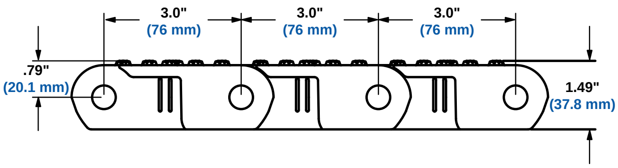
	in	mm
Pitch	3.00	76.2
Minimum Width	5.9	150
Maximum Width	153.5	3900
Width Increments	.98	25
Opening Sizes (approx.)	0.10 x 0.31	2.8 x 7.9
Open Area	3%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Slidelox; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Fully flush edges have a Flat Top surface with no tread pattern.
- Open slots improve drainage. Diamond tread pattern provides a non-skid walking surface to increase safety.
- Available with yellow edges. Staggered yellow edges make it easy to distinguish the moving belt from the stationary floor.
- Slidelox are an acetal copolymer.
- Available in high strength electrically conductive acetal, which has a surface resistivity of 10^5 ohms per square.
- Wheel chocks are available. Use Series 10000 Flat Top modules to mount the wheel chocks.
- Flat Top indent: 1.97 in (50.0 mm) from edge of belt.

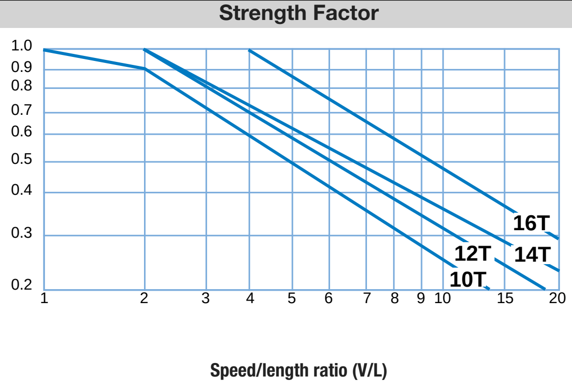




Belt Data							
Belt material	Standard rod material Ø 0.50 in (12.7 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb./ft.	kg/m	°F	°C	lb./ft.²	kg/m²
Acetal	Nylon	10,000	14,882	-50 to 200	-46 to 93	6.48	31.64
HSEC acetal	Nylon	8,000	11,905	-50 to 200	-46 to 93	6.48	31.64

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
3	100	1	2	2
5.9	150	1	2	2
7.9	200	2	2	2
9.8	250	2	3	2
11.9	300	3	3	2
13.8	350	3	3	3
15.7	400	3	3	3
17.7	450	3	3	3
19.7	500	3	4	3
23.6	600	5	4	3
29.5	750	5	5	4
31.5	800	5	5	4
35.4	900	7	5	4
41.3	1050	7	6	5
47.2	1200	7	7	5
53.1	1350	9	7	6
59.1	1500	9	8	6
70.9	1800	13	9	7
82.7	2100	21	11	8
94.5	2400	23	12	9
118.1	3000	29	15	11
143.7	3650	35	17	13
145.7	3700	37	18	14
147.6	3750	37	18	14
149.6	3800	37	18	14
151.6	3850	37	18	14
153.5	3900	41	19	14
For other widths, use an odd number of sprockets at maximum 6 in (152 mm) centerline spacing.[3]			Maximum 6 in (152 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

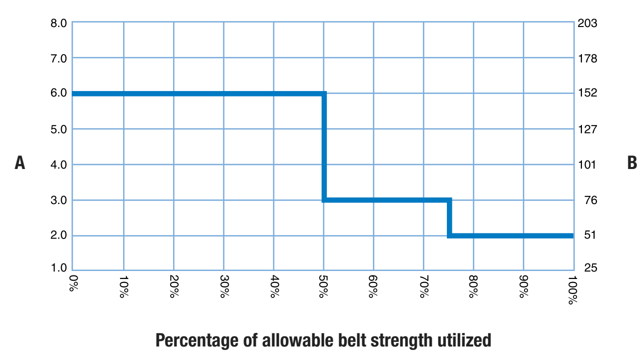
Strength Factor



Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.97 in (50 mm) increments beginning with a minimum width of 3.94 in (100 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets. Sprockets require a maximum 5.91 in (150 mm) centerline spacing.
[3] Lock down the center sprocket. With only two sprockets, fix the sprocket on the drive journal side only. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

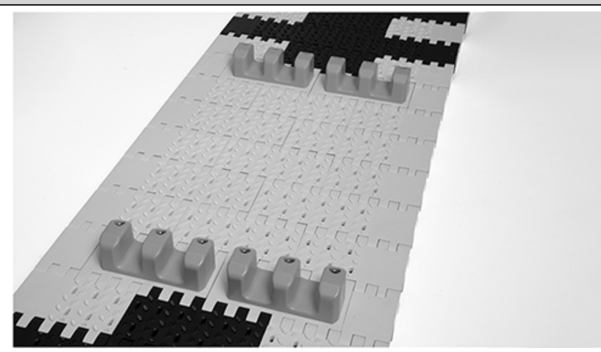
Nylon Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
10 (4.70%)	9.9	251	9.7	246	1.5	38		3.5		90
12 (3.29%)	11.8	300	11.7	297	1.5	38		3.5		90
14 (2.43%)	13.7	348	13.6	345	1.5	38		3.5		90
16 (1.84%)	15.7	399	15.6	396	1.5	38		3.5	100 120 140	90

Flat Top Wheel Chocks and Side Wheel Chocks

Available Height in	Available Height mm	Available Width in	Available Width mm	Available Materials
0.8	20	1.5	37	Nylon
1.6	40	4.9	125	Nylon
2	50	4.9	125	Nylon

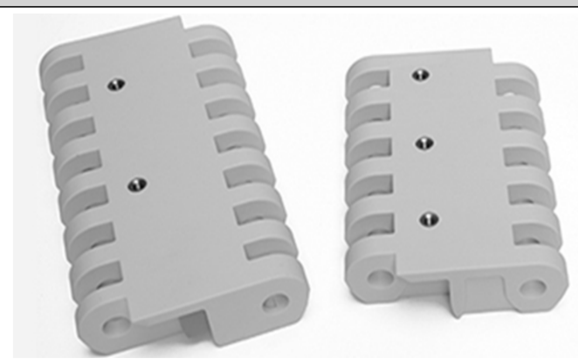
- Fasteners and modified S10000 Flat Top modules are required.
- Minimum indent without wheel chocks is 2.0 in (50 mm).

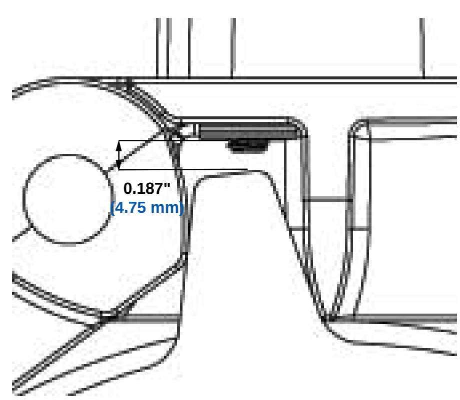


Insert Nuts

Available Base Belt Style - Material	Available Insert Nut Sizes
Flat Top - Acetal	6 mm–1 mm 8 mm–1.25 mm

- Insert Nuts easily allow the attachment of fixtures to the belt.
- Insert nuts are square. The square flange ensures that the insert nut stays in place when the bolt is tightened or loosened.
- Ensure that attachments connected to more than one row do not prohibit belt rotation around the sprockets.
- All nut placement dimensions are referenced from the edge of the belt when placing an order. Contact Intralox Customer Service for nut location options available for your individual belt specifications.
- Sprockets can be located in-line with insert nuts if a 0.187 (4.75 mm) clearance is maintained. Contact Intralox Customer Service for the appropriate bolt length to fit the application.
- The fastener torque specification: 40-45 in lb (4.5-5.0 N-m).
- Minimal indent from the edge of the belt: 1.22 in (31 mm)
- Minimal distance between nuts across the width of the belt 0.492 in (12.5 mm)
- Spacing along the length of the belt: 3 in (76 mm) increments.





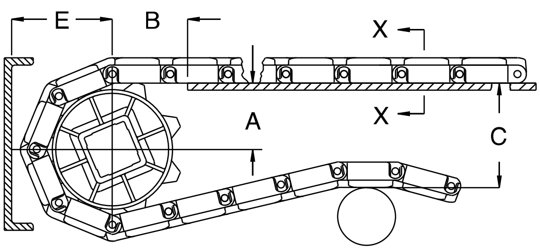
[1] Contact Intralox Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

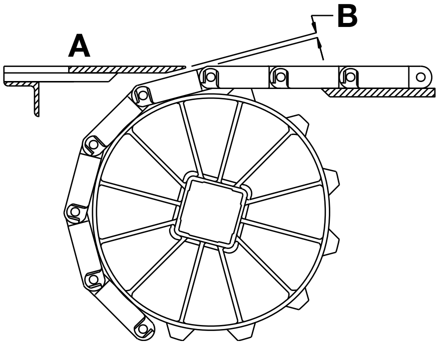
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 10000 Flat Top										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.90	251	5.71	145
11.8	300	12	5.01-5.20	127-132	3.73	95	11.80	300	6.66	169
13.7	348	14	5.98-6.15	152-156	4.03	102	13.70	348	7.61	193
15.7	399	16	7.01-7.15	178-182	4.33	110	15.70	399	8.61	219
Series 10000 Non Skid Raised Rib										
9.9	251	10	4.02-4.25	102-108	3.33	85	10.15	258	5.96	151
11.8	300	12	5.01-5.20	127-132	3.73	95	12.05	306	6.91	176
13.7	348	14	5.98-6.15	152-156	4.03	102	13.95	354	7.86	200
15.7	399	16	7.01-7.15	178-182	4.33	110	15.95	405	8.86	225
Series 10000 Non Skid Perforated										
9.9	251	10	4.02-4.25	102-108	3.33	85	9.99	254	5.80	147
11.8	300	12	5.01-5.20	127-132	3.73	95	11.89	302	6.75	171
13.7	348	14	5.98-6.15	152-156	4.03	102	13.79	350	7.70	196
15.7	399	16	7.01-7.15	178-182	4.33	110	15.79	401	8.70	221

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
9.9	251	10	0.233	5.9
11.8	300	12	0.194	4.9
13.7	348	14	0.166	4.2
15.7	399	16	0.145	3.7

RADIUS BELTS

Engineering Program Analysis for Spiral and Radius

Use the Intralox Engineering Program to calculate the estimated belt pull for radius applications and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

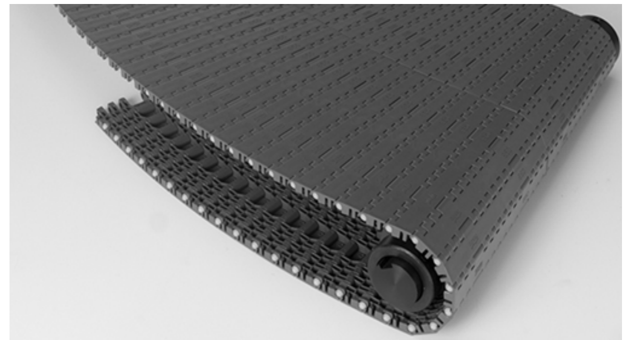
Information Required for an Analysis

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight run
- Turning angle of each turn
- Turn direction of each turn
- Inside turn radius of each turn
- Carryway and hold down rail material
- Product load lb/ft^2 (kg/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures

Note: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group.

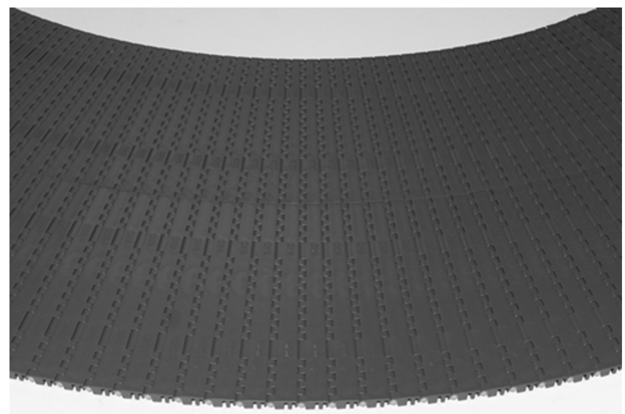
ZERO TANGENT™ Radius Flat Top

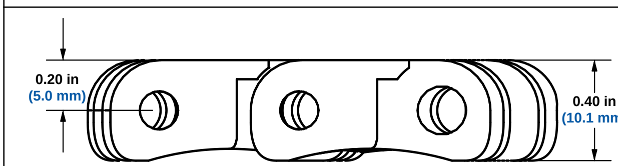
	in	mm
Row-to-Row Angle	1.33 degrees	
Maximum Width	55.12	1400
Minimum Width	7.87	200
Width Increments	7.87	200
Open Area	0%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses nylon rods.
- Belt shape completely eliminates the need for straight sections before and after turns.
- Pitch distance changes, depending upon the location of the module from the center of the turn.
- Intralox provides complete design guidelines, which minimize engineering design investment.
- Designed for radius applications with a minimum inside-turn radius of 23.62 in (600 mm).



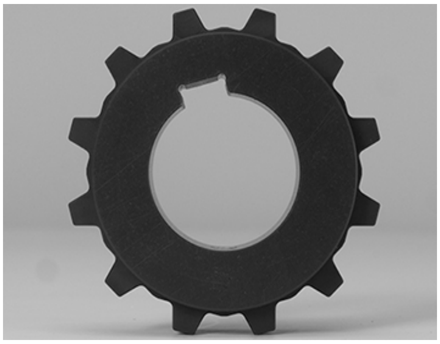


Belt Data							
Belt material	Standard rod material Ø 0.180 in (4.6 mm)	Belt strength		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	°F	°C	lb/ft²	kg/m²
Acetal	Nylon	907	1350	-50 to 200	-46 to 93	1.89	9.25

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips	
in	mm		Carryway	Returnway
7.87	200	2	2	2
15.75	400	4	3	2
23.62	600	6	4	2
31.50	800	8	5	3
39.37	1000	10	6	3
For other widths, use an even number of sprockets at maximum sprocket spacing: 3.94 in (100 mm). Maximum carryway spacing: 7.87 in (200 mm). Maximum returnway spacing: 15.75 in (400 mm)				

Nylon Sprockets[3, 4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
12 (3.41%)	2.3	58	2.4	61	1.0	25	1-7/16	-	40	-
12 (3.41%)	2.6	66	2.7	70	1.0	25	1-7/16	-	40	-
12 (3.41%)	3.0	76	3.1	78	1.0	25	1-7/16	-	40	-
12 (3.41%)	3.3	84	3.4	87	1.0	25	1-7/16	-	40	-
12 (3.41%)	3.7	94	3.8	96	1.0	25	1-7/16	-	40	-
12 (3.41%)	4.0	102	4.1	104	1.0	25	1-7/16	-	40	-
12 (3.41%)	4.4	112	4.5	113	1.0	25	1-7/16	-	40	-
12 (3.41%)	4.7	119	4.8	122	1.0	25	1-7/16	-	40	-
12 (3.41%)	5.1	130	5.1	131	1.0	25	1-7/16	-	40	-
12 (3.41%)	5.4	137	5.5	139	1.0	25	1-7/16	-	40	-
12 (3.41%)	5.8	147	5.8	148	1.0	25	1-7/16		40	
12 (3.41%)	6.2	157	6.2	157	1.0	25	1-7/16		40	
12 (3.41%)	6.5	165	6.5	165	1.0	25	1-7/16		40	
12 (3.41%)	6.9	175	6.9	174	1.0	25	1-7/16		40	



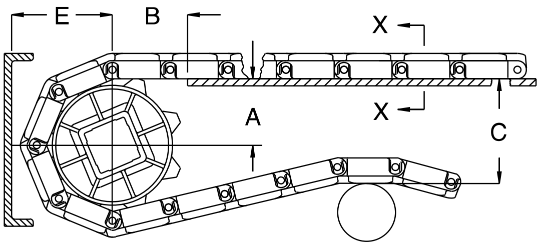
[1] If the actual width is critical, contact Intralox Customer Service.
[2] Lock down all sprockets.
[3] **Contact Intralox Customer Service for lead times.**
[4] **Sprockets are made of non-FDA nylon.**

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

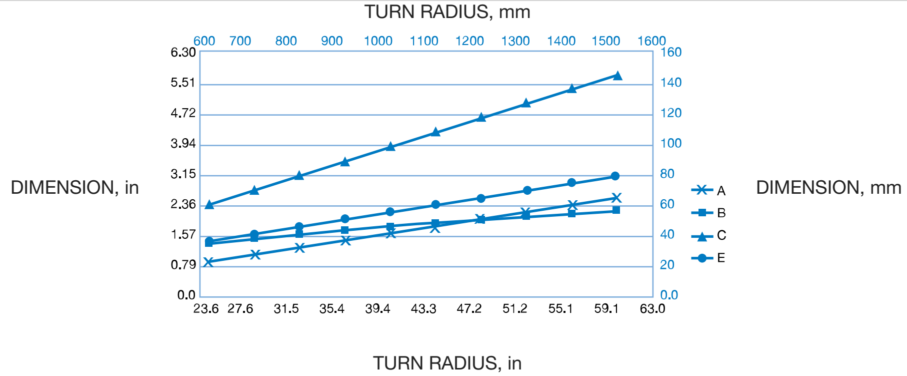
For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Conveyor Frame Turn Radius Dimensions



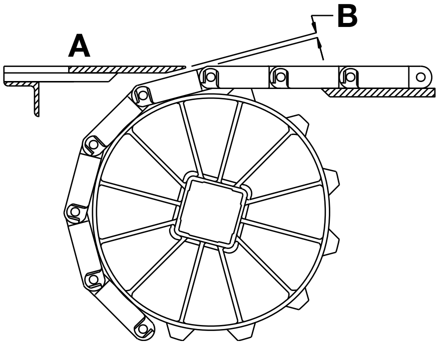
Dim A = 0.043TR-0.20 in (-5 mm) Dim B = 0.022TR+.0.82 in (+20 mm)
Dim C = 0.089TR-0.01 in (-.25 mm) Dim E = 0.045TR+.0.26 in (+6 mm)
TR = Turn Radius

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

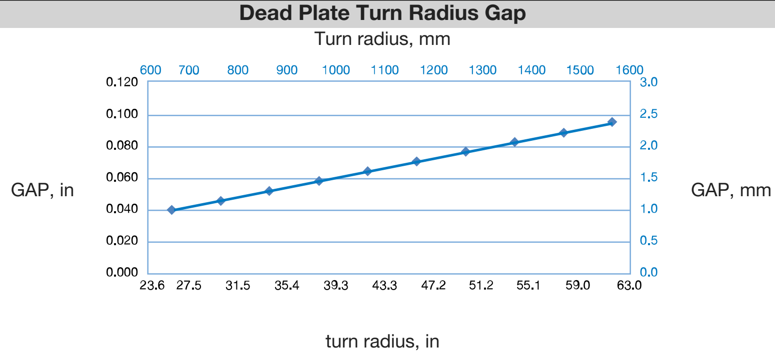
Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

Dead Plate Turn Radius Gap



Gap = 0.0015TR

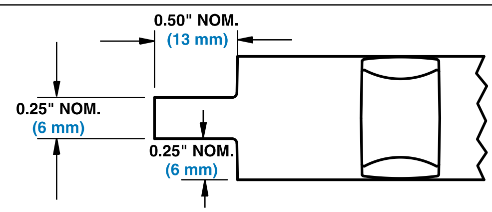
TR = turn radius

Radius Flush Grid

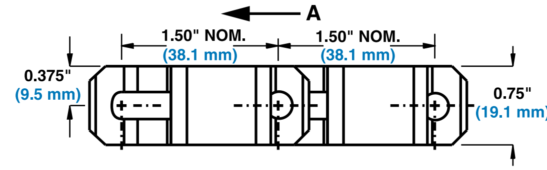
	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Lightweight, strong belt with a smooth surface grid.
- Belt openings pass straight through belt, providing easy cleaning.
- Designed for radius applications with a minimum turn radius of 2.2 times belt width (measured from inside edge).
- Non-sliding drive system reduces belt and sprocket wear, and provides low back tension.
- Tab edge belt width measurement does not include tabs. Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside wearstrip.
- Maximum belt width in turns: 36 in (914 mm)



Series 2200 Tab Edge dimensions



A = Preferred direction for flat-turning applications

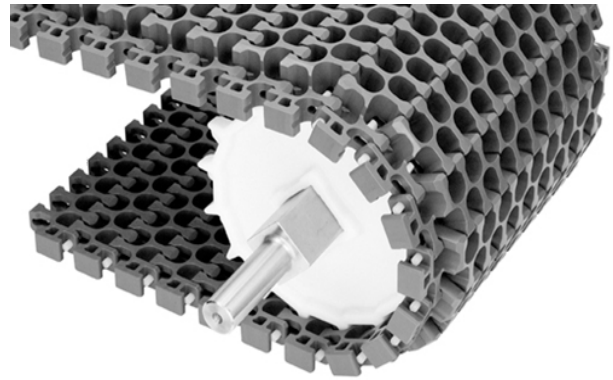
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1600	2380	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.10
Polyethylene[1]	Acetal	1000	1490		-50 to 150	-46 to 66	1.96	9.56
Acetal	Nylon	2500	3720		-50 to 200	-46 to 93	2.82	13.80
Polypropylene	Polypropylene[2]	1400	2100		34 to 220	1 to 104	1.78	8.69

[1] Polyethylene cannot exceed 150°F (66°C)
[2] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

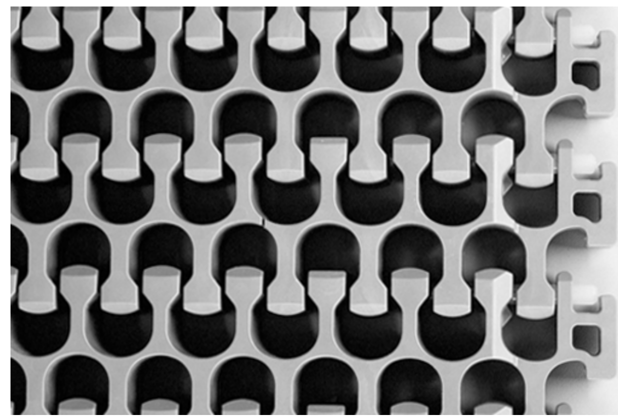
Radius Flush Grid High Deck

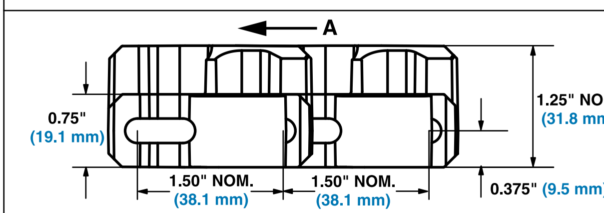
	in	mm
Pitch	1.50	38.1
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Makes turns with an inside radius of 2.2 times the belt width.
- Provides more beam strength than the standard Series 2200 belt. This feature can reduce retrofit costs in spirals.
- Uses standard Series 2200 wearstrips.
- 0.5 in (12.7 mm) higher than the standard Series 2200 belt.
- Standard indent: 1.25 in (31.8 mm).





A = Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength[1]		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft^2	kg/m^2
Acetal	Nylon	2500	3720	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	3.66	17.87

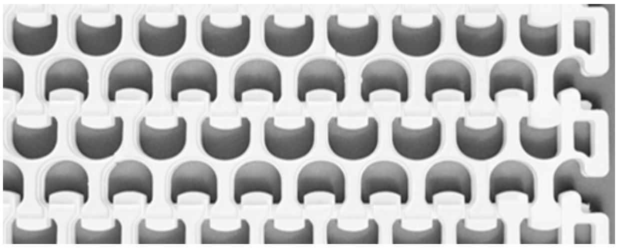
[1] When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.

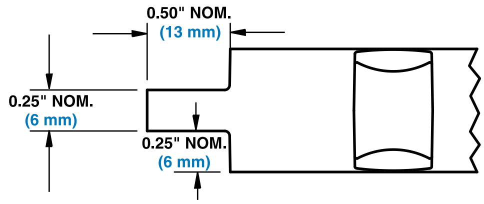
Radius Friction Top

	in	mm
Pitch	1.50	38.1
Minimum Width	5	127
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

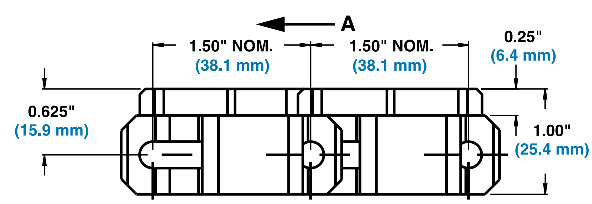
Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tab edge available.
- Available in gray polypropylene with gray rubber, white polypropylene with white rubber, and natural polyethylene, with white rubber.
- Belt openings pass straight through belt to simplify cleaning.
- Non-sliding drive system provides reduced belt and sprocket wear, and low back- tension.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Tab edge belt width measurement does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside the wearstrip.)
- Molded indent: 1.75 in (44 .5 mm).
- Maximum belt width in turns: 36 in (914 mm).





Series 2200 Tab Edge dimensions



A = Preferred direction for flat turning applications

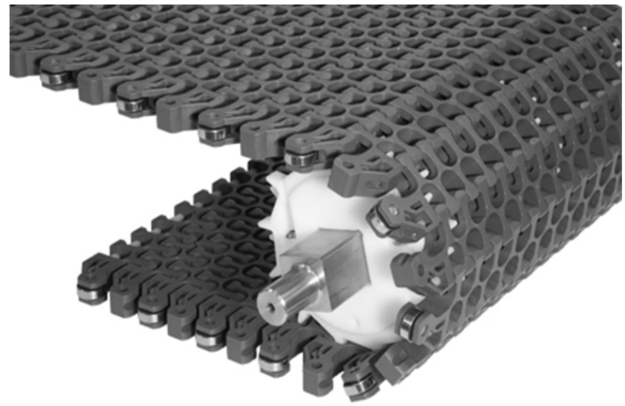
Belt Data

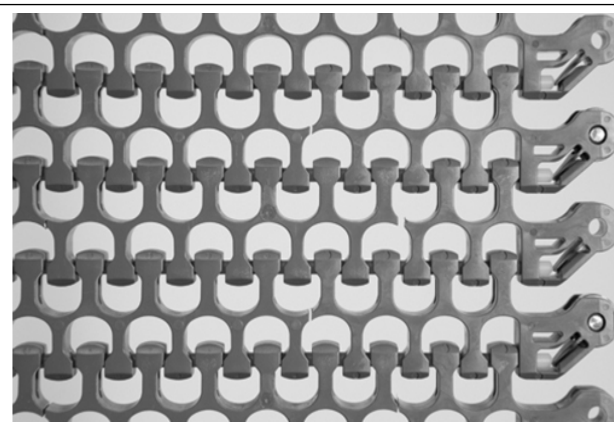
Base Belt Material	Base/ Friction Color	Standard Rod Material Ø 0.24 in (6.1 mm)	Belt Strength lb/ft	Belt Strength kg/m	Curved Belt Strength	Temp. Range (continuous) °F	Temp. Range (continuous) °C	Belt Weight lb/ft²	Belt Weight kg/m²	Friction Top Hardness	Agency Acceptability FDA (USA)	Agency Acceptability EU MC[b]
Polypropylene	Gray/Gray	Acetal	1600	2380	Contact Intralox Customer Service for curved belt strength calculations.	34 to 150	1 to 66	2.20	10.74	64 Shore A		
Polypropylene	White/ White	Acetal	1600	2380		34 to 150	1 to 66	2.20	10.74	55 Shore A	a	c
Polyethylene	Natural/ White	Acetal	1000	1490		-50 to 120	-46 to 49	2.30	11.23	55 Shore A	a	c
Polypropylene	Gray/Gray	Polypropylene	1400	2100		34 to 150	1 to 66	2.12	10.35	64 Shore A		
Polypropylene	White/ White	Polypropylene	1400	2100		34 to 150	1 to 66	2.12	10.35	55 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

Radius with Edge Bearing

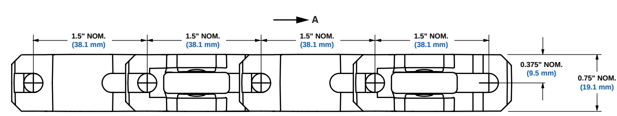
	in	mm
Pitch	1.50	38.1
Minimum Width (Bearings one side)	7	178
Minimum Width (Bearings both sides)	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 x 0.75	12.7 x 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Both flush edge and tab edge are available for belts with bearings on only one side. Flush edge and tab edge must be placed on the outside edge of the turn.
- Rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Bearings are chrome steel, recommended for dry applications only.
- Bearings are retained in the belt using a stainless pin.
- Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Bearings must be placed on the inside edge of the turn.
- Bearings must be configured in every other row of the belt.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge of the wearstrip channel).
- Use the Intralox Engineering Program to determine if edge bearings are suitable for the intended application.
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).
- Maximum belt speed: 350 fpm (107 meters per minute).

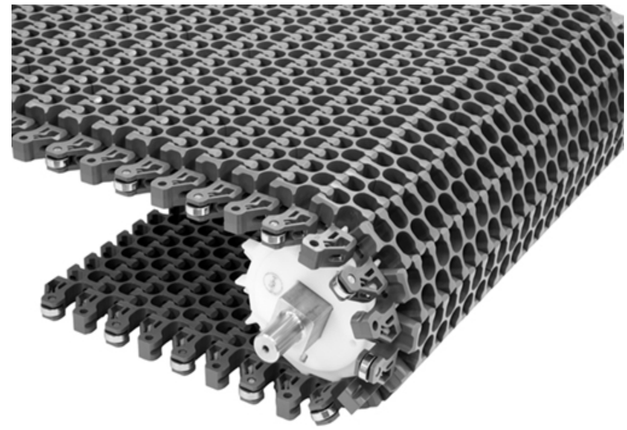


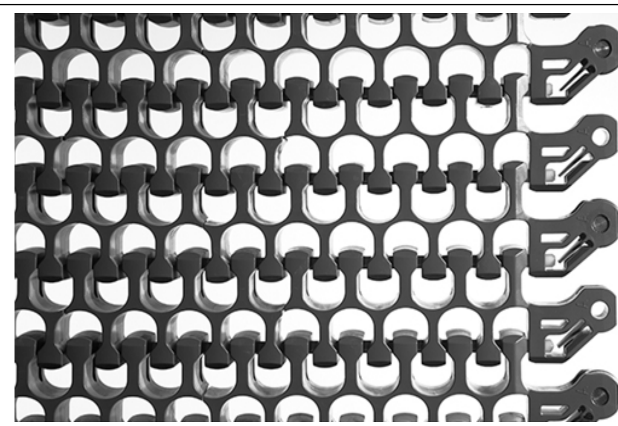
A = Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	Contact Intralox Customer Service for curved belt strength calculations.	-50 to 200	-46 to 93	2.82	13.80

Radius Flush Grid High Deck with Edge Bearing

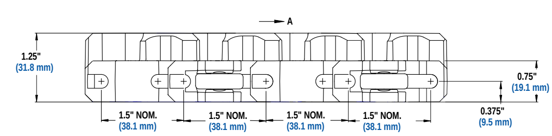
	in	mm
Pitch	1.50	38.1
Minimum Width (Bearings one side)	7.0	177.8
Minimum Width (Bearings both sides)	9.0	228.6
Width Increments	1.0	25.4
Opening Size (approximate)	0.50 x 0.75	12.7 x 19.7
Open Area	50%	
Product Contact Area	37%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention provides easier rod insertion and removal.
- Edge bearings are only recommended for dry applications.
- Use the Intralox Engineering Program to determine if edge bearings are suitable for the intended application.
- Bearings are chrome steel, and are retained in the belt using a stainless pin.
- Edge bearings are only available for turning belts. Bearings are available on one side for belts that turn in only one direction or on both sides for belts that turn in both directions.
- Bearings must be placed in every other row of the belt, on the inside edge of the turn.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width, measured from the inside edge of the wearstrip channel.
- 0.5 in (12.7 mm) higher than the standard Series 2200 belt.
- Standard Indent: 1.75 in (44.5 mm).
- The plastic portion of the bearing edge is indented 0.125 in (3.2 mm). Belt width is measured to the end of the bearing.
- Belts with bearings on one side work with standard edge, hold down wearstrips with a 0.50 in (12.7 mm) deep channel.
- Belts with bearings on both sides require the wearstrip on the outside of the turns to have at least a 0.75 in (19.1 mm) deep channel.
- Maximum belt width: 36 in (914 mm).
- Maximum belt speed: 350 fpm (107 meters per minute).

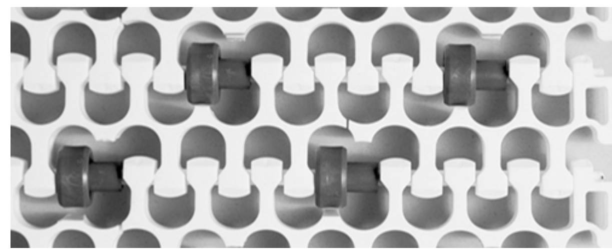


A = Preferred direction for flat, turning applications

Belt Data								
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	2000	2976	Contact Intralox Customer Service for curved belt strength calculations.	-50 to 200	-46 to 93	3.66	17.87

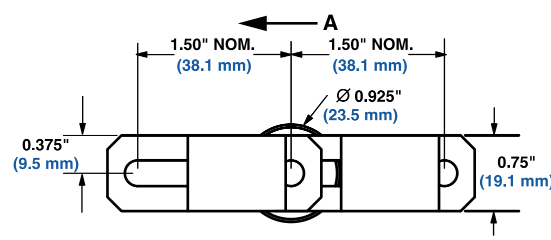
Radius Flush Grid (2.6) with Insert Rollers

	in	mm
Pitch	1.50	38.1
Minimum Width	7	178
Width Increments	1.00	25.4
Opening Size (approximate)	0.50 × 0.75	12.7 × 19.7
Open Area	50%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge or tabbed edge available.
- Uses acetal rollers.
- Do not place sprockets inline with rollers.
- For applications where low back-pressure accumulation is required.
- Back-up load is 5% to 10% of product weight.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips directly under rollers.
- Tab edge belt width does not include tabs. (Tabs extend approximately 0.5 in (13 mm) × 0.25 in (6 mm) on each side of belt, inside wearstrip.)
- Belts 16 in (406 mm) wide and less have a turn radius of 2.2 times the belt width. Wider belts have a turn radius of 2.6 times the belt width.
- For applications that require a belt width greater than 24 in (610 mm), contact Intralox Customer Service.
- Standard roller spacing across belt width: staggered - 4 in (102 mm) or inline - 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
- Standard roller spacing along belt length: staggered - 1.5 in (38.1 mm) or inline - 3 in (76.2 mm).
- Custom roller placement is available. Contact Intralox Customer Service for more information.
- Minimum roller indent: 2.5 in (63.5 mm).



A = Preferred direction for flat turning applications

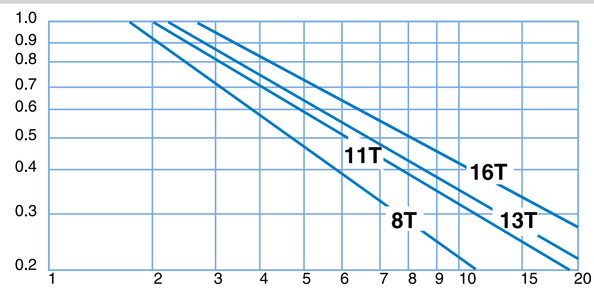
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength – Roller Width Spacing: 2 in	51 mm	3 in	7.6 mm	4 in	102 mm	Roller Indents		Curved belt strength	Temp. Range (continuous)		Belt weight	
		lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	400	600	710	1060	900	1340	2.5	64	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.86	9.08
								3.5 to 4.5	89 to 114					
Acetal	Nylon	630	940	1110	1650	1410	2100	2.5	64		-50 to 200	-46 to 93	2.82	13.8
								3.5 to 4.5	89 to 114					
Polypropylene	Polypropylene[1]	350	520	620	920	790	1180	2.5	64		34 to 220	1 to 104	1.78	8.69
								3.5 to 4.5	89 to 114					

[1] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips[3]	
in	mm		Carryway	Returnway
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	3	3	2
12	305	3	3	2
14	356	5	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	7	4	3
30	762	9	5	4
32	813	9	5	4
36	914	9	5	4
42	1067	11	6	5
48	1219	13	7	5
54	1372	15	7	6
60	1524	15	8	6
72	1829	19	9	7
84	2134	21	11	8
96	2438	25	12	9
120	3048	31	15	11
144	3658	37	17	13
For other widths, use an odd number of sprockets at Maximum 4 in (102 mm) centerline spacing.			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

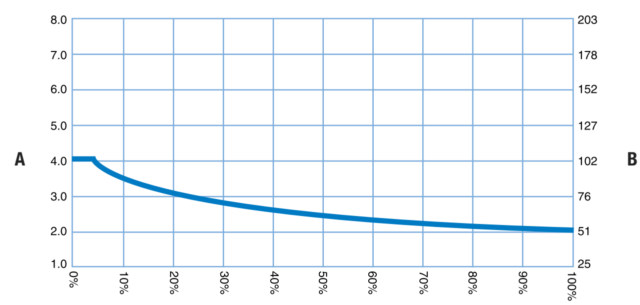


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

SECTION 2

2200

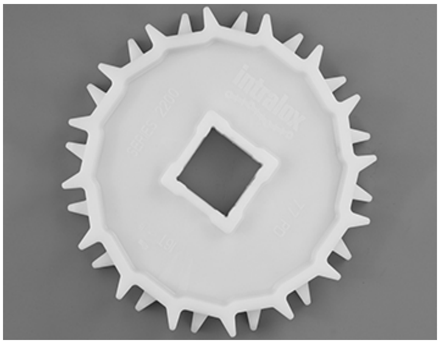
[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 5 in (127 mm). If the actual width is critical, contact Intralox Customer Service. Intralox does not recommend turning belts wider than 36 in (914 mm). For turning applications that require wider belts, contact Intralox Customer Service.

[2] This number is a minimum. Heavy-load applications can require additional sprockets (Place sprockets every inch for heavily loaded applications). For lockdown location, see *Retainer Rings/ Center Sprocket Offset*.

[3] The number of wearstrips given does not include the hold down wearstrip.

Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
8 (7.61%)	3.9	99	4.0	102	1.0	25		1.5		40
13 (2.91%)	6.3	160	6.4	163	1.0	25		2.5		60
16 (1.92%)	7.7	196	7.8	198	1.0	25		1.5 2.5		40 60

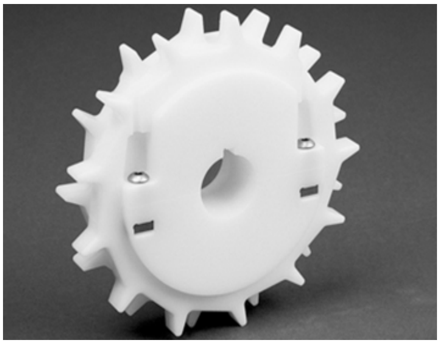


EZ Clean™ Sprocket[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
11 (4.05%)	5.3	135	5.4	137	1.0	25		1.5		40
13 (2.91%)	6.3	160	6.4	163	1.0	25		1.5		40

Acetal Split Sprockets[3]

No. of teeth (chordal action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available bore sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
13 (2.91%)	6.3	160	6.4	163	1.5	38	1.5, 1-7/16[4]	1.5		

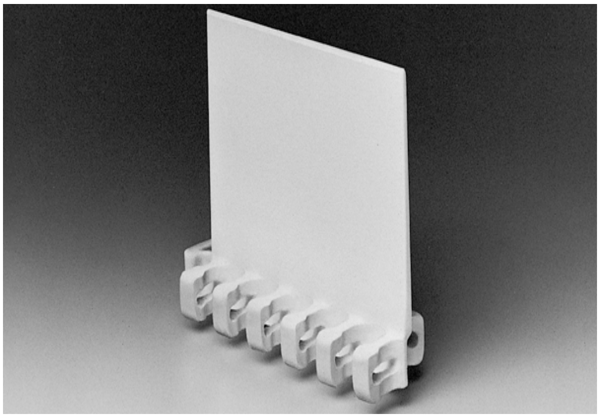


[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m) All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.
[3] Contact Intralox Customer Service for lead times.
[4] Tight fit round bore.

Streamline Flights

Available Flight Height		Available Materials
in	mm	
4	102	Polypropylene, polyethylene, acetal

- Each flight rises out of the center of its supporting module, molded as an integral part. No fasteners are required.
- Flights are available in linear increments of 1.5 in (38 mm).
- Flights can be cut down to custom heights. Minimum height: 0.25 in (6.4 mm).
- Standard indent: 0.625 in (15.9 mm).

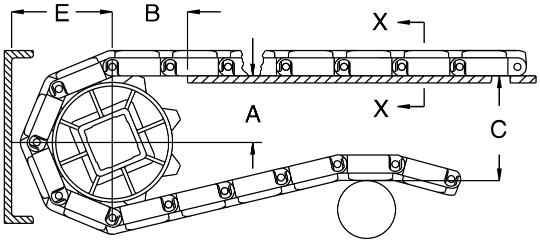


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

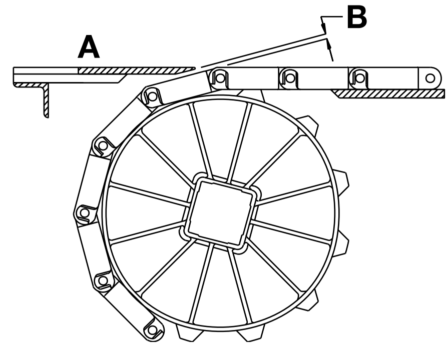
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 2200 Radius Flush Grid, Radius with Edge Bearing										
3.9	99	8	1.44	37	1.93	49	3.92	100	2.40	61
5.3	135	11	2.18	55	2.27	58	5.32	135	3.10	79
6.3	160	13	2.67	68	2.52	64	6.27	159	3.57	91
7.7	196	16	3.40	86	2.78	71	7.69	195	4.28	109
Series 2200 Radius Friction Top										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.17	106	2.65	67
5.3	135	11	2.18-2.29	55-58	2.27	58	5.57	142	3.35	85
6.3	160	13	2.67-2.76	68-70	2.52	64	6.52	166	3.82	97
7.7	196	16	3.40-3.47	86-88	2.78	71	7.94	202	4.53	115
Series 2200 Radius Flush Grid with Insert Rollers										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.00	102	2.48	63
5.3	135	11	2.18-2.29	55-58	2.27	58	5.42	138	3.19	81
6.3	160	13	2.67-2.76	68-70	2.52	64	6.36	162	3.66	93
7.7	196	16	3.40-3.47	86-88	2.78	71	7.78	198	4.37	111
Series 2200 Radius Flush Grid High Deck, Radius Flush Grid High Deck with Edge Bearing										
3.9	99	8	1.44-1.58	36-40	1.93	49	4.42	112	2.90	74
5.3	135	11	2.18-2.29	55-58	2.27	58	5.82	148	3.60	91
6.3	160	13	2.67-2.76	68-70	2.52	64	6.77	172	4.07	103
7.7	196	16	3.40-3.47	86-88	2.78	71	8.19	208	4.78	121

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

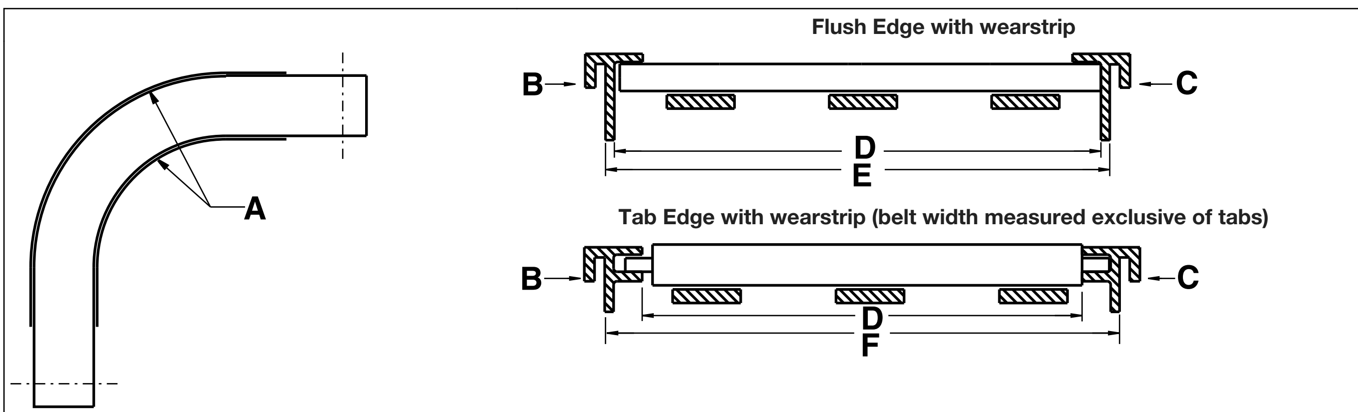
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.9	99	8	0.150	3.8
5.3	135	11	0.108	2.8
6.3	160	13	0.091	2.3
7.7	196	16	0.074	1.9

Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails at a distance of 1X the belt width before the turn and ending 1X the belt width after the turn. This recommendation applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory.

Series 2200 is available with and without an edge tab. A wearstrip style is available for each edge style. The tab edge design allows the belt to be held down without the wearstrip interfering with the carryway surface. See *Custom Wearstrips*.



A - Hold down rail placement
B - Outside hold down rail
C - Inside hold down rail
D - Belt width + 0.19" (5 mm)
E - Belt width + 0.52" (13 mm)
F - Belt width + 1.57" (40 mm)

Figure 6: Hold down rails and wearstrips for Series 2200 flat-turning belts

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2200 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

A The minimum and recommended turn radius for Series 2200 is 2.2 times the belt width, measured from the inside edge.
B The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
C There is no minimum straight run required between turns that are in the same direction.
D The minimum final straight run (leading to drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 x belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
E The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

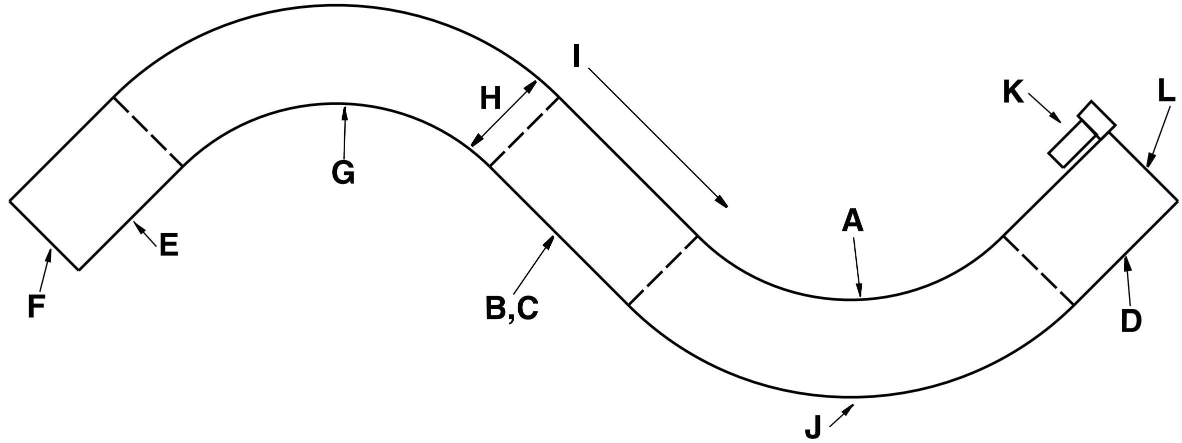
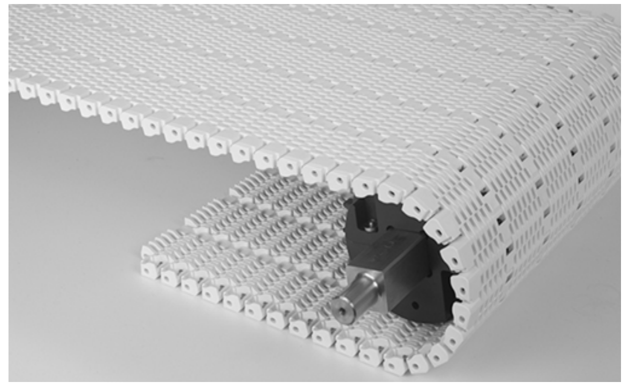
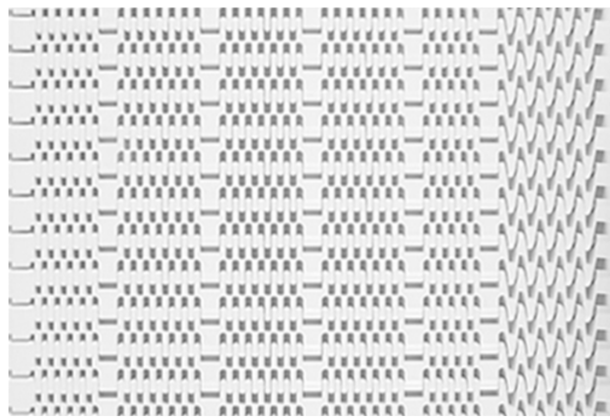


Figure 7: Typical two-turn radius layout

Flush Grid Nose-Roller Tight Turning

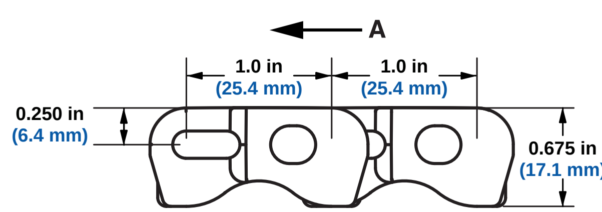
	in	mm
Pitch	1.0	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Max Opening Size (Sphere)	0.245	6.2
Open Area (Fully Extended)	28%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smooth upper surface provides free product movement.
- Smaller opening size enhances belt safety.
- Can make 180-degree turns.
- Minimizes floor space requirements.
- Minimum back tension required.
- Available with tight turning modules built on one side.
- Belts can turn either clockwise or counterclockwise. Turning direction must be specified at order.
- Not available for “S” turn applications.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Sprockets have large lug teeth that enhance sprocket life.
- Underside design allows the belt to run smoothly around a 0.75 in (19.1 mm) nosebar.
- Turn radius for belts 12.0 in–27.0 in (305–685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.
- Sprocket placement: every 3.00 in (76.2 mm) from outer edge, except drive pocket nearest inner edge. Drive pocket nearest inner edge is 3.75 in (95.3 mm) from inner edge.

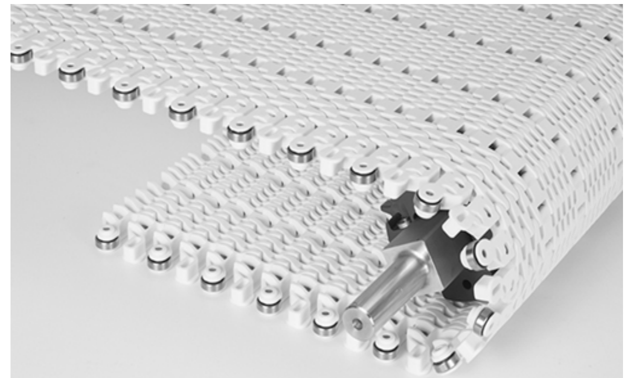


A - Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.180 in (4.6 mm)	Straight belt strength		Curved belt strength	Temp. range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	1339	Contact Intralox Customer Service for curved belt strength calculations.	-50 to 200	-46 to 93	2.40	11.72

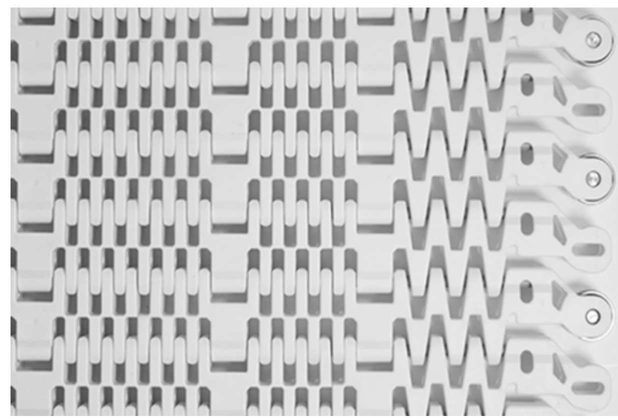
Flush Grid Nose-Roller Tight Turning with Edge Bearing

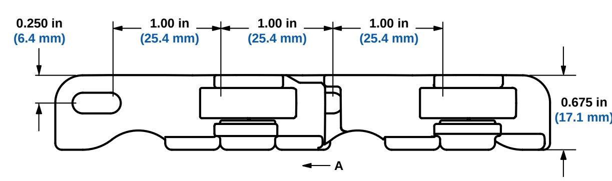
	in	mm
Pitch	1.00	25.4
Minimum Width	12.0	305
Maximum Width	30.0	762
Width Increments	3.0	76.2
Max Opening Size (Sphere)	0.245	6.2
Open Area	28%	
Hinge Style	Closed	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Smaller opening size enhances belt safety.
- Designed for sideflexing applications with a minimum turn radius of 1.7 times belt width (measured from inside edge).
- Belts can turn clockwise or counterclockwise. Turn direction must be specified when ordering. Not available for “S” turn applications.
- Edge bearings are available on one side of the belt. Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Edge bearings are stainless steel and are retained by stainless steel pins.
- See Series 2300 Flush Grid Nose-Roller Tight Turning Design Guidelines for information about nosebar placement.
- Use the Intralox Engineering Program to determine if edge bearings are suitable for each application.
- Turn radius for belts 12.0 in–27.0 in (305 mm–685.8 mm): 1.7 times belt width.
- Turn radius for belts 30.0 in (762 mm): 1.75 times belt width.
- Underside design allows the belt to run smoothly around a 0.75-in (19.1-mm) nosebar.





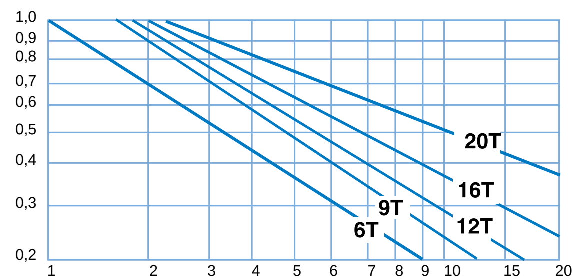
A - Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.180 in (4.6 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	900	1339	Contact Intralox Customer Service for curved belt strength calculations.	0 to 200	-17.8 to 93	2.40	11.72

Sprocket and Support Quantity Reference				
Belt Width Range		Minimum Number of Sprockets Per Shaft[1]	Wearstrips[2]	
in	mm		Carryway[3]	Returnway
12	305	2	3	2
15	381	3	3	3
18	457	3	3	3
21	533	4	4	3
24	610	4	4	3
27	686	5	5	4
30	762	5	5	4

Carryway Wearstrip Location from Edge of Belt				
Wearstrip[4]	Distance from Edge		Belt Width	
	in	mm	in	mm
1	1.5	38	12–30	305–762
2	4.5	114	12–30	305–762
3	7.5	191	12–30	305–762
4	10.5	267	12–30	305–762
5	13.5	343	15–30	381–762
6	16.5	419	18–30	457–762
7	19.5	495	21–30	533–762
8	22.5	572	24–30	610–762
9	25.5	648	27–30	686–762
10	28.5	724	30	762

Strength Factor

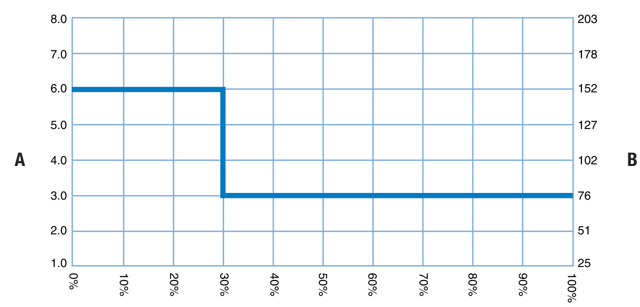


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

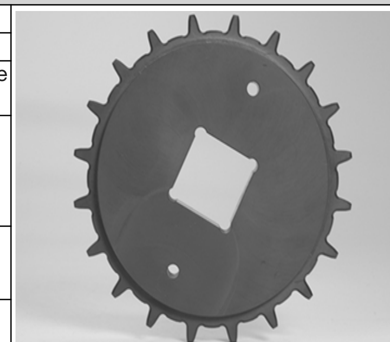
[1] This number is a minimum. Heavy-load applications can require additional sprockets.
[2] The number shown is the minimum quantity, and does not include hold down wearstrips.
[3] Place wearstrips between drive sprockets. See Carryway Wearstrip Location from Edge of Belt table for dimension values.
[4] 1.0 in (25.4 mm) minimum wearstrip width

Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
16 (1.92%)	5.1	130	5.2	132	1.9	38	1.25	1.5	40	40
18 (1.52%)	5.8	147	5.9	150	1.9	38	1.25 1-7/16	1.5	40	40
20 (1.52%)	6.4	163	6.5	165	1.9	38	1.25 1-7/16	1.5	40	40

Nylon Sprockets[2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes: U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
12 (3.41%)	3.9	99	3.9	99	1.0	25	1.25	1.5	25 30 40	40
16 (1.92%)	5.1	130	5.2	132	1.0	25	1.25	1.5	40	40
18 (1.52%)	5.8	147	5.9	150	1.0	25	1.25	1.5	40	40
20 (1.52%)	6.4	163	6.5	165	1.0	25	1.25	1.5	40	40

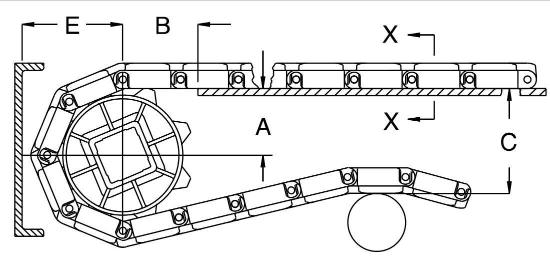


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description: Pitch Diameter in	Pitch Diameter mm	No. Teeth	A Range (Bottom to Top) in	A Range (Bottom to Top) mm	B in	B mm	C in	C mm	E in	E mm
3.9	99	12	1.44-1.51	37-38	1.92	49	3.69	94	2.24	57
5.1	130	16	2.09-2.14	53-54	2.27	58	4.95	126	2.88	73
5.8	147	18	2.41-2.45	61-62	2.46	62	5.58	142	3.19	81
6.4	163	20	2.73-2.77	69-70	2.57	65	6.22	158	3.51	89

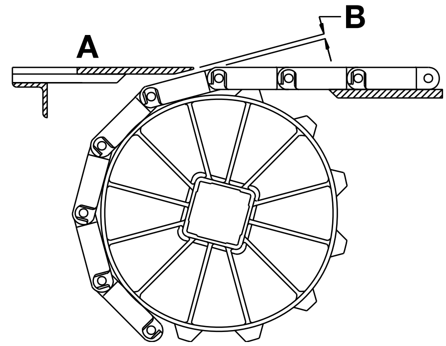
[1] Contact Intralox Customer Service for lead times.
[2] Contact Intralox Customer Service for lead times.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



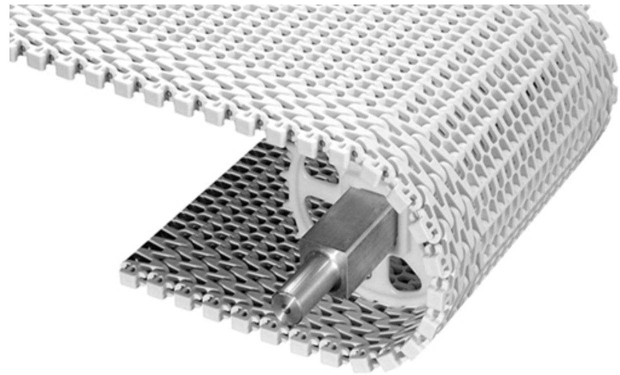
A Top surface of dead plate

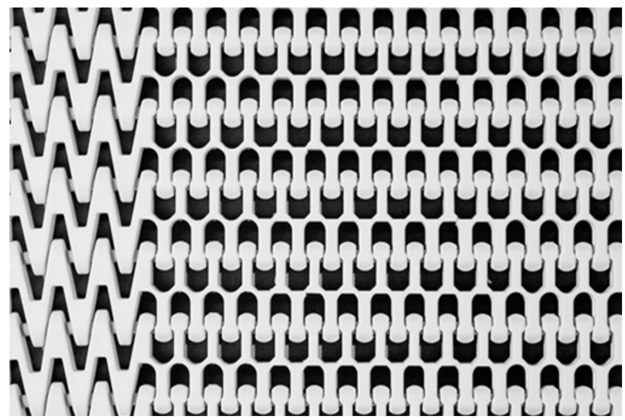
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

Radius Flush Grid (1.7)

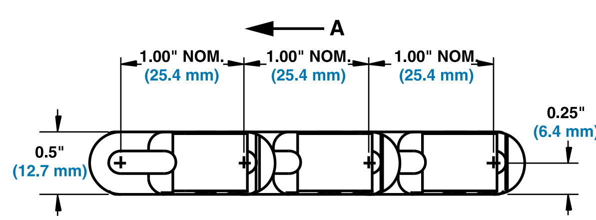
	in	mm
Pitch	1.00	25.4
Minimum Width	7	178
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through belt, making it easy to clean.
- Available with tight turning modules built into one side or both sides of the belt.
- Designed for radius applications with a minimum turn radius of 1.7 times the belt width (measured from inside edge). Maximizes plant floor space.
- Use the Intralox Engineering Program to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Sprocket drive system is designed to minimize wear and require low return-side tension.
- Available with 1.7 modules on the inside and 2.2 modules on the outside for improved strength.
- Radius belt wearstrips are available.
- Contact Intralox Customer Service before using a belt width greater than 18 in (457 mm) in spiral and flat turning applications.
- Looking in the direction of flat-turning travel, the minimum sprocket indent from the right side belt edge with tight turning modules is 2.625 in (66.7 mm).
- Minimum sprocket indent from the left side belt edge with tight turning modules: 2.875 in (73 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).



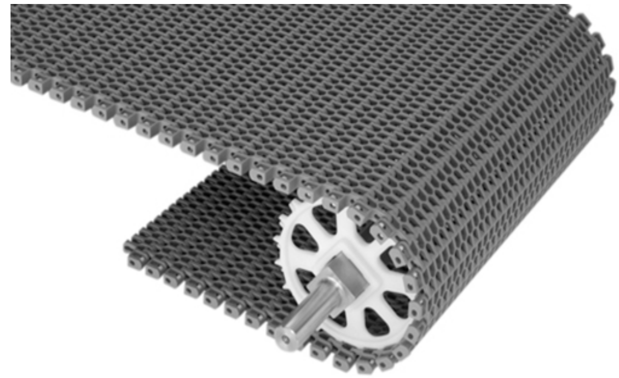
A - Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.180 in (4.57 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	600	892.8	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	600	892.8		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene[1]	600	892.8		34 to 220	1 to 104	1.12	5.47

[1] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

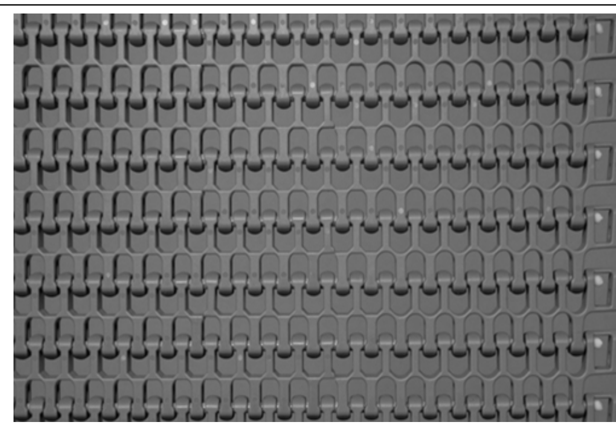
Radius Flush Grid (2.2)

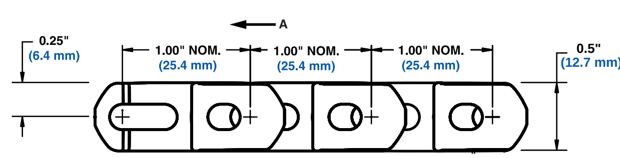
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).
- Sprocket drive system is designed to minimize wear and require low return side tension.
- Use the Intralox Engineering Program to identify strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- Radius belt wearstrips are available.
- Available with hold down guides, see *Hold Down Guides (2.2 Only)* for details.
- Contact Intralox Customer Service before using a belt wider than 36 in (914 mm) in flat-turning or spiral applications.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





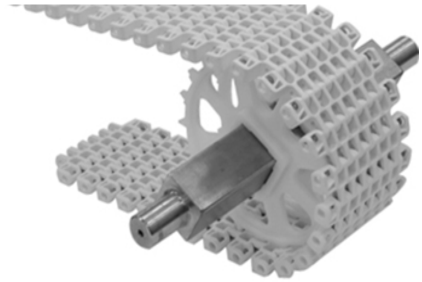
A - Preferred direction for flat turning applications

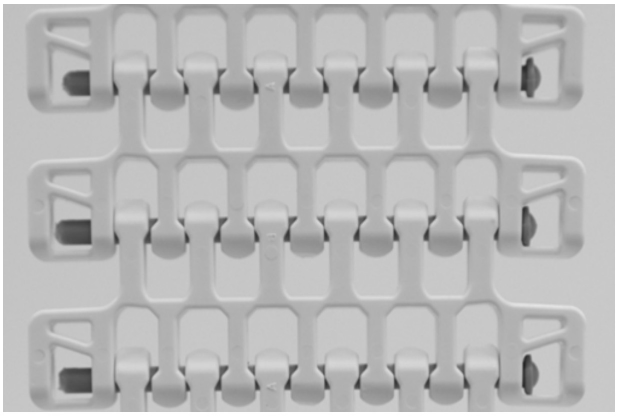
Belt Data									
Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)		Belt weight		
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²	
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.40	
Acetal	Nylon	1700	2528		-50 to 200	-46 to 93	1.59	7.76	
Detectable acetal	HR nylon	1300	1935		-50 to 200	-46 to 93	1.70	8.30	
Polypropylene	Polypropylene[1]	1000	1487		34 to 220	1 to 104	1.04	5.11	
X-Ray Detectable Acetal[2]	X-Ray Detectable Acetal	1700	2528		-50 to 200	-46 to 93	1.85	9.03	
HR nylon	HR nylon	1700	2530		-50 to 240	-46 to 116	1.43	6.98	
HHR nylon	HHR nylon	1700	2530		-50 to 310	-46 to 154	1.43	6.98	

[1] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.
[2] Designed specifically for detection by X-ray machines.

Mold to Width Radius Flush Grid 2.2

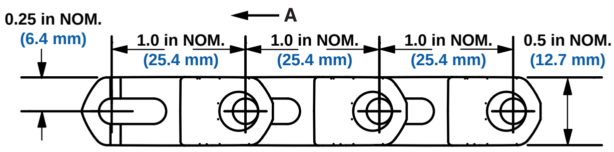
	in	mm
Pitch	1.00	25.4
Molded Width	4	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Sprocket drive system is designed to minimize wear and requires very low return side tension.
- Use the Intralox Engineering Program to identify the strength requirements of most radius applications, and ensure that the belt is strong enough for the application.
- Available with hold down guides, see *Hold Down Guides (2.2 Only)* for details.
- Radius belt wearstrips are available.
- Hold down guides cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets.
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.



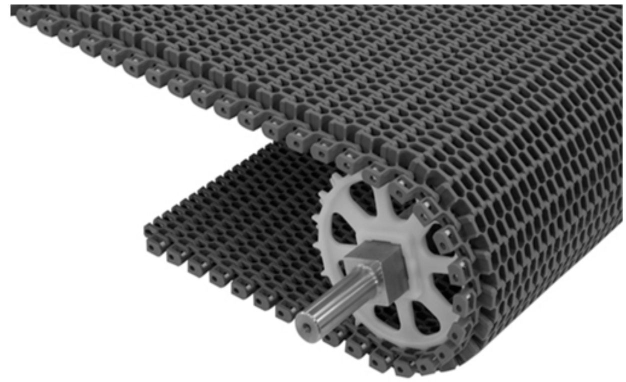
A - Preferred direction for flat turning applications

Belt Data

Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)		Belt weight	
		lb	kg		°F	°C	lb/ft	kg/m
Acetal	Nylon	560	254	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.56	0.83
Polypropylene	Acetal	400	181		34 to 200	1 to 93	0.39	0.57

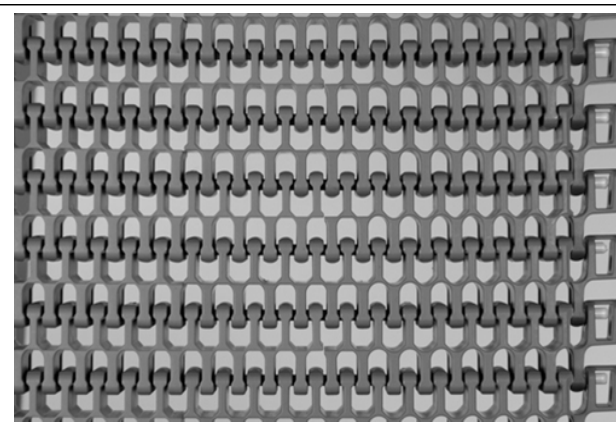
Radius Flush Grid High Deck

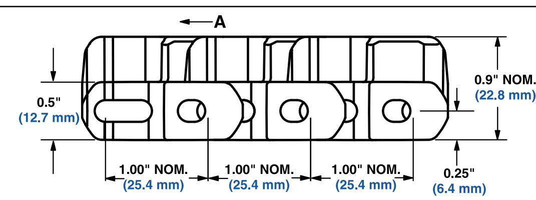
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Makes turns with an inside radius of 2.2 times the belt width.
- Works with standard Series 2400 wearstrips.
- Flush Grid High Deck is 0.4 in (10 mm) higher than the standard Series 2400 belt.
- Standard indent: 0.875 in (22.2 mm).





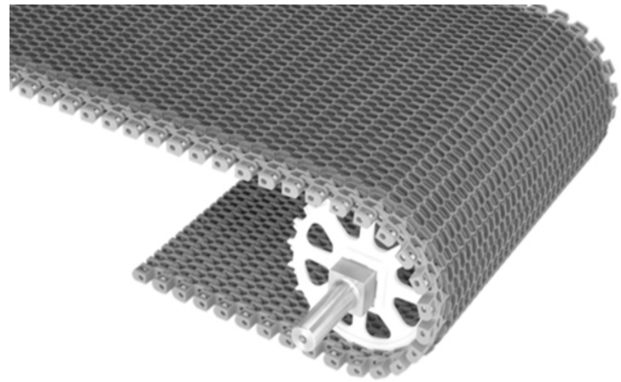
A - Preferred direction for flat turning applications

Belt Data

Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
HR nylon	Nylon	1700	2530		-50 to 240	-46 to 116	2.30	11.23
Acetal	Acetal	1700	2530		-50 to 200	-46 to 93	2.83	13.82
X-Ray Detectable Acetal	X-Ray Detectable Acetal	1700	2530		-50 to 200	-46 to 93	3.31	16.16

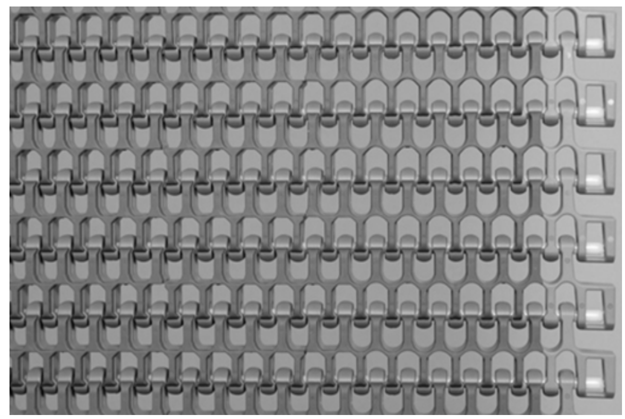
Radius Friction Top (2.2)

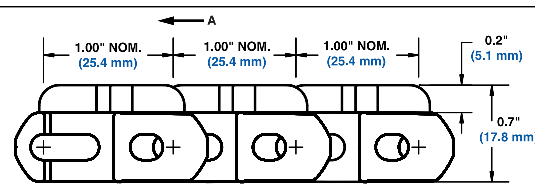
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in gray polypropylene with gray rubber and white polypropylene with white rubber.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Radius belt wearstrips are available.
- Available with hold down guides, see *Hold Down Guides (2.2 Only)* for details.
- Contact Intralox Customer Service before using a belt width greater than 36 in (914 mm) in a flat turning or spiral applications.
- Indent for friction surface is molded at 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38.1 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.





A - Preferred direction for flat turning applications

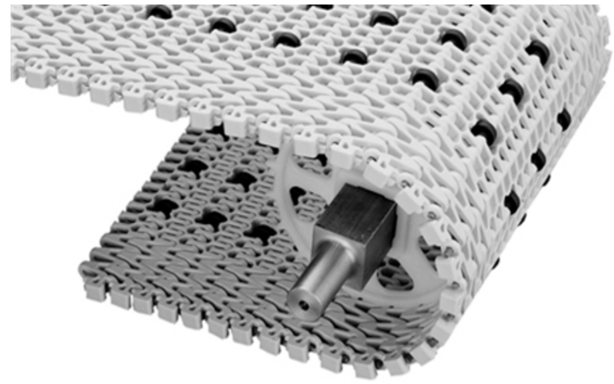
Belt Data

Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.57 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC^b
Polypropylene	Gray/Gray	Acetal	1200	1785	Contact Intralox Customer Service for curved belt strength calculations.	34 to 150	1 to 66	1.35	6.59	64 Shore A		
Polypropylene	White/White	Acetal	1200	1785		34 to 150	1 to 66	1.35	6.59	55 Shore A	a	c
Polypropylene	Gray/Gray	Polypropylene	1000	1487		34 to 150	1 to 66	1.29	6.30	64 Shore A		
Polypropylene	White/White	Polypropylene	1000	1487		34 to 150	1 to 66	1.29	6.30	55 Shore A	a	c
Polypropylene	High-Performance FT Blue/Blue	Acetal	1200	1785		34 to 212	1 to 100	1.35	6.59	59 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

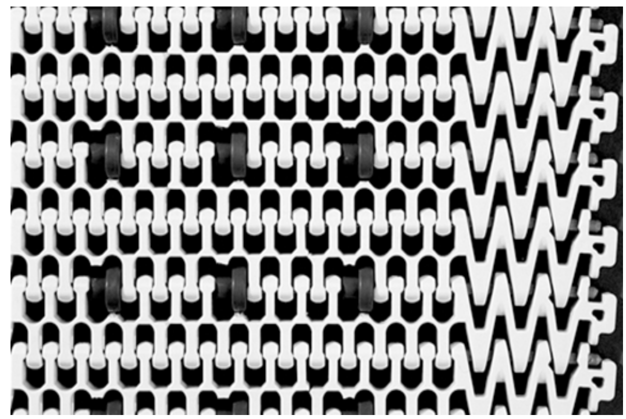
Radius Flush Grid (2.4) with Insert Rollers

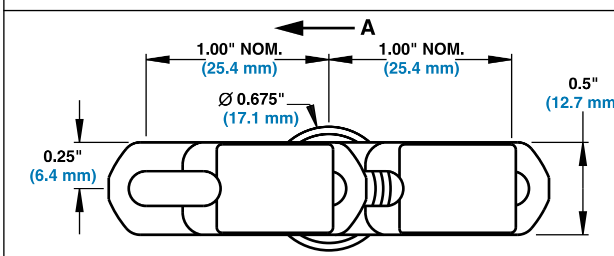
	in	mm
Pitch	1.00	25.4
Minimum Width	9	229
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Uses acetal rollers.
- Do NOT place sprockets in line with rollers.
- For radius applications requiring low back pressure accumulation with minimum radius of 2.4 times belt width (measured from inside edge).
- For low back pressure applications, place wearstrip between rollers. For driven applications, place wearstrip directly under rollers.
- Belts 12 in (305 mm) wide and less have a turn ratio of 1.7.
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in a flat turning or spiral applications.
- Standard roller width spacings: 2 in (51 mm), 3 in (76 mm) or 4 in (102 mm).
- Standard roller row spacings: 2 in (51 mm) or 4 in (102 mm).
- Roller indents: 3.5 in (89 mm) or 4 in (102 mm) based on roller width spacing selected.





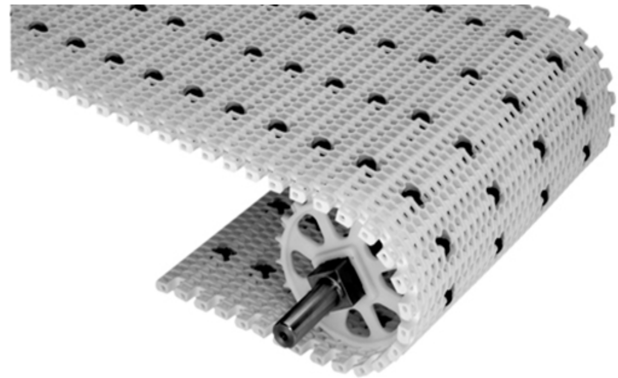
A - Preferred direction for flat turning applications

Belt Data

Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength		Roller Indents		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	500	744	3.5 or 4.0	89 or 102	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.20	5.86
Acetal	Nylon	500	744	3.5 or 4.0	89 or 102		-50 to 200	-46 to 93	1.73	8.44
Polypropylene	Polypropylene	500	744	3.5 or 4.0	89 or 102		34 to 220	1 to 104	1.12	5.47

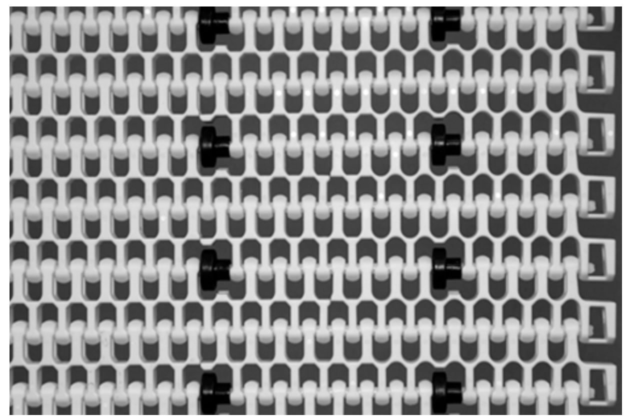
Radius Flush Grid (2.8) with Insert Rollers

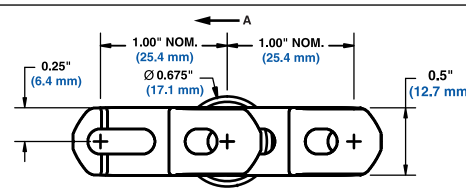
	in	mm
Pitch	1.00	25.4
Minimum Width	6	152
Width Increments	1.00	25.4
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- This belt uses the Series 2400 Radius Flush Grid (2.2) as a base. Due to roller placement, turn radius increases to 2.8.
- For low back-pressure applications, place wearstrips between rollers. For driven applications, place wearstrips under rollers.
- Do not place sprockets in-line with rollers.
- For radius applications requiring low back-pressure accumulation with a minimum radius of 2.8 times belt width (measured from inside edge).
- Contact Intralox Customer Service before using a belt width greater than 24 in (610 mm) in flat-turning or spiral applications.
- Standard roller row spacing: 2 in (51 mm) or 4 in (102 mm).
- Standard roller width spacing: 2 in (51 mm), 3 in (76 mm), or 4 in (102 mm).
- Minimum width with hold down guides: 8 in (203 mm).
- Roller indents: 2 in (51 mm), 2.5 in (63 mm), 3 in (76 mm), or 3.5 in (89 mm) based on roller width spacing.
- Minimum roller indent with hold down guides: 3 in (76 mm).





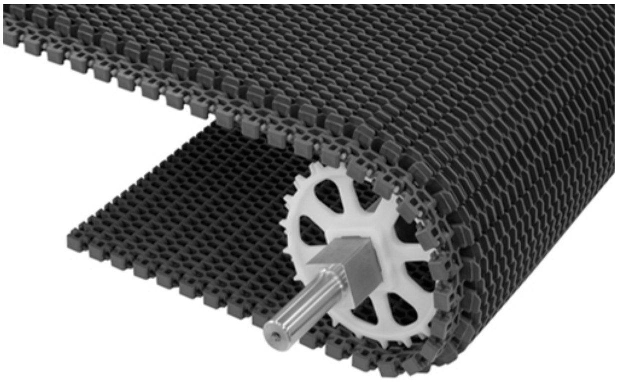
A - Preferred direction for flat turning applications

Belt Data

Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength Roller Width Spacing 2 in	51 mm	3 in	76 mm	4 in	102 mm	Roller Indents		Curved belt strength	Temp. Range (continuous)		Belt weight	
		lb/ft	kg/m	lb/ft	kg/m	lb/ft	kg/m	in	mm		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	700	1040	800	1190	900	1340	2	51	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.21	1.21
								2.5 to 3.5	64 to 89					
Acetal	Nylon	1000	1490	1200	1780	1300	1940	2	51		-50 to 200	-46 to 93	1.61	7.68
								2.5 to 3.5	64 to 89					
Polypropylene	Polypropylene	600	890	700	1040	800	1190	2	51		34 to 220	1 to 104	1.04	5.11
								2.5 to 3.5	64 to 89					

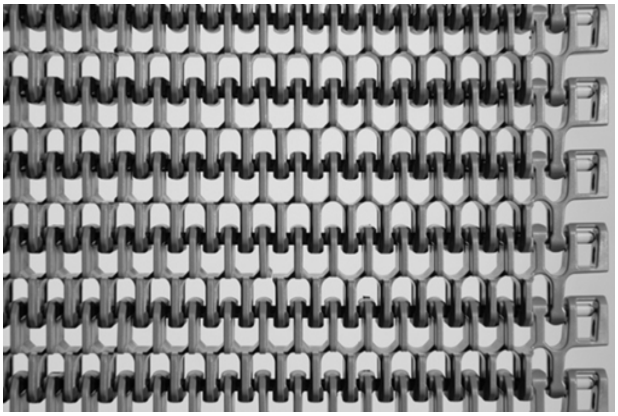
Radius Raised Rib

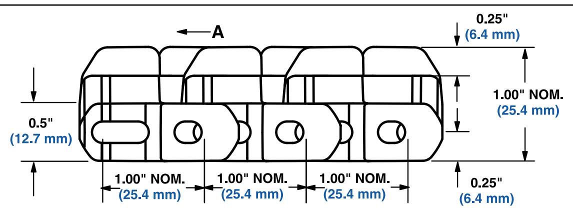
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.50	12.7
Opening Size (approximate)	0.35 × 0.30	8.9 × 7.6
Open Area	42%	
Product Contact Area	18%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Permits airflow through the belt to provide cooling in food-processing applications.
- Facilitates smooth transfers of small packages with the addition of transfer plates.
- Works with standard Series 2400 wearstrips.
- Standard indent: 1.12 in (28.6 mm).
- Belt deck height: 0.5 in (12.7 mm) higher than the standard Series 2400 belt.





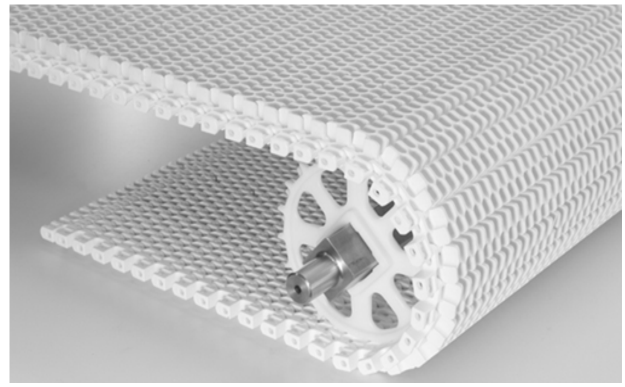
A - Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.18 in (4.57 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.98	9.68
Acetal	Nylon	1700	2528		-50 to 200	-46 to 93	3.00	14.67
Polypropylene	Polypropylene[1]	1000	1487		34 to 220	1 to 104	1.92	9.39
HR nylon	Nylon	1700	2530		-50 to 240	-46 to 116	2.5	12.25

[1] Polypropylene rods can be installed in polypropylene belts when extra chemical resistance is required. Please note lower belt strength.

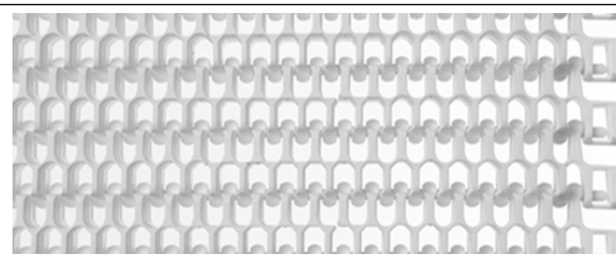
0.4 in High Radius Friction Top

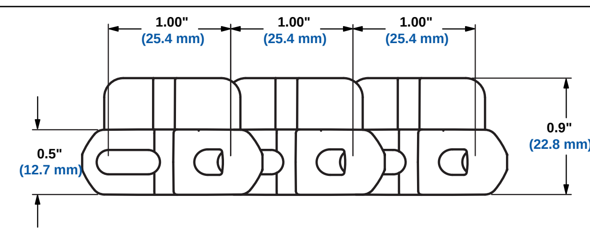
	in	mm
Pitch	1.00	25.4
Minimum Width	4	102
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Makes turns with an inside turn radius of 2.2 times the belt width.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Indent for friction surface is molded at 0.95 in (24.1 mm).
- Minimum nosebar diameter: 1.375 in (34.9 mm).





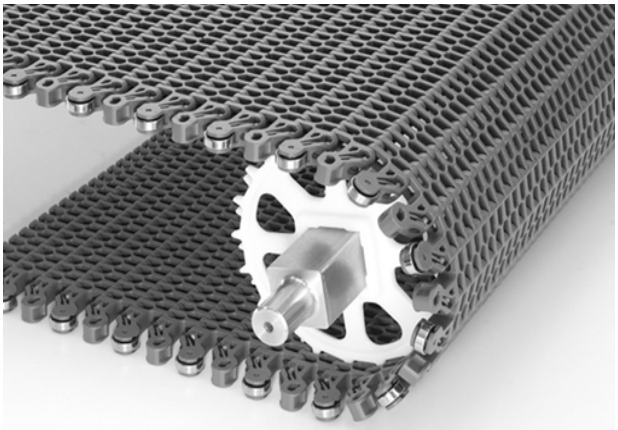
Belt Data

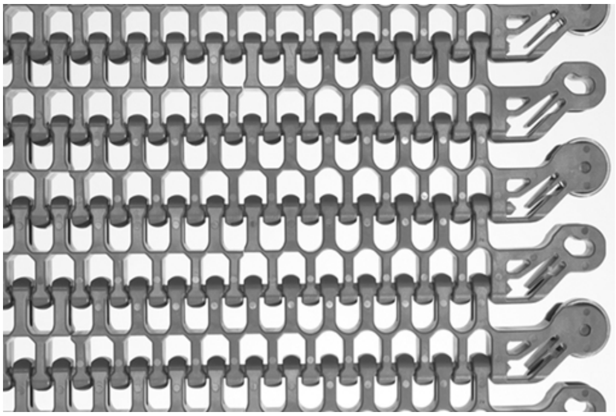
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.57 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	White/White	Acetal	1200	1785	Contact Intralox Customer Service for curved belt strength calculations.	34 to 150	1 to 66	1.77	8.65	55 Shore A	a	c
Polypropylene	White/White	Polypropylene	1000	1488		34 to 150	1 to 66	1.69	8.25	55 Shore A	a	c
Polypropylene	High-Performance FT Blue/Blue	Polypropylene	1200	1785		34 to 212	1 to 100	1.77	8.65	59 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

Radius with Edge Bearing

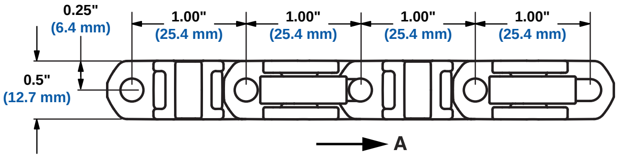
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are stainless steel and are retained by a plastic pin.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Both flush edge and hold down guide edge are available for belts that have bearings on only one side and must be placed on the outside edge of the turn.
- Use the Intralox Engineering Program to determine if the Edge Bearing is suitable for your application.

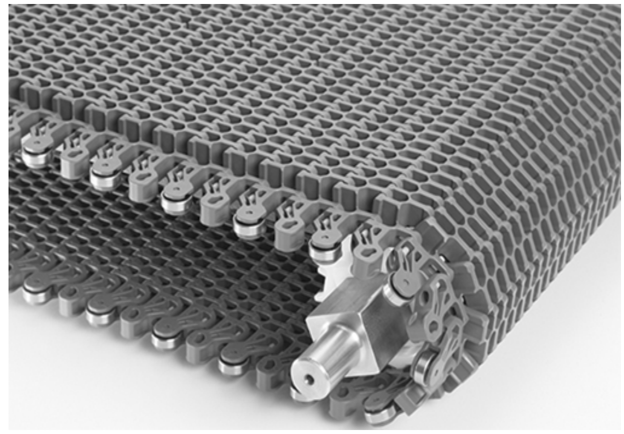


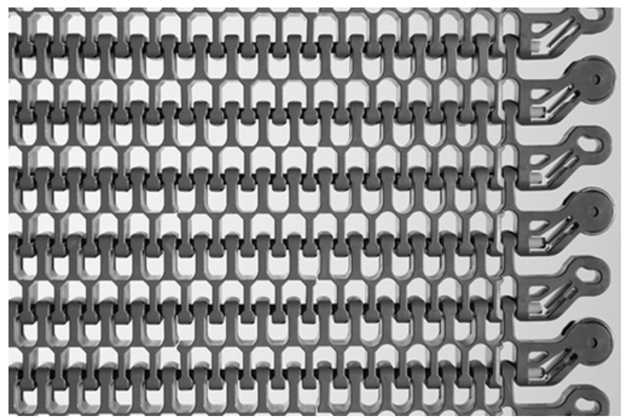
A - Preferred direction for flat turning applications

Belt Data								
Belt material	Standard rod material Ø 0.18 in (4.6 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1700	2530	Contact Intralox Customer Service for curved belt strength calculations.	0 to 200	-18 to 93	1.59	7.76

Radius Flush Grid High Deck with Edge Bearing

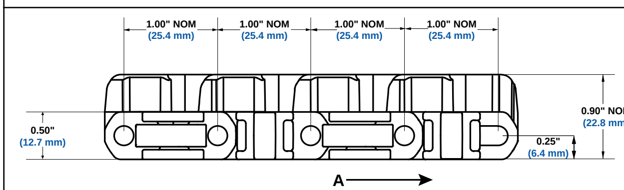
	in	mm
Pitch	1.00	25.4
Minimum Width (Bearings One Side)	7.5	191
Minimum Width (Bearings Both Sides)	9.0	229
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Occluded edge rod retention allows for easier insertion and removal of rods.
- Edge bearings are only available for turning belts.
- Edge bearings are stainless steel and are retained by plastic pins.
- Edge bearings are available on one side (for belts that turn in only one direction) or on both sides (for belts that turn in both directions). Bearings must be placed on the inside edge of the turn, and must be configured in every other row of the belt.
- Designed for radius applications with a turn radius of 2.2 times the belt width.
- Use the Intralox Engineering Program to determine if the Edge Bearing is suitable for your application.
- Belt height: 0.4 in (10 mm) higher than standard S2400 belt.
- Standard indent: 1.88 in (47.75 mm).



A - Preferred direction for flat turning applications

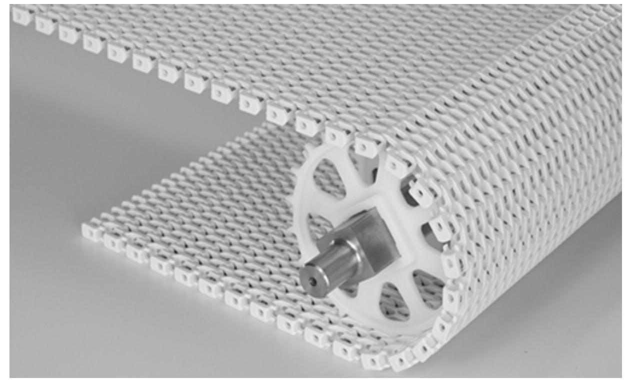
Belt Data

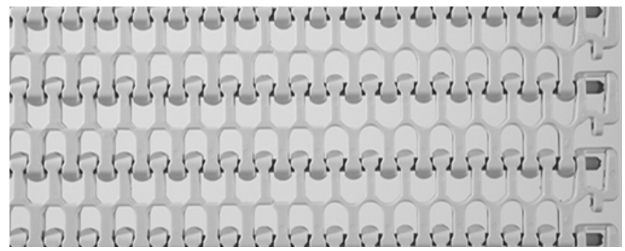
Base belt material	Standard rod material Ø 0.18 in (4.6 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)[1]		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Nylon	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	0 to 200	-18 to 93	2.83	13.82

[1] Sideflexing applications must not exceed 180°F (82°C).

Radius Flush Grid with Load-Sharing™ Edge

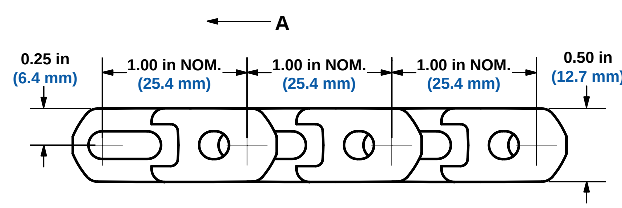
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Use the Intralox Engineering Program to predict strength requirements for most radius and low-tension capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.



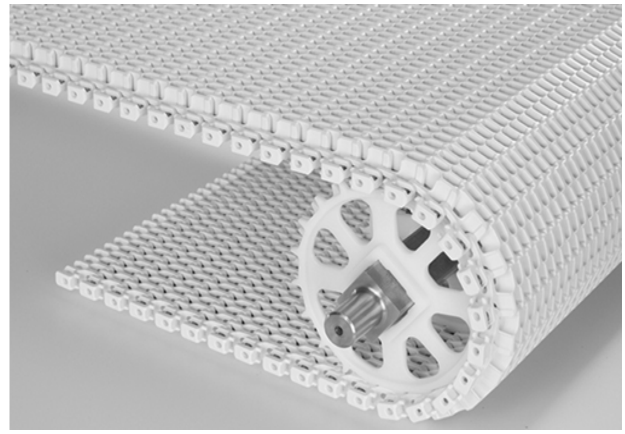
A - Preferred direction for flat turning applications

Belt Data									
Base belt material	Standard rod material Ø 0.18 in (4.6 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)[1]		Belt weight		
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²	
Polypropylene	Acetal	1200	1790	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.10	5.37	
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	1.59	7.76	
Polypropylene	Polypropylene	1000	1490		34 to 200	1 to 104	1.04	5.10	
X-Ray Detectable Acetal	X-Ray Detectable Acetal	1700	2530		-50 to 200	-46 to 93	1.85	9.03	

[1] Sideflexing applications must not exceed 180°F (82°C).

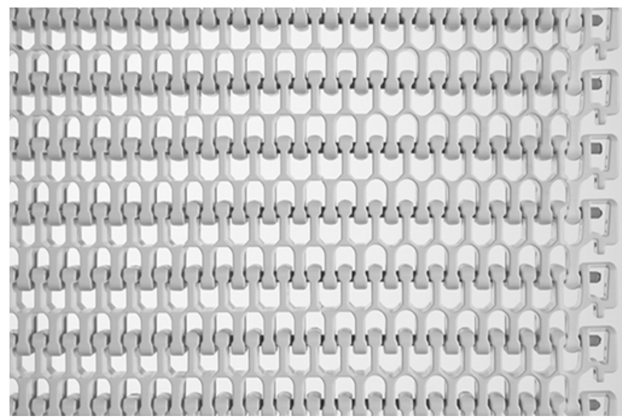
Radius Flush Grid High Deck with Load-Sharing™ Edge

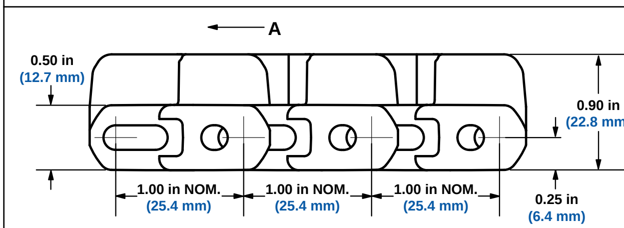
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36	914
Width Increments	0.5	12.7
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Use the Intralox Engineering Program to predict strength requirements for most radius and low-tension capstan drive spiral applications, and ensure the belt is strong enough for the application.
- Uses a standard Series 2400 wearstrip.
- Standard indent: 0.875 in (22.2 mm).
- Load-Sharing Edge height: 0.4 in (10 mm) higher than the standard S2400 belt.





A - Preferred direction for flat turning applications

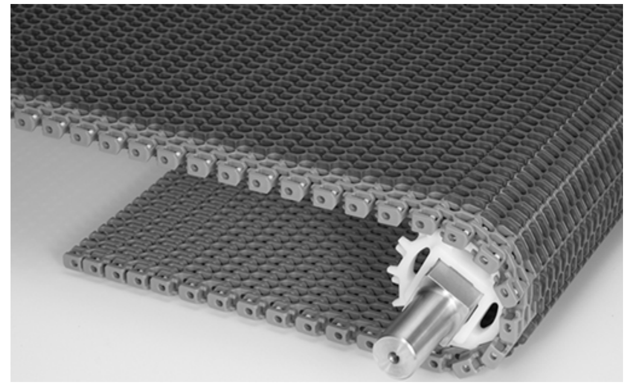
Belt Data

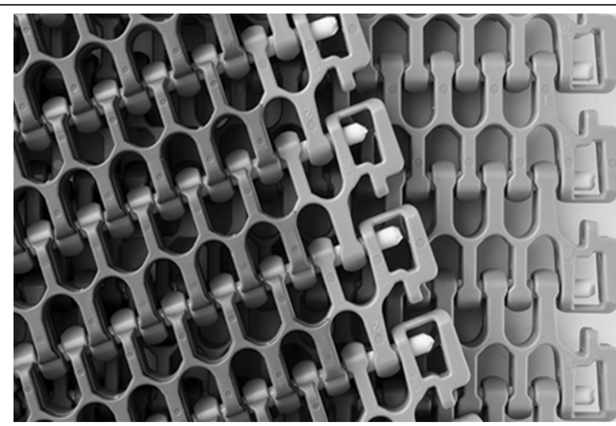
Base belt material	Standard rod material Ø 0.18 in (4.6 mm)	Straight belt strength		Curved belt strength	Temp. Range (continuous)[1]		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Polypropylene	Acetal	1200	1785	For curved belt strength calculations, contact Intralox Customer Service.	34 to 200	1 to 93	1.90	9.28
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	2.83	13.82
Polypropylene	Polypropylene	1000	1487		34 to 200	1 to 104	1.84	8.99

[1] Sideflexing applications must not exceed 180°F (82°C).

Radius Flush Grid Friction Top 2.2 with Load-Sharing™ Edge

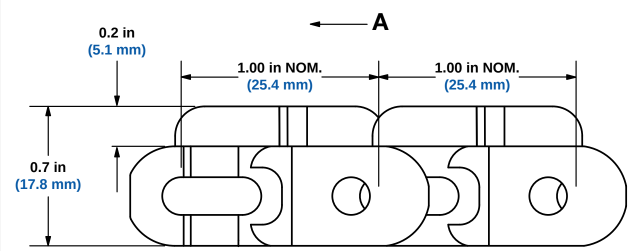
	in	mm
Pitch	1.00	25.4
Minimum Width	10.5	266.7
Maximum Width	36.0	914.0
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Product Contact Area	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Available in gray polypropylene with gray rubber and white polypropylene with white rubber.
- Belt openings pass straight through the belt to simplify cleaning.
- Flush edge design features an extension to reduce the opening size.
- Designed for radius applications with a minimum turn radius of 2.2 times the belt width.
- Sprocket drive system minimizes wear and requires very low return-side tension.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Indent for friction surface is molded at 1.125 in (28.6 mm).
- Minimum nosebar diameter: 1.5 in (38 mm) with hold down guides and 1.375 in (34.9 mm) without hold down guides.



A - Preferred direction for flat turning applications

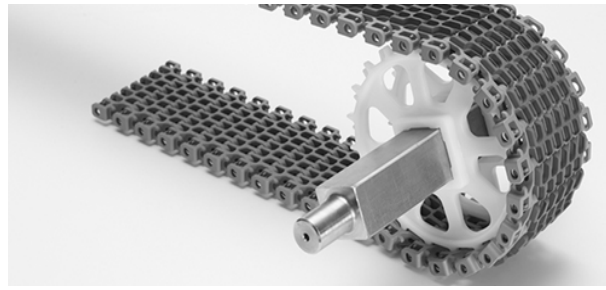
Belt Data

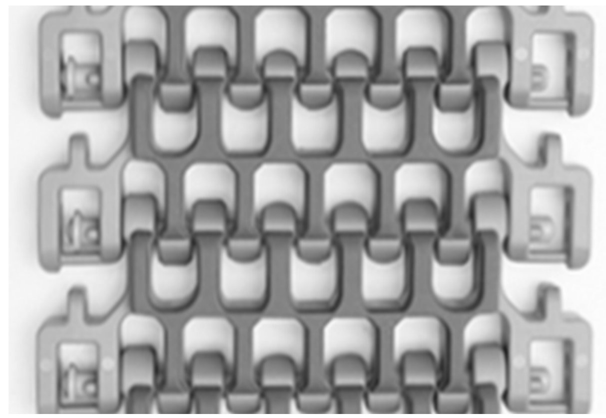
Base Belt Material	Base/Friction Color	Standard Rod Material Ø 0.18 in (4.57 mm)	Belt Strength		Curved Belt Strength	Temp. Range (continuous)		Belt Weight		Friction Top Hardness	Agency Acceptability	
			lb/ft	kg/m		°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Polypropylene	Gray/Gray	Acetal	1200	1790	Contact Intralox Customer Service for curved belt strength calculations.	34 to 200	1 to 93	1.35	6.59	64 Shore A		
Polypropylene	White/White	Acetal	1200	1790		34 to 200	1 to 93	1.35	6.59	55 Shore A	a	c
Polypropylene	Gray/Gray	Polypropylene	1000	1490		34 to 220	1 to 104	1.29	6.30	64 Shore A		
Polypropylene	White/White	Polypropylene	1000	1490		34 to 220	1 to 104	1.29	6.30	55 Shore A	a	c

a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

MTW Radius Flush Grid Friction Top 2.2 with Load-Sharing™ Edge

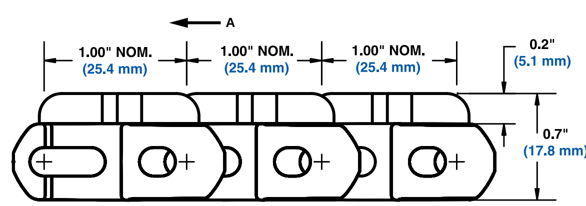
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Available in gray polypropylene with gray rubber and white polypropylene with white rubber.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Contact the Intralox Technical Support Group when considering minimum turn ratio.
- Load-sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- Indent for friction surface on 4-in (101.6 mm) and 6-in (152.4 mm) widths is molded at 0.70 in (17.78 mm).
- Indent for friction surface on 8-in (203.2 mm) and 10-in (254 mm) widths is molded at 0.95 in (24.1 mm).
- Maximum number of sprockets for 4 in (101.6 mm) belts without hold down guides: two. Maximum number of sprockets for 4 in (101.6 mm) belts with hold down guides: one.
- Maximum number of sprockets for 6 in (152.4 mm) belts without hold down guides: four. Maximum number of sprockets for 6 in (152.4 mm) belts with hold down guides: three.
- Maximum number of sprockets for 8 in (203.2 mm) belts with and without hold down guides: five.
- Maximum number of sprockets for 10 in (254 mm) belts with and without hold down guides: seven.
- Smallest pitch diameter sprocket for use with hold down guides: 5.1 in (130 mm).
- Minimum nosebar diameter for belts without hold down guides: 1.375 in (34.9 mm).
- Minimum nosebar diameter for belts with hold down guides: 1.50 in (38.1 mm).



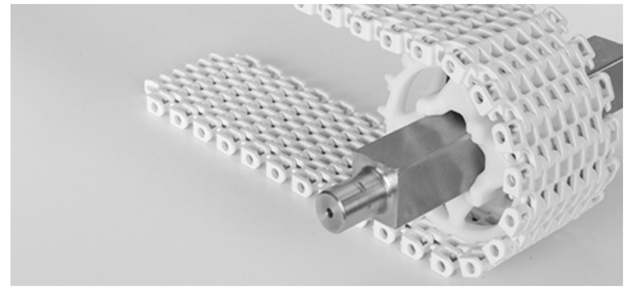
A - Preferred direction for flat turning applications

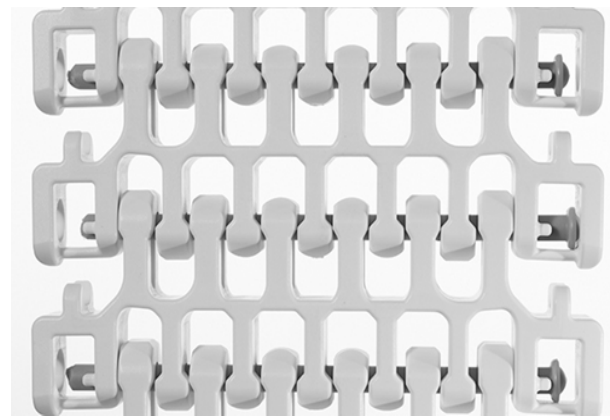
Belt Data

Base belt material	Standard rod material Ø 0.18 in (4.6 mm)	Hold down guides	Straight belt strength lb (kg)				Curved belt strength	Temp. Range (continuous)		Belt weight lb/ft (kg/m)			
			4.0 (101.6)	6.0 (152.4)	8.0 (203.2)	10.0 (254)		F°	C°	4.0 (101.6)	6.0 (152.4)	8.0 (203.2)	10.0 (254)
Polypropylene	Nylon	Without	400 (181)	600 (272)	800 (363)	1000 (454)	For curved belt strength calculations, contact Intralox Customer Service.	34 to 220	1 to 104	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (110)	600 (272)	800 (363)	1000 (454)		34 to 220	1 to 104	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

MTW Radius Flush Grid 2.2 with Load-Sharing™ Edge

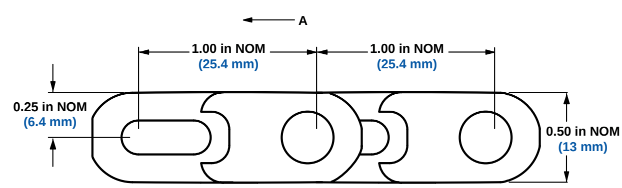
	in	mm
Pitch	1.00	25.4
Minimum Width	4.0	101.6
Opening Size (approximate)	0.35 x 0.30	8.9 x 7.6
Open Area	42%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Snap-lock; headed	





Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Flush edge design features an extension to reduce the opening size.
- Designed for sideflexing applications with a standard turn ratio of 2.2 times the belt width.
- Minimum recommended turn ratio is 1.95. Consult the Intralox Technical Support Group when considering minimum turn ratio.
- Load-Sharing belt edge improves how the load is shared and minimizes fatigue failure in various areas of the belt.
- Temperature, environmental conditions, and product characteristics affect the maximum degree of incline. Consider these factors when designing conveyor systems using these belts.
- Available with hold down guides.
- Radius belt wearstrips are available.
- Available widths: 4 in (101.6 mm), 6 in (152.4 mm), 8 in (203.2 mm), and 10 in (254 mm).
- Maximum number of sprockets for 4 in (101.6 mm) belts without hold down guides: two. Maximum number of sprockets for 4 in (101.6 mm) belts with hold down guides: one.
- Maximum number of sprockets for 6 in (152.4 mm) belts without hold down guides: four. Maximum number of sprockets for 6 in (152.4 mm) belts with hold down guides: three.
- Maximum number of sprockets for 8 in (203.2 mm) belts with and without hold down guides: five.
- Maximum number of sprockets for 10 in (254 mm) belts with and without hold down guides: seven.
- Minimum nosebar diameter for belts without hold down guides: 1.375 in (34.9 mm). Minimum nosebar diameter for belts with hold down guides: 1.50 in (38.1 mm).



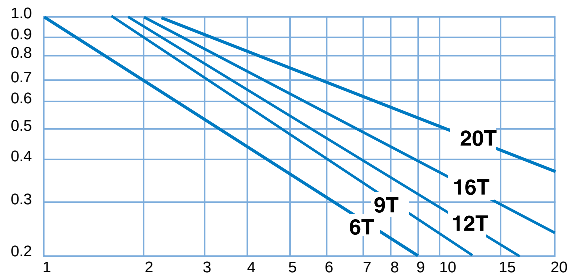
A - Preferred direction for flat turning applications

Belt Data

Base belt material	Standard rod material Ø 0.18 in (4.6 mm)	Hold down guides	Straight belt strength lb (kg) 4 in (101.6)	6 in (152.4)	8 in (203.2)	10 in (254)	Curved belt strength	Temp. Range (continuous) °F	°C	Belt weight lb/ft (kg/m) 4 in (101.6)	6 in (152.4)	8 in (203.2)	10 in (254)
Acetal	Nylon	Without	484 (220)	850 (386)	1133 (514)	1417 (643)	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	0.57 (0.85)	0.89 (1.32)	1.19 (1.77)	1.50 (2.23)
		With	242 (110)	726 (329)	1133 (514)	1417 (643)		-50 to 200	-46 to 93	0.64 (0.95)	0.96 (1.42)	1.26 (1.88)	1.56 (2.32)
Polypropylene	Nylon	Without	400 (181)	600 (272)	800 (363)	1000 (454)		34 to 220	1 to 104	0.39 (0.58)	0.60 (0.89)	0.82 (1.22)	1.01 (1.50)
		With	242 (110)	600 (272)	800 (363)	1000 (454)		34 to 220	1 to 104	0.43 (0.64)	0.65 (0.978)	0.86 (1.28)	1.06 (1.58)

Sprocket and Support Quantity Reference				
Belt Width Range[1]		Minimum Number of Sprockets Per Shaft[2]	Wearstrips[3]	
in	mm		Carryway	Returnway
4	102	1	2	2
5	127	2	2	2
6	152	2	2	2
7	178	2	2	2
8	203	2	2	2
10	254	2	3	2
12	305	3	3	2
14	356	3	3	3
15	381	5	3	3
16	406	5	3	3
18	457	5	3	3
20	508	5	4	3
24	610	5	4	3
30	762	7	5	4
32	813	7	5	4
36	914	7	5	4
42	1067	9	6	5
48	1219	11	7	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Maximum 9 in (229 mm) centerline spacing	Maximum 12 in (305 mm) centerline spacing

Strength Factor

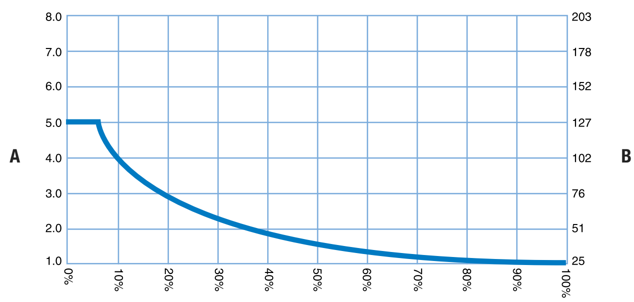


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

[1] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 4 in (102 mm). If the actual width is critical, contact Intralox Customer Service.
[2] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.
[3] The number of wearstrips given does not include the hold down wearstrip.

Molded Sprocket[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							Imperial Sizes		Metric Sizes	
							Round in[2]	Square in	Round mm[2]	Square mm
6[3, 4] (13.40%)	2.0	51	2.0	51	.54	14	3/4		20	
9[3, 4] (6.03%)	2.9	74	2.9	74	1.0	25	1	1	25	25
12 (3.41%)	3.9	99	4.0	102	1.0	25	1 to 1-1/2	1.5[4]	25 to 40	40[4]
16 (1.92%)	5.1	130	5.2	132	1.0	25	1 to 1-1/2	1.5	25 to 40	40
20 (1.23%)	6.4	163	6.4	163	1.0	25	1 to 1-1/2	1.5	25 to 40	40

Split Ultra Abrasion Resistant Polyurethane Sprocket[5]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5[6]		40[6]
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		40

Nylon (FDA) Sprocket[7]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[8]	Square in	Round mm[8]	Square mm
12 (3.41%)	3.9	99	4	102	1.0	25	1, 1-1/4	1.5[9]		
16 (1.92%)	5.1	130	5.2	132	1.0	25	1-1/4			40
20 (1.23%)	6.4	163	6.4	163	1.0	25		1.5		

[1] **Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the belt strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m). All other belts maintain the published rating. The temperature range for polyurethane sprockets is 0°F (-18°C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.**

[2] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[3] The 2.0 in (51 mm) pitch diameter 6 tooth sprocket and the 2.9 in (74 mm) pitch diameter 9 tooth sprocket have a recommended belt pull of 60 lb/sprocket (27 kg/sprocket).

[4] Do not use this sprocket with hold down guides.

[5] **Contact Intralox Customer Service for lead times. When using polyurethane sprockets, the Belt Strength for belts rated over 750 lb/ft (1120 kg/m) is de-rated to 750 lb/ft (1120 kg/m) and all other belts maintain their published rating. The temperature range for polyurethane sprockets is 0°F (-18 °C) to 120°F (49°C). Contact Intralox Customer Service for availability of polyurethane sprockets.**

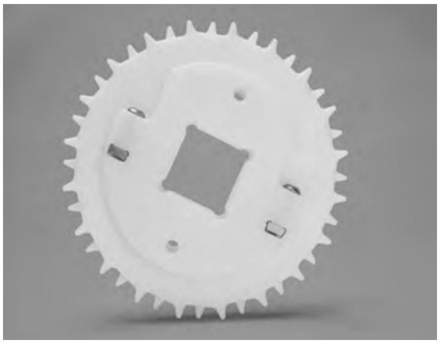
[6] FDA approved sprockets are available.

[7] **Contact Customer Service for lead times.**

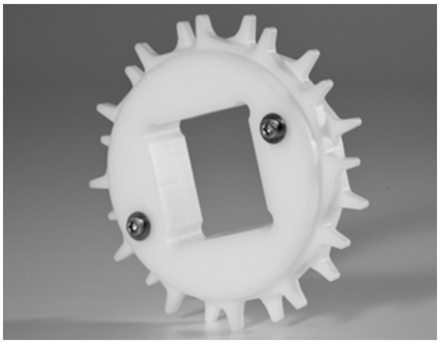
[8] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

[9] Do not use this sprocket with Hold Down Guides.

Split Natural Nylon (FDA) Sprocket[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
20 (1.23%)	6.4	163	6.4	163	1.5	38		1.5		



Acetal Split Sprockets[2]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[3]	Square in	Round mm[2]	Square mm
12 (3.41%)	3.9	99	3.9	99	1.0	25	1-1/4	1.5[4]		



Glass Filled Nylon Sprockets[5]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[6]	Square in	Round mm[5]	Square mm
16 (1.92%)	5.1	130	5.2	132	1.0	25		1.5		40

[1] **Contact Intralox Customer Service for lead times.**
[2] **Contact Intralox Customer Service for lead times.**
[3] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[4] Do not use this sprocket with hold down guides.
[5] **Contact Intralox Customer Service for lead times.**
[6] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key conform to DIN standard 6885.

Glass Filled Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[2]	U.S. Square in	Metric Round mm[7]	Metric Square mm
16 (1.92%)	5.1	130	5.2	132	1.5	38	1-1/4		30 40	

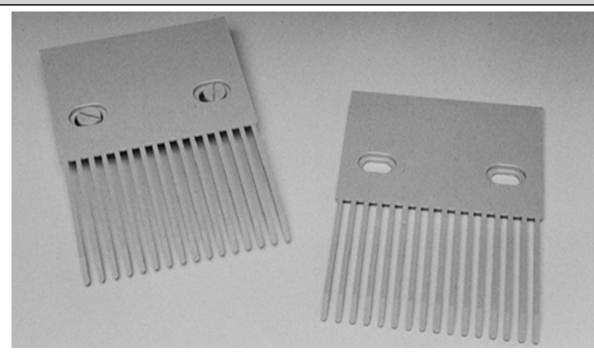
HR Nylon EZ Clean™ Sprockets[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[4]	U.S. Square in	Metric Round mm[2]	Metric Square mm
16 (1.92%)	5.1	130	5.2	132	1.0	25				40

Finger Transfer Plates

Available Widths in	Available Widths mm	Number of Fingers	Available Materials
4	102	16	Acetal

- Designed for use with Series 2400 Raised Rib belts, to eliminate product transfer and tipping problems.
- The fingers extend between the belt ribs, to allow a smooth continuation of the product flow as the belt engages the sprockets.
- Finger transfer plates are easily installed on the conveyor frame with conventional fasteners.

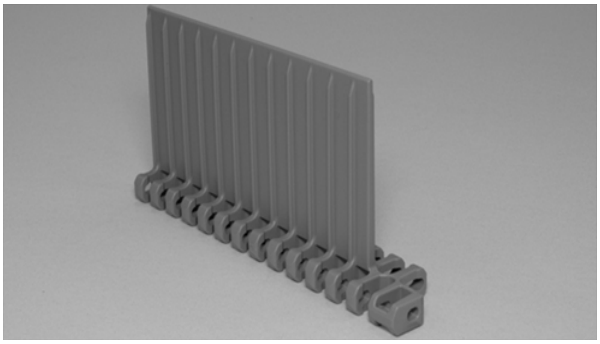


[1] Contact Intralox Customer Service for lead times.
[2] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Contact Intralox Customer Service for lead times.
[4] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

No-Cling Flights

Available Flight Height		Available Materials
in	mm	
3.0	76	Polypropylene, polyethylene, acetal, X-ray detectable acetal

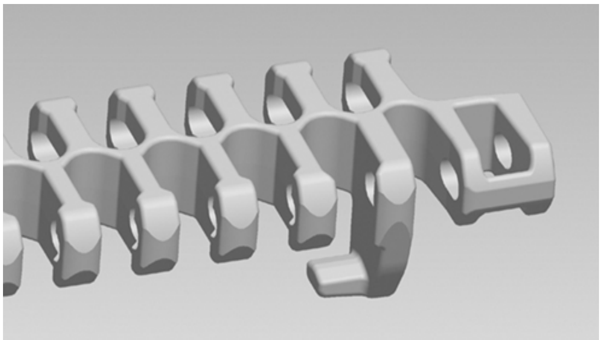
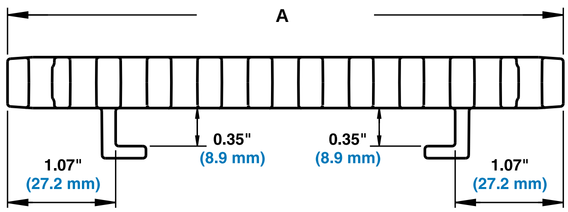
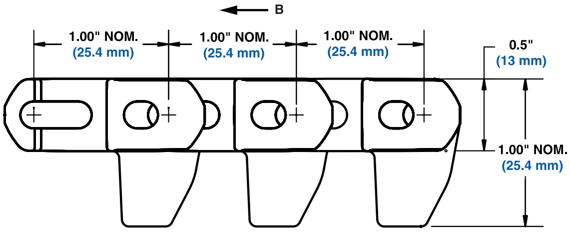
- Flights do not have bottom hold down guides, but can be used with the bottom hold down belt style, with a minimum flight spacing of 4 in (102 mm).
- Minimum indent: 1.125 in (29 mm).



Universal Sideguards

Available Sideguard Height		Available Materials
in	mm	
1.0	25	Polypropylene, acetal
3.0	76	

- Similar in design and function to other standard, overlapping Intralox sideguards. It is an integral part of the belt, fastened by hinge rods. It adds versatility to the Series 2400 belt when used in multiple rows for separating product.
- Easily cleanable. Suitable (FDA accepted) for food applications.
- Minimum indent required: 1.5 in (38 mm) for 2.2 turn ratios, 3.0 in (76 mm) for 1.7 turn ratios.

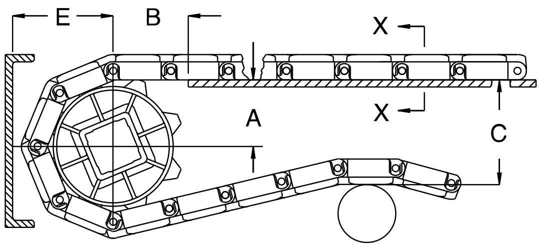
Hold Down Guides (2.2 Only)	
• Materials available: polypropylene, acetal, HR nylon. • Hold down guides are on the bottom of the belt for use when the belt edges must be clear. Also available on friction top modules. • Hold down guides provide the ability to run two belts next to each other without a large gap in between. • The belt edge is smooth for reduced friction, and is relatively thick to provide wear resistance and protection for the rod retention. • Not recommended for low-tension capstan drive spiral applications. • Cannot be used with 2 in and 2.9 in pitch diameter sprockets or 3.9 in pitch diameter square bore sprockets. • Other sprocket PDs with large bores may not produce enough clearance between the hold down guide and shaft. Subtracting bore size from the PD easily identifies these sprockets. If the number is less than 2.0 in (51 mm), this sprocket cannot be used with hold down guides. • Minimum nosebar diameter: 1.5 in (38.1 mm).	
Front view	**Side view**
	
A - Belt width	B - Preferred direction for flat turning applications

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A	± 0.031 in (1 mm)	**C**	± (max.)
B	± 0.125 in (3 mm)	**E**	± (min)

Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 2400 Radius Flush Grid - Straight Edge, Hold Down Guides										
2.0[1]	51[1]	6	0.62-0.75	16-19	1.22	31	2.00	51	1.31	33
2.9[1]	74[1]	9	1.12-1.21	28-31	1.51	38	2.92	74	1.77	45
3.9	99	12	1.62-1.68	41-43	1.86	47	3.86	98	2.24	57
5.1	130	16	2.26-2.31	57-59	2.11	54	5.13	130	2.88	73
6.4	163	20	2.91-2.95	74-75	2.31	59	6.39	162	3.51	89
Series 2400 Radius Flush Grid High Deck, 0.4-in High Radius Friction Top										
2.0[1]	51[1]	6	0.62-0.75	16-19	1.22	31	2.40	61	1.71	43
2.9[1]	74[1]	9	1.12-1.21	28-31	1.51	38	3.32	84	2.17	55
3.9	99	12	1.62-1.68	41-43	1.86	47	4.26	108	2.64	67
5.1	130	16	2.26-2.31	57-59	2.11	54	5.53	140	3.28	83
6.4	163	20	2.91-2.95	74-75	2.31	59	6.79	172	3.91	99
Series 2400 Radius Friction Top - with or without Hold Down Guides										
2.0[1]	51[1]	6	0.62-0.75	16-19	1.22	31	2.20	56	1.51	38
2.9[1]	74[1]	9	1.12-1.21	28-31	1.51	38	3.12	79	1.97	50
3.9	99	12	1.62-1.68	41-43	1.86	47	4.06	103	2.44	62
5.1	130	16	2.26-2.31	57-59	2.11	54	5.33	135	3.08	78
6.4	163	20	2.91-2.95	74-75	2.31	59	6.59	167	3.71	94
Series 2400 Radius with Insert Rollers (all styles) - Free Floating Rollers										
2.0[1]	51[1]	6	0.62-0.75	16-19	1.22	31	2.09	53	1.40	36
2.9[1]	74[1]	9	1.12-1.21	28-31	1.53	39	3.01	76	1.86	47
3.9	99	12	1.62-1.68	41-43	1.78	45	3.95	100	2.33	59
5.1	130	16	2.26-2.31	57-59	2.06	52	5.21	132	2.96	75
6.4	163	20	2.91-2.95	74-75	2.31	59	6.48	165	3.60	91
Series 2400 Radius with Insert Rollers (all styles) - Driven Rollers										
2.0[1]	51[1]	6	0.53-0.66	13-17	1.24	31	2.09	53	1.40	36
2.9[1]	74[1]	9	1.04-1.12	26-31	1.57	40	3.01	76	1.86	47
3.9	99	12	1.53-1.59	39-40	1.92	49	3.95	100	2.33	59
5.1	130	16	2.18-2.23	55-57	2.19	56	5.21	132	2.96	75
6.4	163	20	2.82-2.86	72-73	2.41	61	6.48	165	3.60	91
Series 2400 Radius Raised Rib										
2.0	51	6	0.62-0.75	16-19	1.22	31	2.50	64	1.81	46
2.9	74	9	1.12-1.21	28-31	1.51	38	3.42	87	2.27	58
3.9	99	12	1.62-1.68	41-43	1.86	47	4.36	111	2.74	70
5.1	130	16	2.26-2.31	57-59	2.11	54	5.63	143	3.38	86
6.4	163	20	2.91-2.95	74-75	2.31	59	6.89	175	4.01	102
Series 2400 Radius Flat Top										
2.0	51	6	0.62-0.75	16-19	1.22	31	2.15	55	1.46	37
2.9	74	9	1.12-1.21	28-31	1.51	38	3.07	78	1.92	49
3.9	99	12	1.62-1.68	41-43	1.86	47	4.01	102	2.39	61
5.1	130	16	2.26-2.31	57-59	2.11	54	5.28	134	3.03	77
6.4	163	20	2.91-2.95	74-75	2.31	59	6.54	166	3.66	93

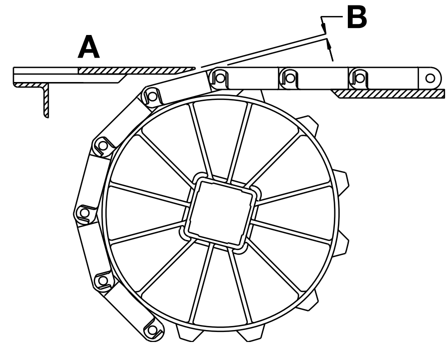
[1] Cannot be used with Hold Down Guides.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
2.0	51	6	0.134	3.4
2.9	74	9	0.088	2.2
3.9	99	12	0.065	1.7
5.1	130	16	0.050	1.3
6.4	163	20	0.039	1.0

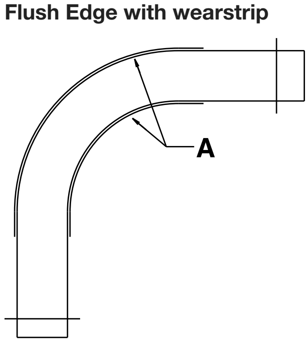
Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails before the turn, at a distance of 1X the belt width. End the rails after the turn, at a distance of 1X the belt width. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory.

The hold down guide design allows the belt to be held down without the wearstrip interfering with the carryway surface. For design guidelines regarding Series 2400 with hold down guides, contact the Intralox Technical Support Group. See *Custom Wearstrips*.

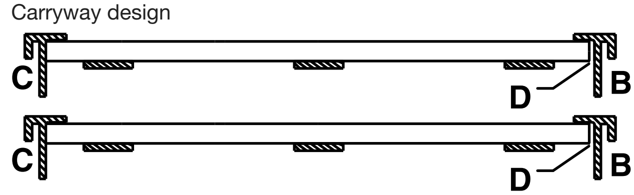
High Deck and Raised Rib belts

Flush Edge with wearstrip



Cross section view through curve

Carryway design



Returnway design

A - Hold down rail placement

B - Outside hold down rail

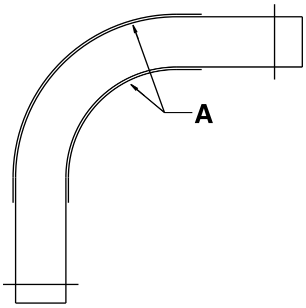
C - Inside hold down rail

D - Clearance

Figure 8: Hold down rails and wearstrips for Series 2400 flat-turn, High Deck, and Raised Rib belts

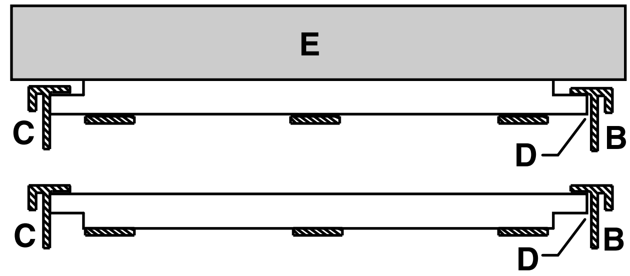
Standard belts

Flush Edge with wearstrip



Cross section view through curve

Carryway design



Returnway design

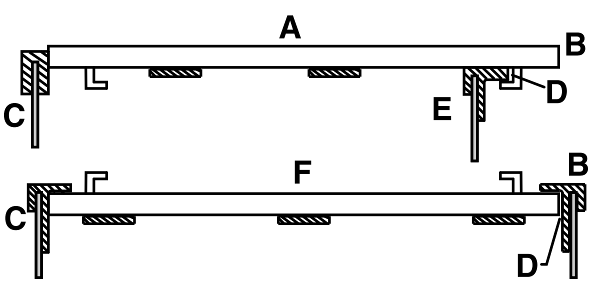
A - hold down rail placement
B - Outside hold down rail
C - Inside hold down rail
D - Clearance
E - Product

Figure 9: Hold down rails and wearstrips for Series 2400 flat-turn, standard belts

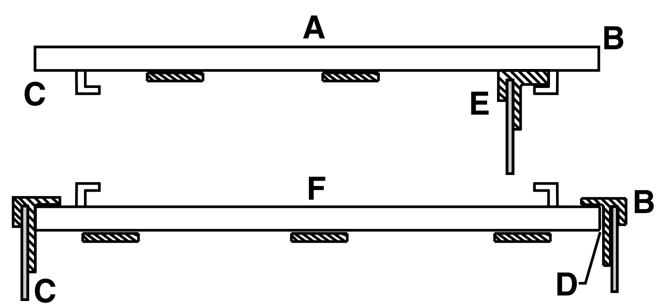
Belts with hold down guides

Special wearstrip guidelines for lightly loaded belts with hold down guides.

Cross section view through curve - with inner bump rail



Cross section view through curve - no bump rail
Requirements: maximum belt pull <20% allowable; belt speed <50 fpm



A - Carryway design
B - Outside edge
C - inside edge
D - Clearance
E - Hold down guide wearstrip
F - Returnway design

Warning: Do not use hold down guides to guide the belt through the turn in heavily loaded or high-speed applications. Rapid wear to the hold down guides and/or wearstrip occurs in applications with high loads or speeds. do not use hold down guides to hold the belt down through a negative transition. Contact Intralox Customer Service for a belt pull analysis.

Figure 10: Hold down rails and wearstrips for series 2400 flat-turns - belts with hold down guides

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2400 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

- **A** The minimum turn radius for the standard edge Series 2400 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- **B** The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- **C** There is no minimum straight run required between turns that are in the same direction.
- **D** The minimum final straight run (leading to the drive shaft) is a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times the belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
- **E** The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
- **F** idle shaft
- **G** first turn
- **H** belt width
- **I** belt travel
- **J** second turn
- **K** drive motor
- **L** drive shaft

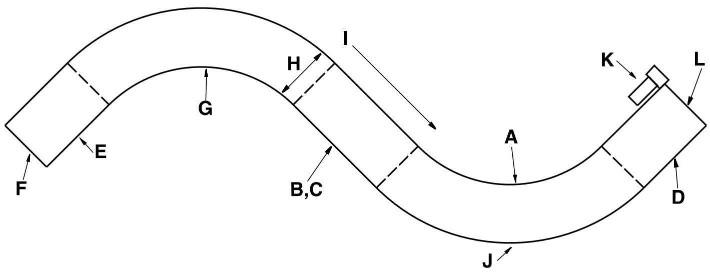
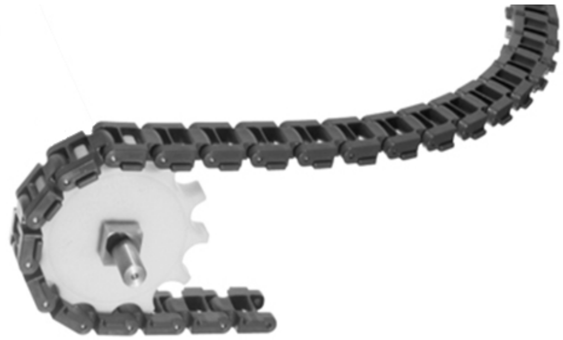


Figure 11: Typical two-turn radius layout

Knuckle Chain

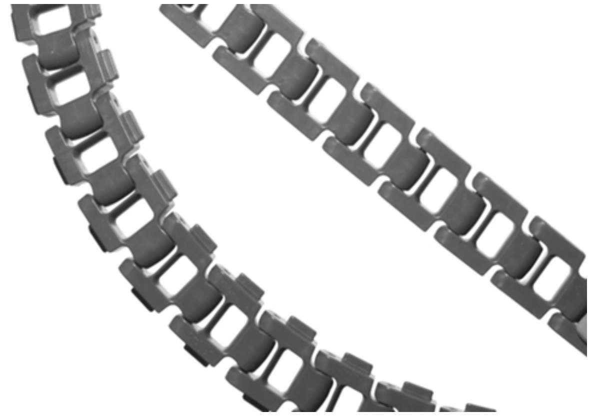
	in	mm
Pitch	2.00	50.8
Molded Width	2.25	57
Open Area	-	
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Press fit; knurled pin	

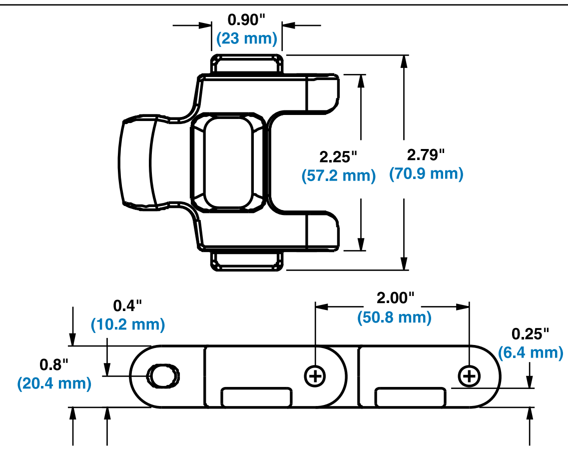


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Thick, durable plastic surface around stainless steel pins for long life and less breakage.
- Can run on the same tracks as other common chains.
- Available in both straight and turning versions.
- Both versions are available with extended pins.
- The turning version is designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) boxed lengths.

Note: Only the Series 3000T (turning version) Knuckle Chain can be used for turning applications. The Series 3000S (straight version) Knuckle Chain cannot be used for turning applications.
Warning: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return sides of the belt. Use hold down wearstrips throughout the conveyor, to protect the belt and personnel next to the conveyor, unless the wearstrips interfere with the operation of the carrying equipment.



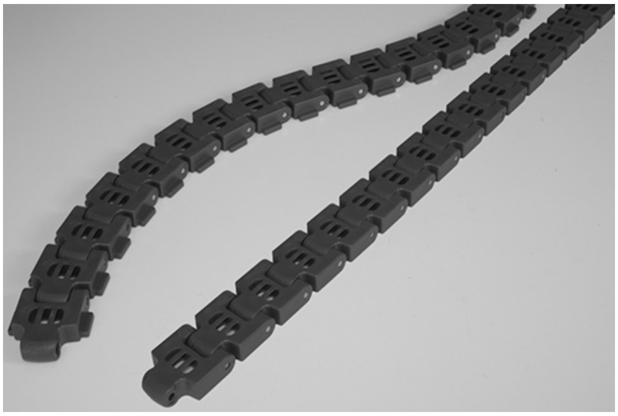


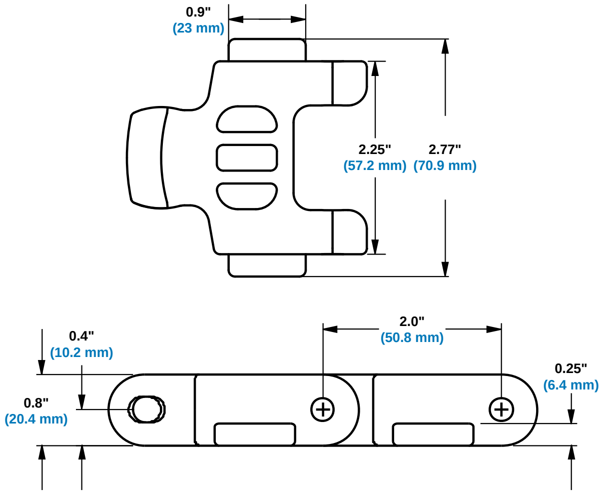
Series 3000T shown

Belt Data							
Chain Material	Standard Rod Material Ø 0.25 in (6.4 mm)	Chain Strength		Temperature Range (continuous)		Chain Weight	
		lb	kg	°F	°C	lb/ft	kg/m
Acetal (Straight)	303 SS	700	317	-50 to 200	-46 to 93	0.88	1.21
Acetal (Turning)	303 SS	560	254	-50 to 200	-46 to 93	0.90	1.25

Mesh Top

	in	mm
Pitch	2.00	50.8
Minimum Width	2.3	57.2
Opening Sizes (approx.)	-	-
Hinge Style	Closed	
Drive Method	Center-driven	
Rod Retention; Rod Type	Press fit; knurled pin	





Product Notes

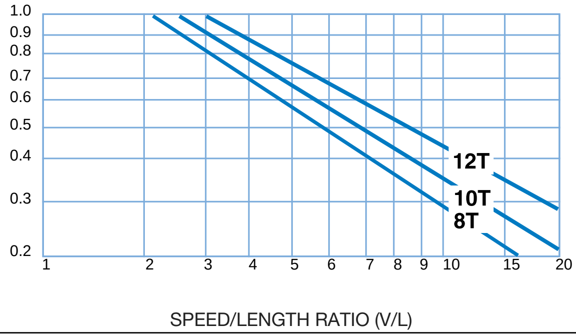
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Mesh Top design eliminates open area for improved worker safety.
- Thick, durable plastic surface around stainless steel pins provides long life and less breakage.
- Can run on the same tracks as other common chains.
- Improved design simplifies cleaning.
- Available in both straight and turning versions.
- Both versions are available with extended pins.
- Turning version designed for applications with a minimum centerline turn radius of 16 in (406 mm).
- Available in 10 ft (3 m) boxed lengths.
- **Note:** Only the Series 3000T (turning version) Mesh Top chain can be used for turning applications. The Series 3000S (straight version) Mesh Top chain cannot be used for turning applications.
  Warning: Hold down wearstrips are mandatory on the inside and outside edges of all turns, on both the carrying and return side of the belt. Unless they interfere with the operation of the carrying equipment, use the hold down wearstrips throughout the conveyor to protect the belt and personnel next to the conveyor.

Belt Data

Chain Material	Standard rod material 0.25 in (6.4 mm)	Chain Strength		Temperature range (continuous)		Chain Weight	
		lb	kg	°F	°C	lb./ft.²	kg/m²
Acetal (Straight)	303 SS	700	318	-50 to 200	-46 to 93	0.89	1.32
Acetal (Turning)	303 SS	560	254	-50 to 200	-46 to 93	0.91	1.36

SECTION 2
3000

Strength Factor



Divide belt speed "V" by the shaft centerline distance "L". Strength Factor is found at intersection of speed/length ratio and appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min)
T = number of teeth
L = ft (m)

Chain Pull Limit with UHMW Polyethylene Sprockets, Based on Bore Size - lb (kg)

No. of Teeth	Nom. Pitch Diameter		1.5 in square		40 mm square		1 in round		1.25 in round		1.5 in round	
	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
8	5.2	132	640	290	640	290	74	34	90	41	162	74
10	6.5	165	520	236	520	236	78	35	95	43	172	78
12	7.7	196	432	196	432	196	65	29	79	36	143	65

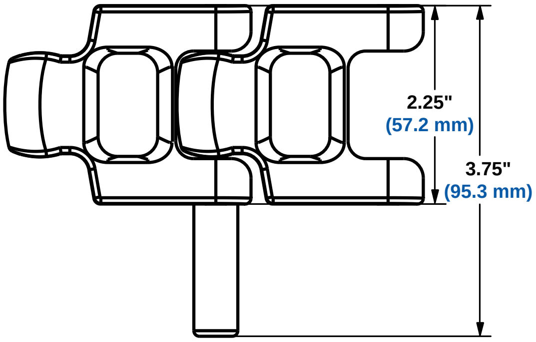
UHMW Polyethylene Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[2]	Square in	Round mm[2]	Square mm
8 (7.61%) Square Bore	5.2	132	5.3	135	1.5	38	1-1/4	1.5		40
8 (7.61%) Round Bore	5.2	132	5.3	135	1.2	30	1-1/4	1.5		40
10 (4.89%)	6.5	165	6.7	170	1.5	38	1-1/4	1.5		40
12 (3.41%)	7.7	196	8.0	203	1.5	38	1-1/4	1.5		40

[1] Contact Customer Service for lead times.
[2] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

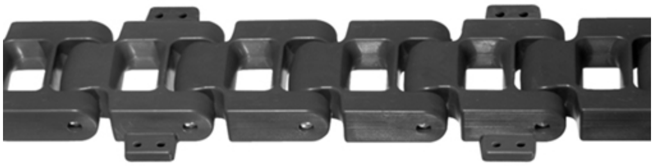
Extended Pins and Tabs

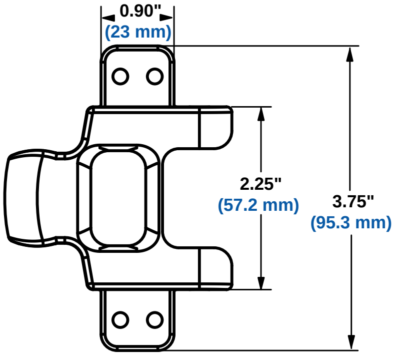
EXTENDED PINS — Modules with 303 stainless steel extended pins can be spliced into both the basic turning and straight running chains. These pins are commonly used in side by side chain strands where rollers are used for low back pressure applications. The minimum extended pin spacing is 2.0 in (50.8 mm). The extended pin modules can be spliced into the standard chain every 2.0 in (50.8 mm).



Extended pins for straight or turning versions

EXTENDED TABS — Modules with extended tabs can be spliced into both the basic turning and straight running chains. These extended tabs can be used to attach flights, cleats, etc. The extended tab modules are based on the turning chain design, so the rating for the turning chain should be used even if the extended tab modules are spliced into straight running chain The minimum tab spacing is 2.0 in (50.8 mm). The tabs can be spliced into the standard chain every 2.0 in (50.8 mm).





Extended tabs for straight or turning versions

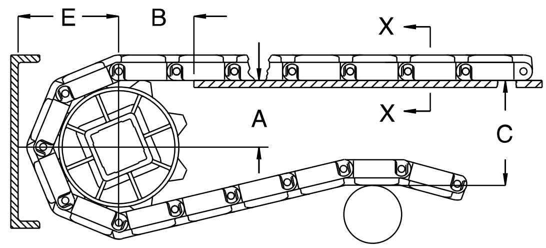
Intralox offers only extended tabs and extended pins. Attachments for either of these accessories are not available through Intralox. Contact Customer Service for lead times.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

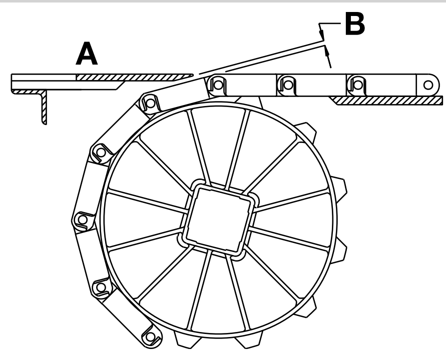
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 3000 Knuckle Chain, Mesh Top										
5.2	132	8	2.01-2.21	51-56	2.29	58	5.23	1.33	3.14	80
6.5	165	10	2.68-2.84	68-72	2.63	67	6.47	164	3.76	96
7.7	196	12	3.33-3.46	85-88	2.94	75	7.73	196	4.39	112

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



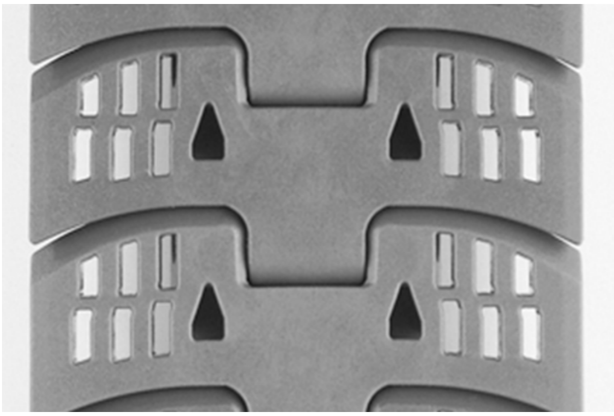
A Top surface of dead plate

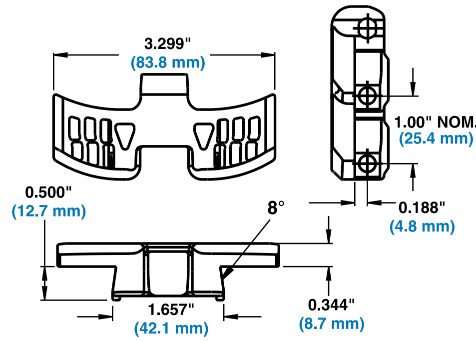
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0
7.7	196	12	0.132	3.4

S4009 Flush Grid

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	13%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	





Product Notes

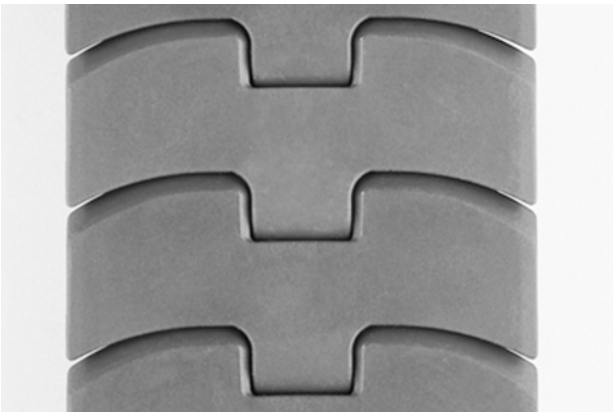
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Corner Tracks, with bevel design, are mandatory on the inside edges of all turns.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Uses S1400 sprockets.
- All Series 1400 and Series 4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Same deck thickness as the straight-running belt counterpart Series 900 FG [0.344 in (8.7 mm)].
- Available in 10 ft (3 m) boxed lengths.
- Designed for applications with a minimum centerline turn radius of 18 in (457 mm).

Belt Data

Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	0.97	1.44
HHR nylon	3.3	84	303 SS	500	227	-50 to 310	-46 to 154	0.97	1.44

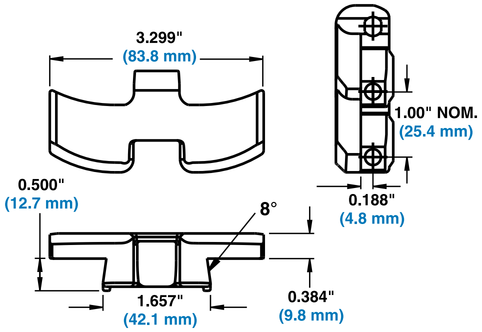
S4009 Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Corner Tracks, with bevel design, are mandatory on the inside edges of all turns.
- Uses S1400 sprockets.
- All Series 1400 and Series 4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- See the belt data table for minimum centerline turn radius.
- Same deck thickness as the straight running belt counterpart Series 900 FT [0.384 in (9.8 mm)].
- Available in 10 ft (3 m) boxed lengths.
- Designed for applications with a minimum centerline turn radius of 18 in (457 mm).



Belt Data

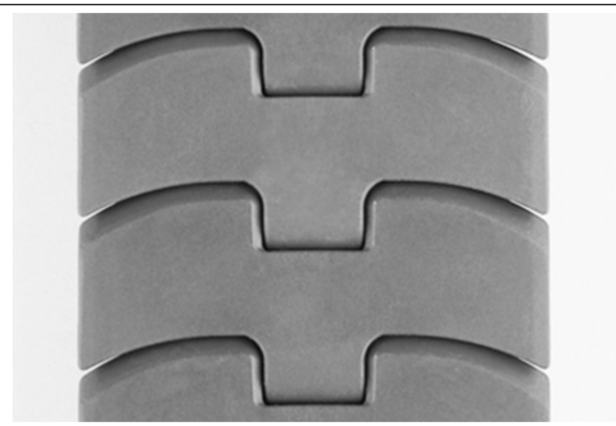
Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	1.11	1.65
HHR nylon	3.3	84	303 SS	500	227	-50 to 310	-46 to 154	0.98	1.46

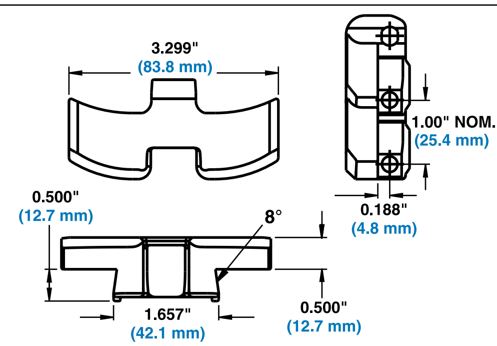
S4014 Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.3	84
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	

Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Corner tracks, with bevel design, are mandatory on the inside edges of all turns.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your application. Contact Intralox Customer Service for more information.
- Uses S1400 sprockets.
- All Series 1400 and Series 4000 sprockets are split, so shafts do not have to be removed for retrofits and changeovers.
- Same deck thickness as the straight-running belt counterpart, Series 1400 Flat Top: (0.5 in (12.7 mm).
- Available in 10 ft (3 m) boxed lengths.
- Designed for applications with a minimum centerline turn radius of 18 in (457 mm).





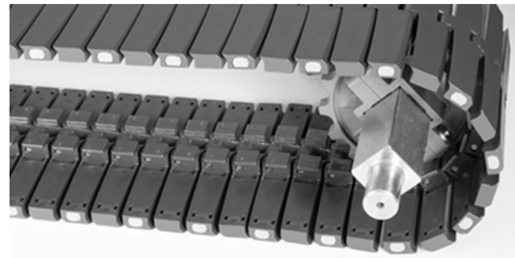
Belt Data

Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
Acetal	3.3	84	303 SS	500	227	-50 to 200	-46 to 93	1.29	1.92

SECTION 2
4000

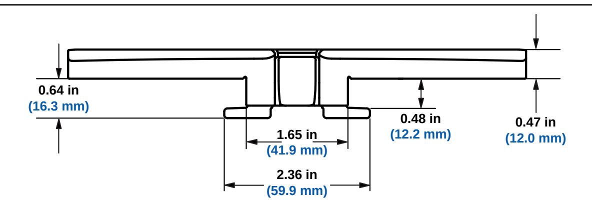
S4030 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

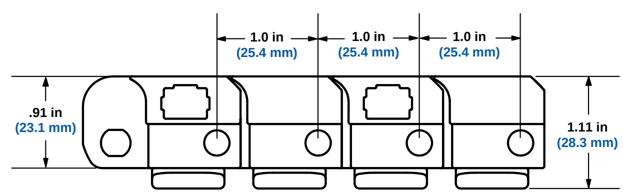
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon-coated magnets embedded in each module (one magnet per wing).
- Blue, metal detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4090.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Needs only one drive and idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Uses Series 1400/Series 4000 sprockets.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



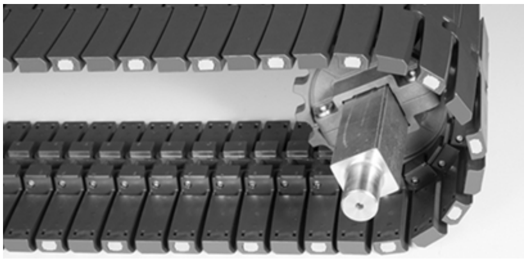


Belt Data

Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.44	3.63

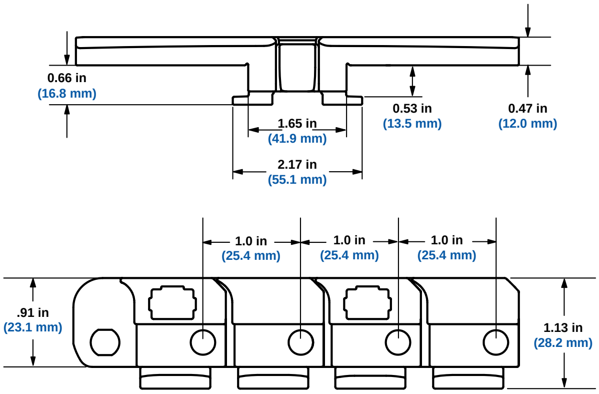
S4031 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

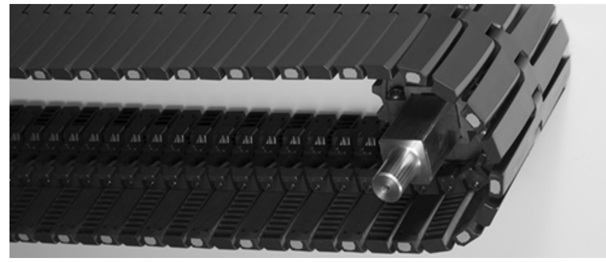
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon-coated magnets embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4091.
- Thicker deck than S409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and S403X Sideflexing Flat Top modules.
- Needs only one drive and idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, and other applications.
- Uses Series 1400/Series 4000 sprockets.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).



Belt Data									
Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.44	3.63

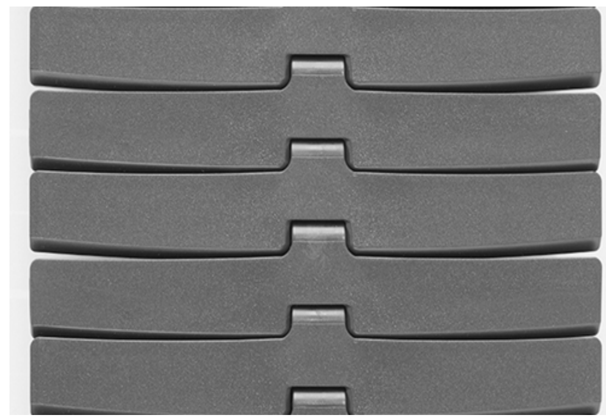
S4032 7.5-in ProTrax™ Sideflexing Flat Top with Tabs

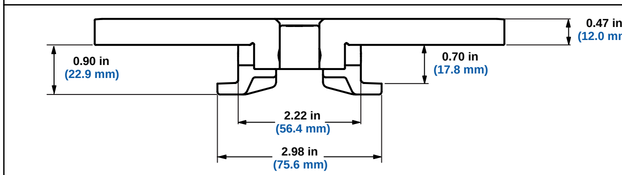
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	

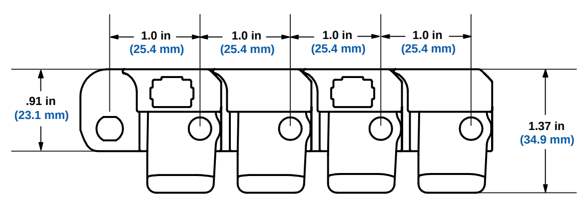


Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon-coated magnets embedded in each module (one magnet per wing).
- Blue, metal-detectable, nylon caps retain magnets in modules.
- Hold down tabs match dimensions of S4092.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Needs only one drive and idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Ideal for incline, decline, vertical switch, pan indexing, metering, de-lidding, and radius applications.
- Uses Series 1400/Series 4000 sprockets.
- Minimum sprocket pitch diameter: 5.1 in (129.5 mm).





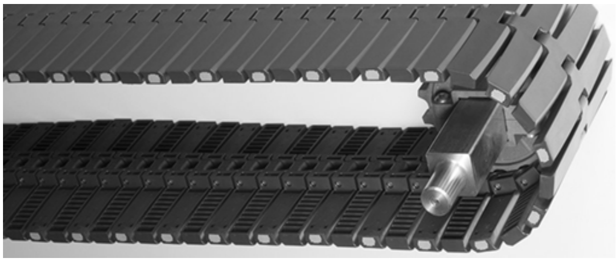


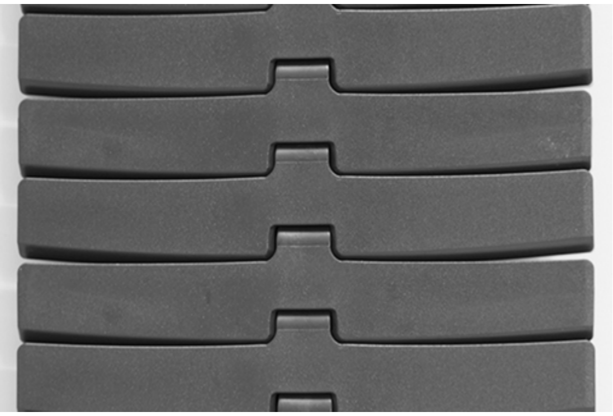
Belt Data

Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.66	3.95

S4033 7.5-in ProTrax™ Sideflexing Flat Top

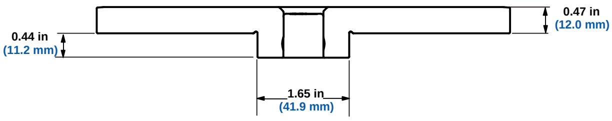
	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191.0
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	

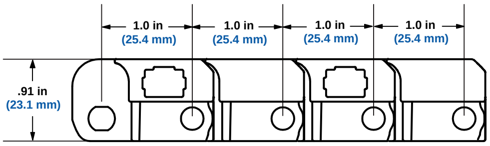




Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Two powerful, blue, Teflon-coated magnets are embedded in each module (one magnet per wing).
- Blue, metal detectable, nylon caps retain magnets in modules.
- Thicker deck than Series 409X Flat Top for increased wear resistance.
- Ideal for incline, decline, vertical switch, and other applications.
- Standard configuration consists of alternating rows of magnetic modules and Series 403X Sideflexing Flat Top modules.
- Needs only one drive and idle sprocket per belt strand.
- Determine belt spacing based on maximum surface contact with the bottom surface of the conveyed product.
- Uses Series 1400/Series 4000 sprockets.
- Minimum sprocket pitch diameter: 3.9 in (99.0 mm).

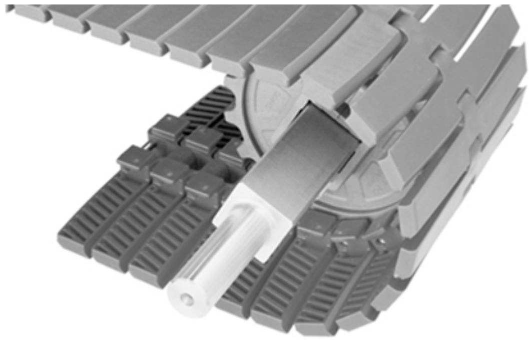




Belt Data									
Belt material	Belt Width		Standard rod material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m
HHR nylon	7.5	191.0	303 SS	500	227	-50 to 310	-46 to 154	2.29	3.41

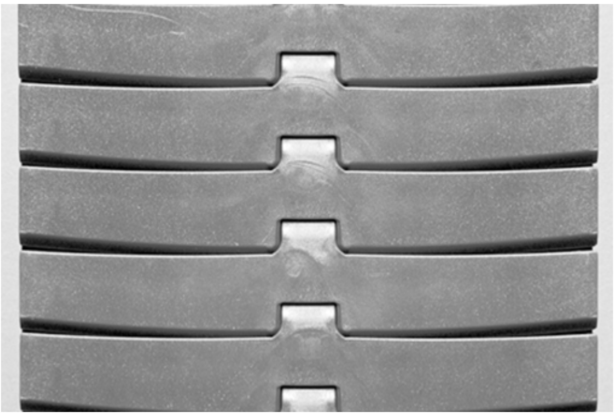
S4090 Sideflexing Flat Top

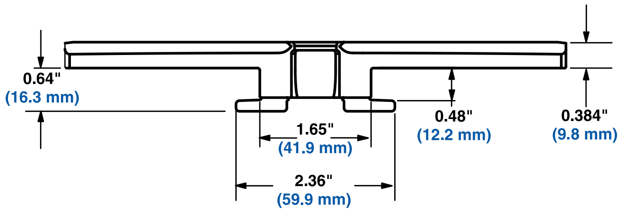
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Series 4000 belts use Series 1400 sprockets.
- All sprockets feature a split design. so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Sales Engineering for assistance.
- See Belt Data for minimum centerline turn radius.
- Same deck thickness as the straight-running counterpart, Series 900 Flat Top [0.384 in (9.8 mm)].
- Available in 10 ft (3 m) increments.



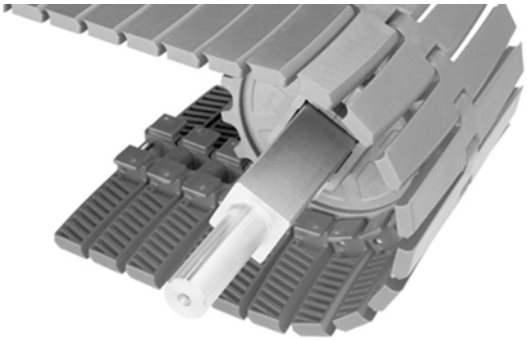


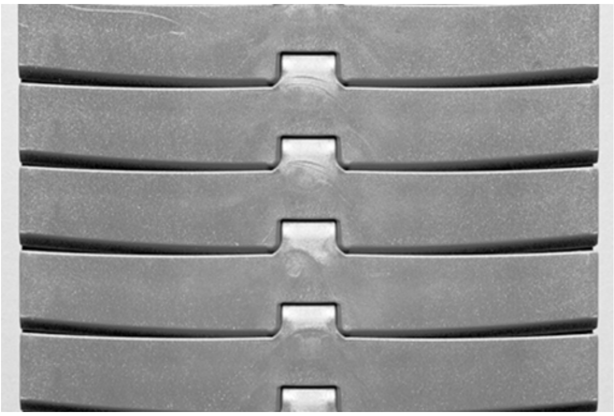
Belt Data

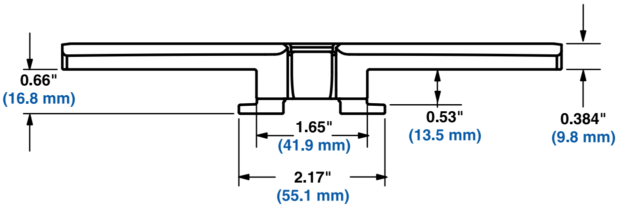
Belt material	Belt width		Standard pin material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight		Minimum centerline turn radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.21	1.80	18	457
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	1.86	2.77	24	610
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 SS	500	227	-50 to 310	-46 to 154	1.04	1.55	18	457
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.57	2.34	24	610

S4091 Sideflexing Flat Top

	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	







Product Notes

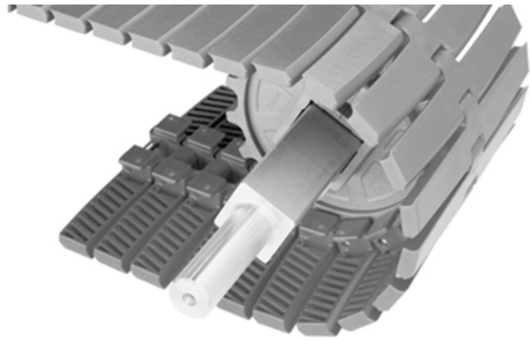
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Series 4000 belts use Series 1400 sprockets.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- See Belt Data for minimum centerline turn radius.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Sales Engineering for assistance.
- Same deck thickness as the straight running belt counterpart, Series 900 Flat Top [0.384 in (9.8 mm)].
- Available in 10 ft (3 m) increments.

Belt Data

Belt material	Belt width		Standard pin material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight		Minimum centerline turn radius	
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.22	1.81	18	457
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.40	2.08	18	457
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	1.84	2.74	24	610
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.02	1.52	18	457
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.54	2.29	24	610
HHR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.04	1.55	18	457
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.18	1.76	18	457
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.57	2.34	24	610

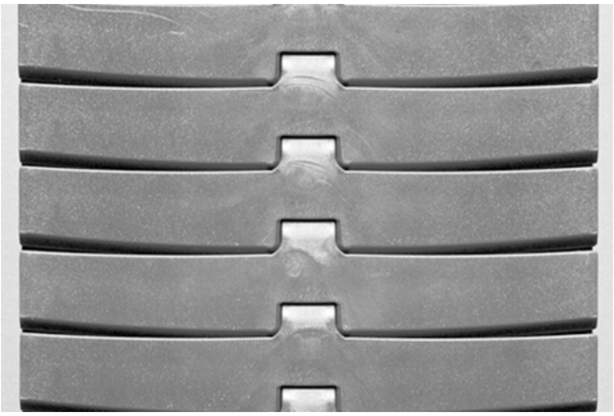
S4092 Sideflexing Flat Top

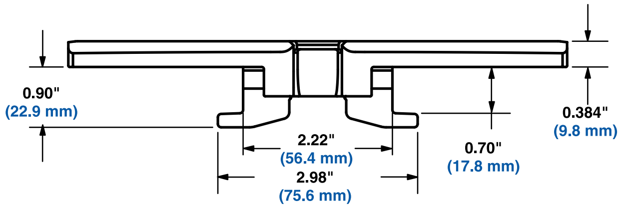
	in	mm
Pitch	1.00	25.4
Molded Width	3.25	83
	4.5	114
	7.5	191
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	



Product Notes

- **Always check with Customer Service for precise belt measurements and stock status before designing a conveyor or ordering a belt.**
- Uses the same sprockets as S1400 and S4000.
- All sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Same deck thickness as the straight-running counterpart S900 *Flat Top*: 0.384 in (9.8 mm).
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Sales Engineering for assistance.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Available in 10 ft (3 m) increments.





Belt Data

Belt material	Belt width		Standard Pin Material Ø 0.25 in (6.4 mm)	Belt strength		Temperature range (continuous)		Belt weight		Minimum centerline turn radius		Agency acceptability		
	in	mm		lb	kg	°F	°C	lb/ft	kg/m	in	mm	FDA (USA)	J[1]	EU MC[2]
Acetal	3.25	83	303 SS	500	227	-50 to 200	-46 to 93	1.43	2.13	18	457	•	•	•
Acetal	4.5	114	303 SS	500	227	-50 to 200	-46 to 93	1.61	2.40	18	457	•	•	•
Acetal	7.5	191	303 SS	500	227	-50 to 200	-46 to 93	2.05	3.05	24	610	•	•	•
HR nylon	3.25	83	303 SS	500	227	-50 to 240	-46 to 116	1.26	1.87	18	457	•		•
HR nylon	7.5	191	303 SS	500	227	-50 to 240	-46 to 116	1.71	2.55	24	610	•		•
HHR nylon	3.25	83	303 SS	500	227	-50 to 310	-46 to 154	1.28	1.92	18	457	•		•
HHR nylon	4.5	114	303 SS	500	227	-50 to 310	-46 to 154	1.40	2.08	18	457	•		•
HHR nylon	7.5	191	303 SS	500	227	-50 to 310	-46 to 154	1.80	2.68	24	610	•		•

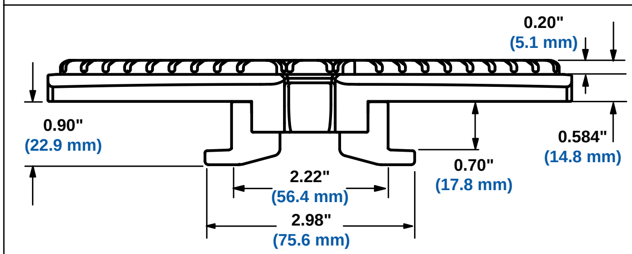
[1] Japan Ministry of Health, Labour, and Welfare
[2] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

S4092 Sideflexing Square Friction Top

	in	mm
Pitch	1.00	25.4
Molded Width	7.5	191
Open Area	0%	
Hinge Style	Closed	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Press fit; knurled pin	

Product Notes

- **Always check with Customer Service for precise belt measurements and stock status before designing a conveyor or ordering a belt.**
- Available in blue acetal with black rubber.
- Use the same sprockets as S1400 and S4000.
- Sprockets feature a split design, so shafts do not have to be removed for retrofits and changeovers.
- Use the Intralox Engineering Program to calculate the estimated belt pull for your system. Contact Intralox Sales Engineering for assistance.
- 3.9 in (99 mm) pitch diameter sprockets are not compatible with S4092 belts.
- Available in 10 ft (3 m) increments.

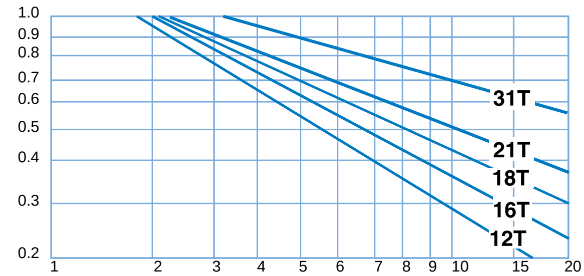


Belt Data

Base Belt Material	Belt Width		Base/ Friction Color	Standard Rod Material Ø 0.25 in (6.4 mm)	Belt Strength		Temp. Range (continuous)		Belt Weight		Friction Top Hardness	Minimum Centerline Turn Radius		Agency Acceptability	
	in	mm			lb	kg	°F	°C	lb/ft	kg/m		in	mm	FDA (USA)	EU MC[b]
Acetal	7.5	191	Blue/ Black	303 SS	500	227	-10 to 130	-23 to 54	2.35	3.50	54 Shore A	24	610	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

Strength Factor	S4032 ProTrax with Tabs and S4033 ProTrax

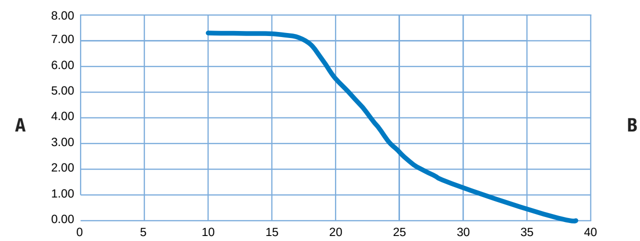


SPEED/LENGTH RATIO (V/L)

Divide belt speed "V" by the shaft ℄ distance "L". Strength Factor is found at intersection of speed/length ratio and appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min) T = number of teeth L = ft (m)

Magnet Force vs. Metal Thickness



METAL THICKNESS (STEEL GAUGE)

A = MAGNET FORCE, (lbf)

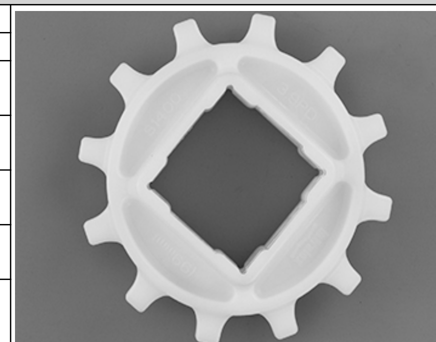
B = MAGNET FORCE, (N)

Note: Magnet force shown is for a single magnet within one wing of one module, using a flat pan.

Results will vary for different pan styles and surface textures.

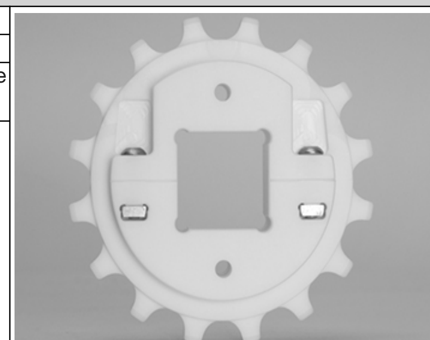
Molded Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
12 (3.41%)	3.9[2]	99[2]	3.9	99	1.5	38	-	1.5	-	40
15 (2.19%)	4.9	124	4.9	124	1.5	38		2.5		60
18 (1.52%)	5.7	145	5.8	148	1.5	38	2	2.5	30, 40, 50	60
24 (0.86%)	7.7	196	7.8	198	1.5	38		2.5		60



Nylon FDA Split Sprockets[3]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in[4]	U.S. Square in	Metric Round mm[4]	Metric Square mm
16 (1.92%)	5.1	130	5.2	132	1.5	38	1 to 2, in 1/16-inch increments	1.5	25 to 50, in 5-mm increments	40



Maximum Load per Glass Filled Nylon Split Sprocket Based on Round Bore Size Range - lb (kg)

No. of Teeth	Nom. Pitch Diameter		1 in - 1-3/16 in		1-1/4 in - 1-3/8 in		1-7/16 in - 1-3/4 in		1-13/16 in - 2 in		25 mm -35 mm		40 mm -50 mm	
	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
18	5.7	145	300	135	340	155	400	180	540	245	240	110	410	185
21	6.7	170	225	102	275	124	350	158	500	226	175	79	400	181

[1] **Contact Customer Service for lead times.**

[2] 3.9PD sprockets are not compatible with Series 4092 belts.

[3] **Contact Intralox Customer Service for lead times.**

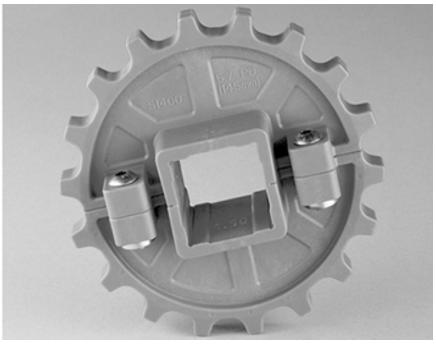
[4] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.

Glass Filled Nylon Split Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[2]	Square in	Round mm[2]	Square mm
18 (1.52%)	5.7	145	5.8	148	2.0	51	1 to 2 in 1/16 increments	1.5	25 to 50 in 5 increments	40
								2.5		60
21 (1.12%)	6.7	170	6.8	172	2.0	51	1 to 2 in 1/16 increments[3]	1.5	25 to 50 in 5 increments	40
								2.5		60

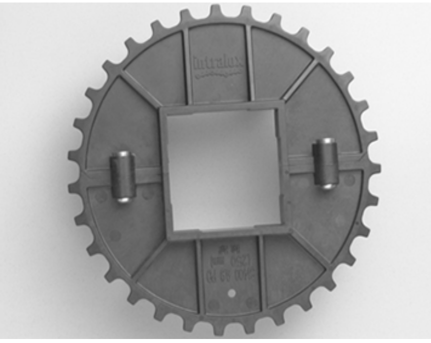
Polypropylene Composite Split Sprockets[4]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in[5]	Square in	Round mm[5]	Square mm
18 (1.52%)	5.7	145	5.8	148	2.0	51		1.5		40
								2.5		60
21 (1.12%)	6.7	170	6.8	172	2.0	51		1.5		40
								2.5		60
31 (0.51%)	9.9	251	10.1	257	2.0	51		3.5		



Polyurethane Composite Split Sprockets[6]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
31 (0.51%)	9.9	251	10.1	257	1.50	38		3.5		
					1.67	44		2.5[7]		



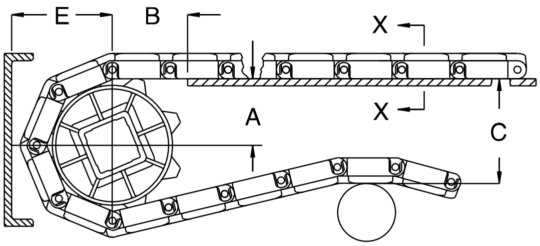
[1] **Contact Intralox Customer Service for lead times.**
[2] Imperial key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[3] Tight fit round bores are available in 1-1/4, 1-3/16, 1-1/2, and 1-7/16 in
[4] **Contact Intralox Customer Service for lead times.**
[5] U.S. key sizes on round bore sprockets conform to ANSI standard B17.1-1967 (R1989) and metric key sizes conform to DIN standard 6885.
[6] **Contact Intralox Customer Service for lead times.**
[7] The 2.5 in square bore is created by using a bore adapter in the 3.5 in square bore sprocket.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A	± 0.031 in (1 mm)	**C**	± (max.)
B	± 0.125 in (3 mm)	**E**	± (min)

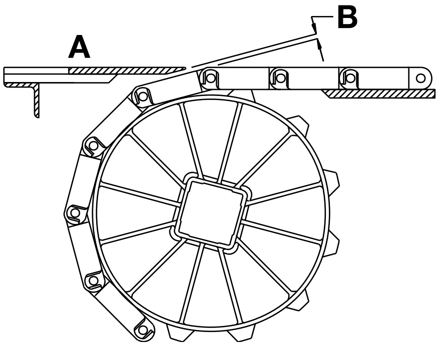
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 4009 Flush Grid										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147
Series 4009 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	69-71	2.51	64	5.94	151	3.41	87
5.7	145	18	3.05-3.10	77-79	2.54	65	6.58	167	3.73	95
6.7	170	21	3.54-3.58	90-91	2.70	69	7.54	192	4.21	107
9.9	251	31	5.15-5.18	131-132	3.15	80	10.74	273	5.81	148
Series 4014 Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.24	108	2.68	68
5.1	130	16	2.73-2.78	69-71	2.51	64	5.49	139	3.64	92
5.7	145	18	3.05-3.10	77-79	2.54	65	6.09	155	3.95	100
6.7	170	21	3.54-3.58	90-91	2.70	69	7.09	180	4.43	113
9.9	251	31	5.15-5.18	131-132	3.15	80	10.86	276	5.93	151
Series 4030 and Series 4031 7.5-in ProTrax Sideflexing Flat Top with Tabs										
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149
Series 4032 7.5-in ProTrax Sideflexing Flat Top with Tabs										
5.1	130	16	2.73-2.78	67-71	2.51	64	5.99	152	3.46	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.63	168	3.78	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.59	193	4.26	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.79	274	5.86	149
Series 4033 7.5-in ProTrax Sideflexing Flat Top										
3.9	99	12	2.07-2.17	53-54	2.31	59	4.66	118	2.77	70
5.1	130	16	2.73-2.78	67-71	2.51	64	5.989	152	3.459	88
5.8	147	18	3.05-3.10	77-79	2.54	65	6.629	168	3.779	96
6.7	170	21	3.54-3.58	90-91	2.7	69	7.589	193	4.259	108
9.9	251	31	5.15-5.18	131-132	3.15	80	10.789	274	5.859	149
Series 4090, 4091, 4092 Sideflexing Flat Top										
3.9	99	12	2.07-2.14	53-54	2.31	59	4.62	117	2.73	69
5.1	130	16	2.73-2.78	69-71	2.51	64	5.90	150	3.37	86
5.7	145	18	3.05-3.10	77-79	2.54	65	6.54	166	3.69	94
6.7	170	21	3.54-3.58	90-91	2.70	69	7.50	191	4.17	106
9.9	251	31	5.15-5.18	131-132	3.15	80	10.70	272	5.77	147
Series 4092 Sideflexing Square Friction Top										
5.2	132	16	2.73-2.78	69-71	2.51	64	6.14	156	2.84	72
5.8	147	18	3.05-3.10	77-79	2.54	65	6.78	172	3.16	80
6.8	173	21	3.54-3.58	90-91	2.70	69	7.74	197	3.64	92
10.0	254	31	5.15	131	3.15	80	10.94	278	5.24	133

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
3.9	99	12	0.066	1.7
5.1	130	16	0.050	1.3
5.7	145	18	0.044	1.1
6.7	170	21	0.038	1.0
9.9	251	31	0.025	0.6

SPIRAL BELTS

Engineering Program Analysis for Spiral and Radius

Use the Intralox Engineering Program to calculate the estimated belt pull for radius applications and ensure that the belt is strong enough for the application. Contact Intralox Customer Service for more information.

Information Required for an Analysis

- Any environmental conditions which can affect the friction coefficient. For dirty or abrasive conditions, use higher-than-normal friction coefficients.
- Belt width
- Length of each straight run
- Turning angle of each turn
- Turn direction of each turn
- Inside turn radius of each turn
- Carryway and hold down rail material
- Product load lb/ft^2 (kg/m^2)
- Product accumulation conditions
- Belt speed
- Elevation changes in each section
- Operating temperatures

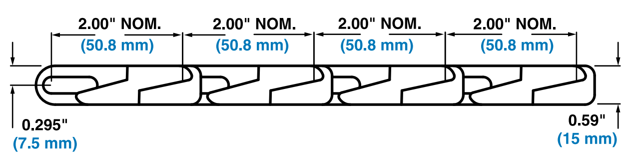
Note: For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group.

Spiral 1.0

	in	mm
Pitch	2.00	50.8
Minimum Width[1]	26	660
Maximum Width[1]	50	1270
Width Increments	1.0	25.4
Opening Size (approx.)	0.85 x 0.88	21.6 x 22.5
Open Area (fully extended)	56%	
Minimum Open Area (1.0TR)	22%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.0 times the belt width (measured from inside edge).
- Use the Intralox Engineering Program to predict strength requirements for radius applications, and ensure that the belt is strong enough for the application.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 12 in (304.8 mm).

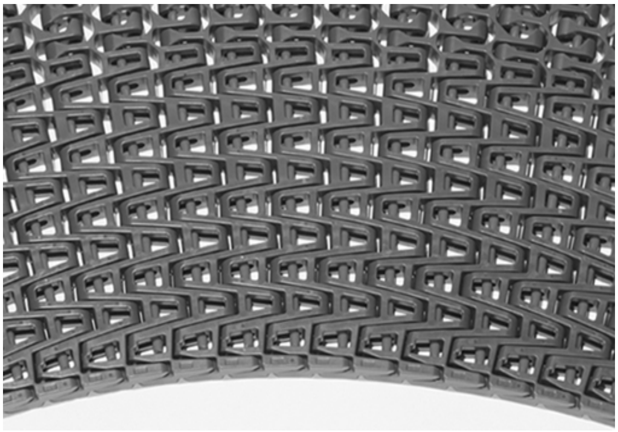


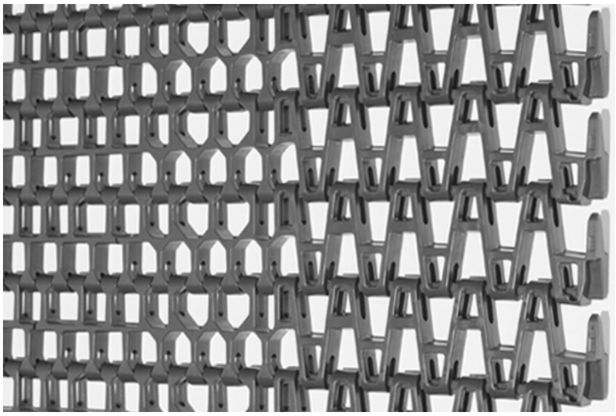
Belt Data									
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.46	7.13
SELM	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.24	6.05

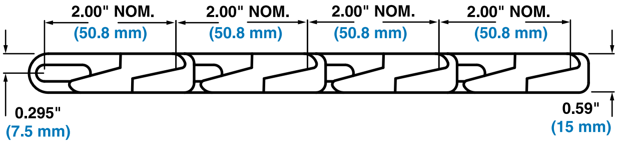
[1] Contact Intralox Customer Service for more information regarding belt widths under 26 in (660 mm) and over 50 in (1270 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

Spiral 1.1

	in	mm
Pitch	2.00	50.8
Minimum Width[1]	26	660
Maximum Width[1]	44	1118
Width Increments	1.00	25.4
Opening Size (approximate)	0.85 × 0.88	21.6 × 22.5
% Open Area (fully extended)	56%	
% Minimum Open Area (1.1 Turn Ratio)	22%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.1 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Minimum sprocket indent from the inside (collapsed) edge of the spiral: 9.0 in (228.6 mm).

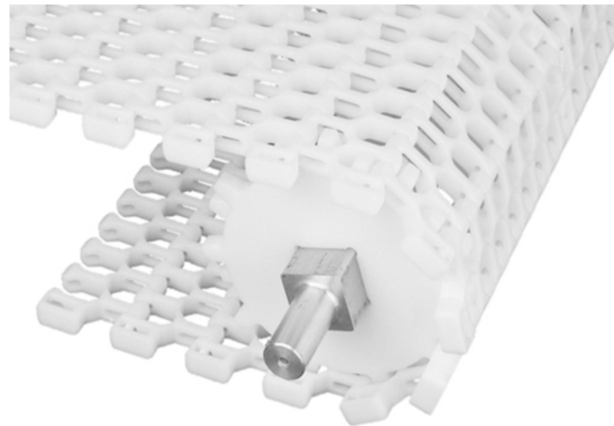
Belt Data

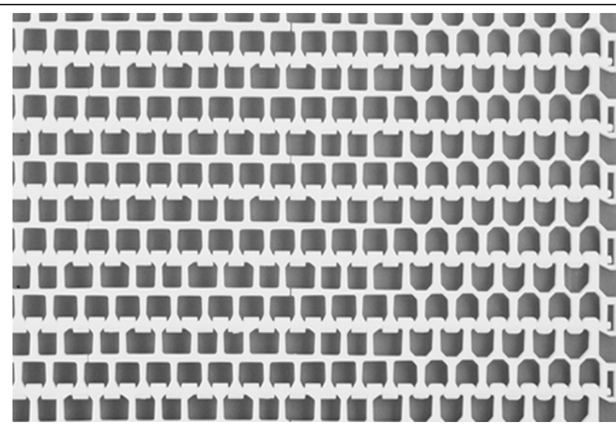
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft^2	kg/m^2
Acetal	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.44	7.03
SELM	Acetal	1300	1935	300	136	-50 to 200	-46 to 93	1.24	6.05

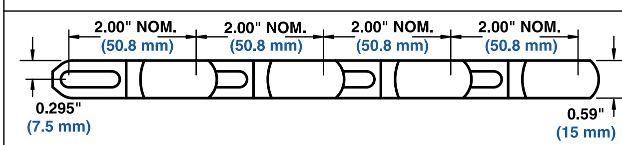
[1] Contact Intralox Customer Service for more information regarding belt widths under 26 in (660 mm) and over 44 in (1118 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

Spiral 1.6, 2.0

	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
% Open Area (fully extended)	54%	
% Minimum Open Area (1.6 Turn Ratio)	40%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.

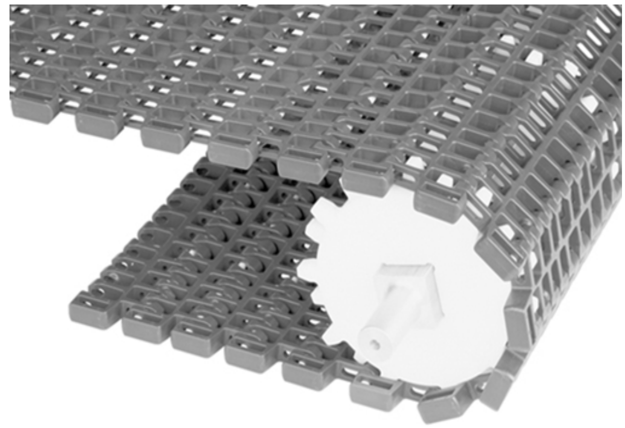
Belt Data

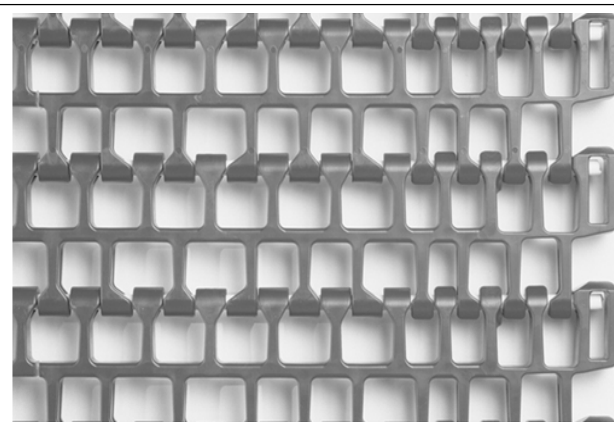
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.41	6.88
Polypropylene[3]	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.01	4.93
SELM	Acetal	1500	2232	300	136	-50 to 200	-46 to 93	1.24	6.05

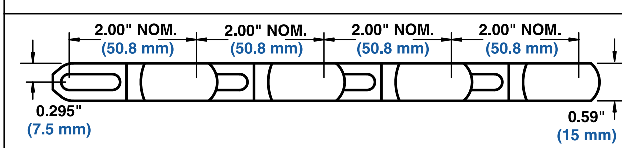
[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.
[3] Available in 1.6 radius only.

Spiral 2.2, 2.5, and 3.2

	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
% Open Area (fully extended)	57%	
% Minimum Open Area (2.2 Turn Ratio)	32%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.

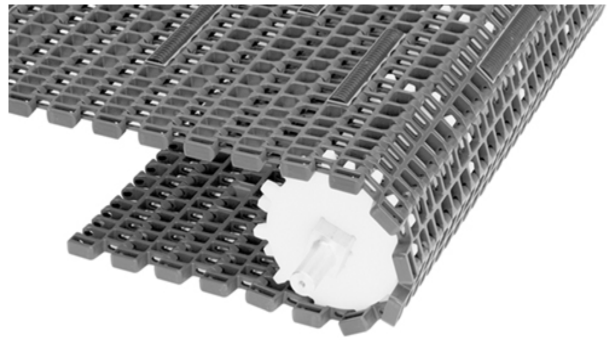
Belt Data

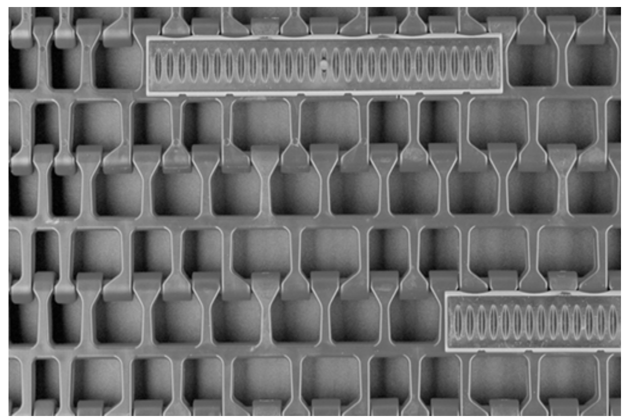
Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	475	215	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1500	2232	400	181	34 to 200	1 to 93	1.04	5.08
SELM	Acetal	1500	2232	375	170	-50 to 200	-46 to 93	1.24	6.05

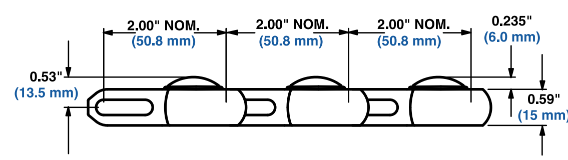
[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

Spiral Rounded Friction Top

	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	1.00	25.4
Opening Size (approximate)	0.94 × 0.65	23.8 × 16.5
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Friction Top is available in white polypropylene with white rubber, blue polypropylene with black rubber, and natural polyethylene with white rubber.
- Contact Intralox Customer Service for preferred run direction on spiral applications.
- Contact Intralox Customer Service for minimum indent requirements.

Belt Data

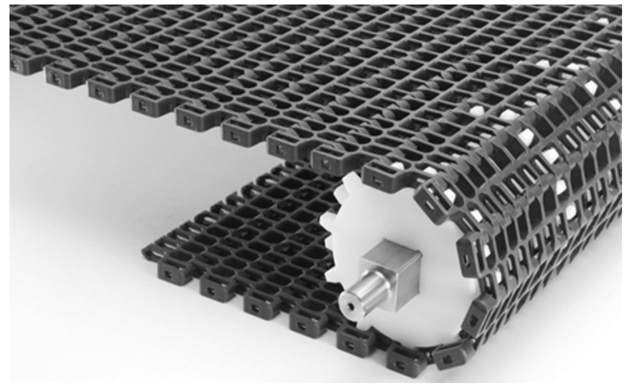
Base belt material	Base/ friction color	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Spiral Belt strength 1.6 TR (2.2, 2.5, 3.2 TR)		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency acceptability	
			lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[b]
Acetal	Blue/Black	Acetal	1700	2530	375 (475)	170 (215)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	•	c
Acetal	White/ White	Acetal	1700	2530	376 (475)	171 (215)	35 to 150	2 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	a	c
Polypropylene	Blue/Black	Acetal	1500	2232	300 (400)	136 (181)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	a	
Polypropylene	White/ White	Acetal	1500	2232	300 (400)	136 (181)	34 to 150	1 to 66	1.01 (1.04)	4.93 (5.08)	55 Shore A	a	c

• - Fully compliant
a - FDA Compliant with Restriction: Do not use in direct contact with fatty foods.
b - European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.
c - EU compliant with Restriction: Do not use in direct contact with fatty foods.

[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).

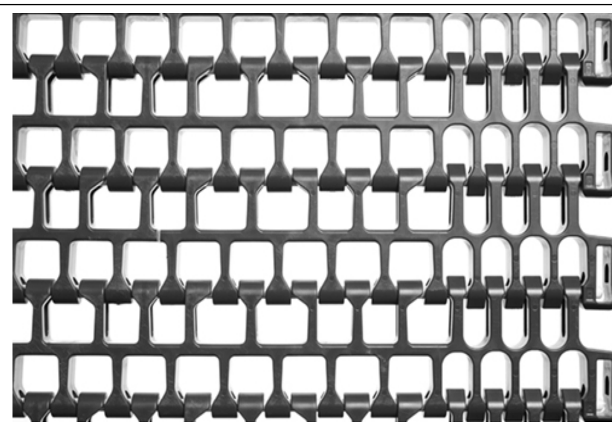
Dual Turning 2.0

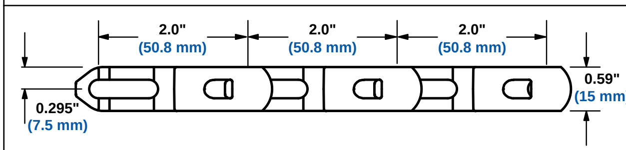
	in	mm
Pitch	2.00	50.8
Minimum Width	18	457.2
Maximum Width	60	1524
Width Increments	1.0	25.4
Opening Size (approx.)	0.94 x 0.65	23.8 x 16.5
Open Area (fully extended)	57%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Designed for standard drive and i-Drive systems.
- Rod insertion is accomplished from the edge of the belt. No special tools are required.
- Turn ratio of 2.0 times belt width (radius measured at inside edge).
- Preferred run direction is to align with slotted holes leading.
- Consult the Intralox Engineering Program and i-Drive Program for specific widths not listed here.

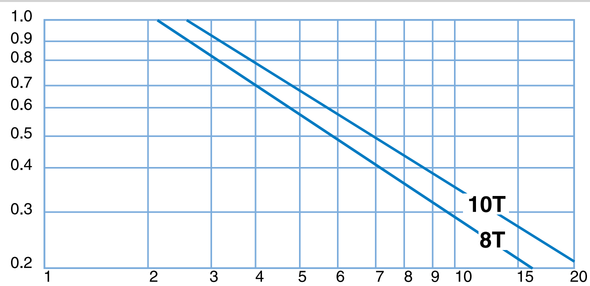




Belt Data								
Base belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.54	7.52
Polypropylene	Acetal	1500	2232		34 to 200	1 to 93	1.04	5.08
SELM	Acetal	990	1473		-50 to 200	-46 to 93	1.24	6.05

Sprocket and Support Quantity Reference[1]				
Belt Width Range[2]		Minimum Number of Sprockets Per Shaft[3]	Wearstrips	
in	mm		Carryway	Returnway
24	610	3	3	3
26	660	3	3	3
28	711	5	3	3
30	762	5	3	3
32	813	5	3	3
34	864	5	3	3
36	914	5	3	3
38	965	5	4	4
40	1016	5	4	4
42	1067	5	4	4
44	1118	7	4	4
46	1168	7	4	4
48	1219	7	4	4
50	1270	7	4	4
52	1321	7	4	4
54	1372	7	5	5
56	1422	7	5	5
58	1473	7	5	5
60	1524	9	5	5
For other widths, use an odd number of sprockets at Maximum 6 in (152 mm) centerline spacing			Contact Intralox Technical Support for more information.	Maximum 12 in (305 mm) centerline spacing

Strength Factor

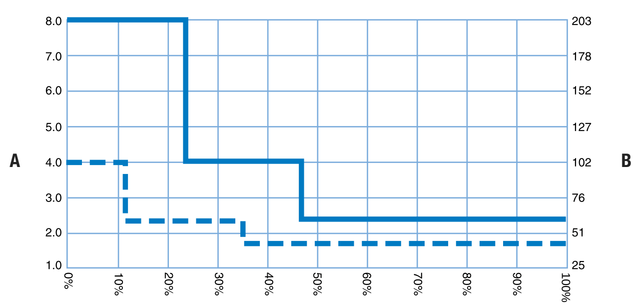


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Solid line: Square bore sprockets
Dashed line: Round bore sprockets

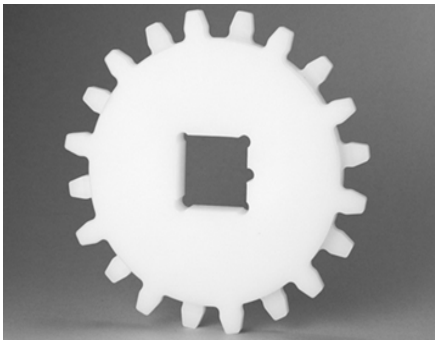
[1] **For low-tension capstan drive spirals contact Technical Support Group for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Technical Support for more information.**

[2] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 1.00 in (25.4 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[3] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

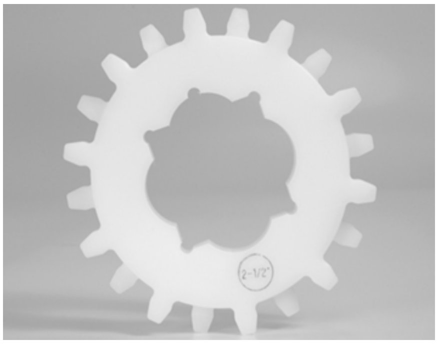
UHMW Polyethylene Sprocket[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
8 (7.61%)	5.2	132	5.4	136	0.8	20.32	1-1/4 1-7/16 1-1/2 2	1-1/2 2-1/2		40 60
10 (4.89%)	6.5	165	6.7	170	0.8	20.32	1-1/4 1-7/16 1-1/2 2	1-1/2 2-1/2		40 60



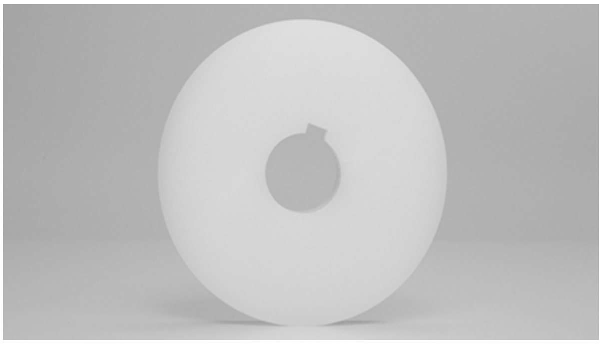
EZ Clean™ Sprocket [2]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
10 (4.89%)	6.5	165	6.7	170	0.8	20.32		2.5		



Support Wheel

Available Pitch Diameter		Available Bore Sizes			
		U.S.		Metric	
in	mm	Round in	Square in	Round mm	Square mm
5.2	132	1.25 1-7/16 1.5 2	1.5 2.5		40 60
6.5	165	1.25 1-7/16 1.5 2	1.5 2.5		40 60

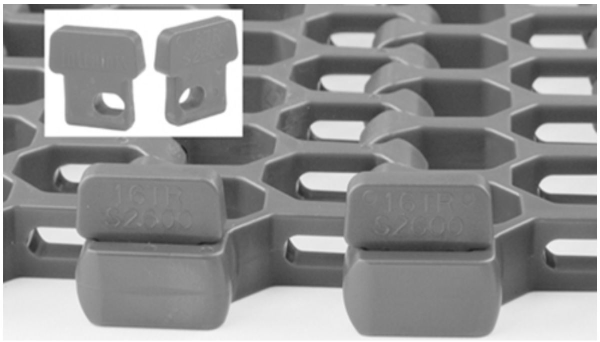


[1] Contact Customer Service for lead times, preferred method of locking down sprockets, and for proper sprocket timing.
[2] Contact Intralox Customer Service for lead times.

Universal Sideguards

Available Height		Available Materials
in	mm	
0.50	12.7	Acetal, SELM
1.00	25.4	
2.00[2]	50.8[1]	

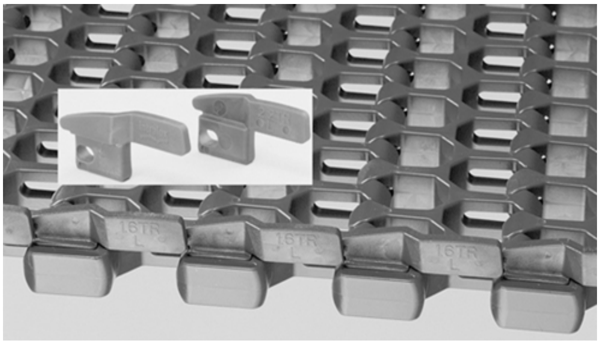
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is uncompromised.
- Compatible turn ratios: 1.6, 2.2, 2.5, and 3.2.



Overlapping Sideguards

Available Height		Available Materials
in	mm	
0.50	12.7	Acetal, SELM
1.00	25.4	

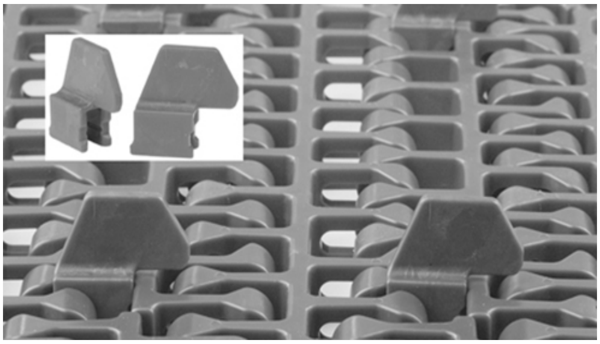
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratios for 0.50 in (12.7 mm) acetal overlapping sideguards are 1.6, 2.2, 2.5, and 3.2.
- Turn ratio for 1.00 in (25.4 mm) overlapping sideguards is 1.6 only.



Lane Dividers

Available Height		Available Materials
in	mm	
0.75	19.0	Acetal, polypropylene

- Assembly does not require finger cuts on the modules, so the belt beam strength is uncompromised.
- For 1.6 turn radius modules, lane dividers can be placed on indents of 1.5 in(38.1 mm), 2.5 in (63.5 mm), 3.5 in (88.9 mm), 4.5 in (114 mm), 11.5 in (292 mm), and up, in 1.00 in (25.4 mm) increments.
- For 2.2 turn radius modules, lane dividers can be placed on indents of 4.5 in (114 mm) and up in 1.00 in (25.4 mm) increments.



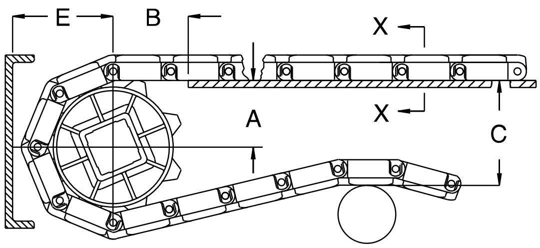
[1] Only available in 1.6 TR

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

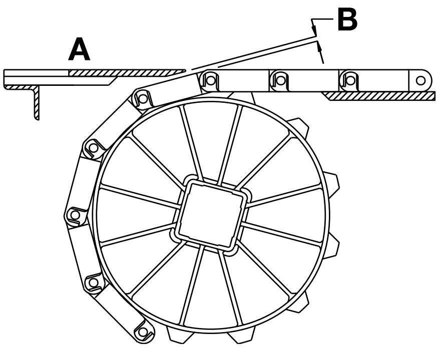
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm	in	mm		in	mm						
Series 2600 Spiral 1.0, 1.1, 1.6, 2.0, 2.2, 2.5, 3.2												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91
Series 2600 Spiral Rounded Friction Top												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.46	139	3.21	82
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.71	170	3.83	97

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

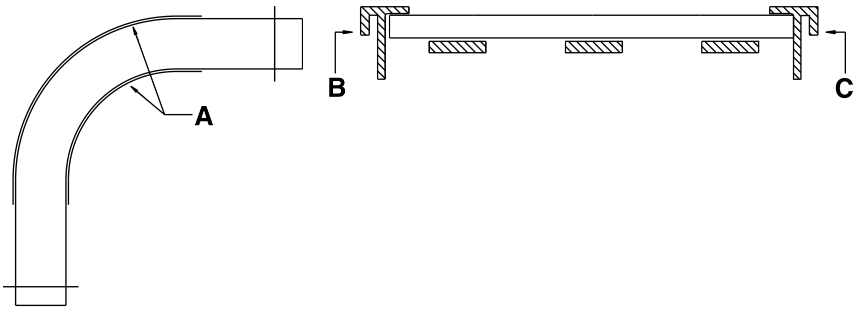
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails before the turn, at a distance of 1X the belt width. End the rails after the turn, at a distance of 1X the belt width. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. See *Custom Wearstrips*.

Flush Edge with wearstrip



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 12: Hold down rails and wearstrips for Series 2600 flat-turns

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2600 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

A The minimum turn radius for Series 2600 is the turn radius times the belt width, measured from the inside edge.
B The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
C There is no minimum straight run required between turns that are in the same direction.
D The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times the belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
E The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

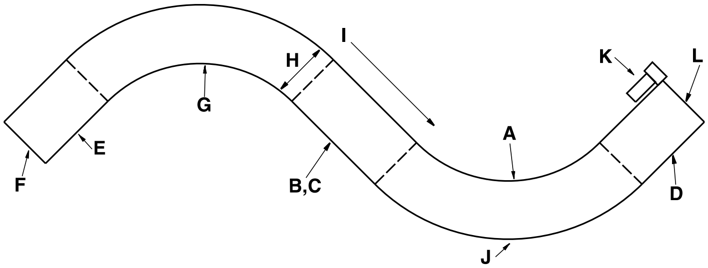
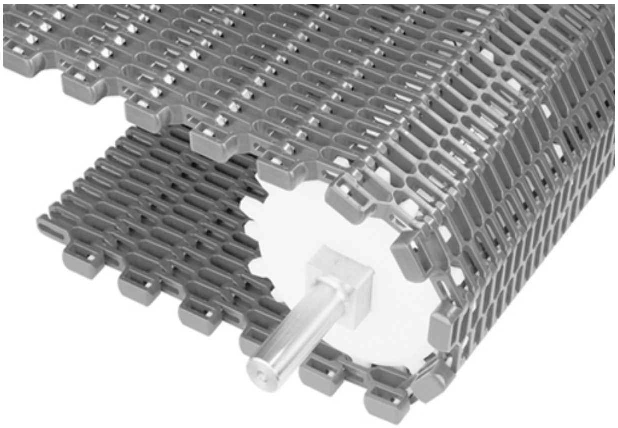


Figure 13: Typical two-turn radius layout

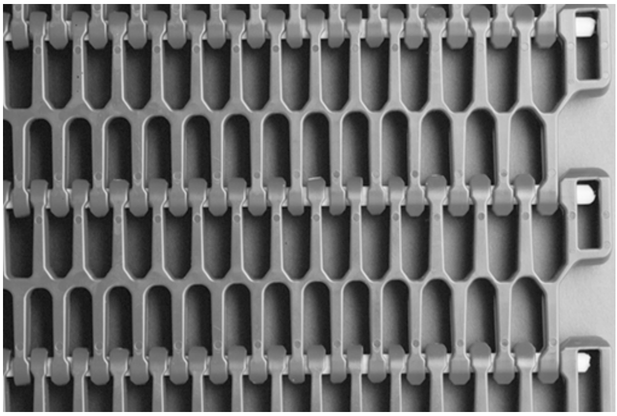
Spiral 1.6

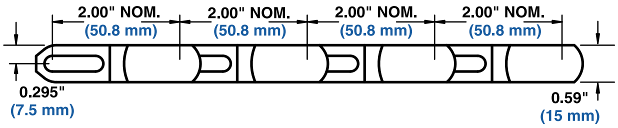
	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approximate)	0.38 × 0.64	9.52 × 16.5
Open Area (fully extended)	45%	
Min. Open Area (1.6 TR)	27%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.





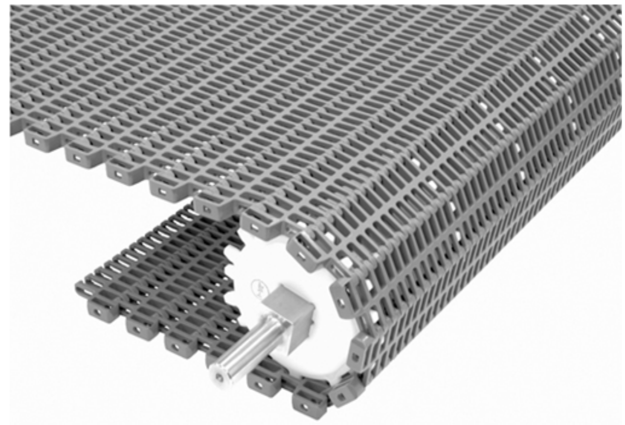
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	2000	2976	375	170	-50 to 200	-46 to 93	1.74	8.50
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.36	6.64

[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

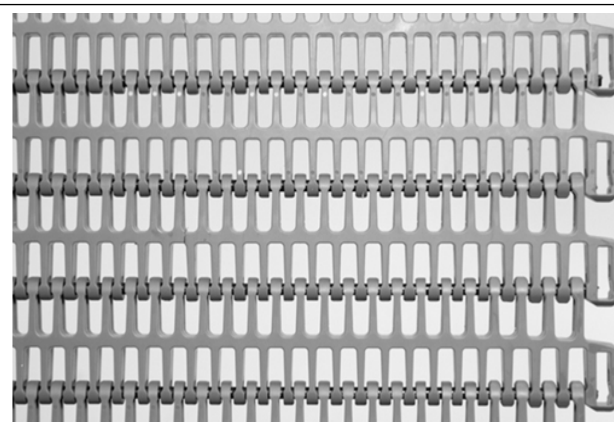
Spiral 2.2

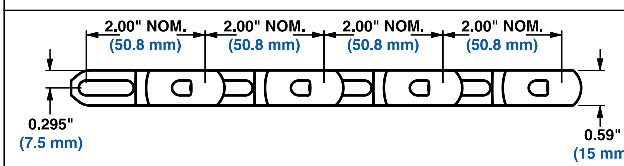
	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approx.)	0.38 x 0.64	9.52 x 16.5
Open Area (fully extended)	48%	
Min. Open Area (2.2 TR)	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.





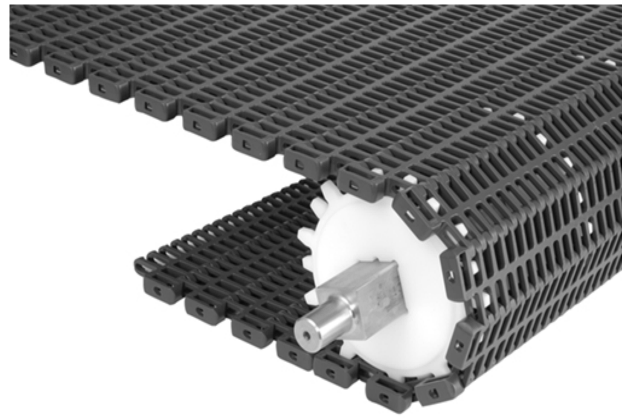
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.85	9.03
Polypropylene	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.44	7.03

[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

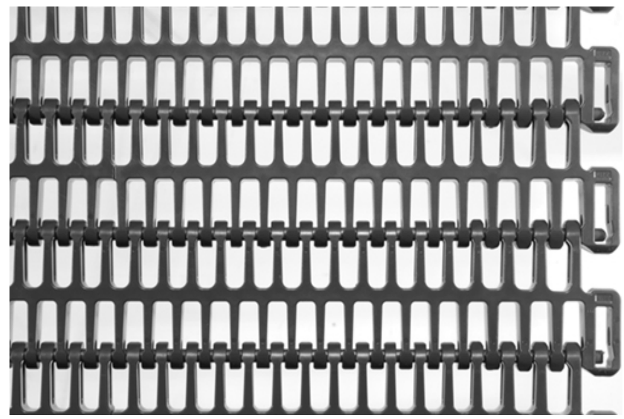
Spiral 2.7

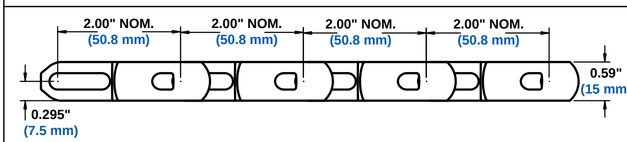
	in	mm
Pitch	2.00	50.8
Minimum Width[1]	24	610
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approx.)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended)	48%	
Min. Open Area (2.7 TR)	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.7 times the belt width (measured from inside edge).
- Contact Intralox Customer Service for preferred run direction on spiral applications.





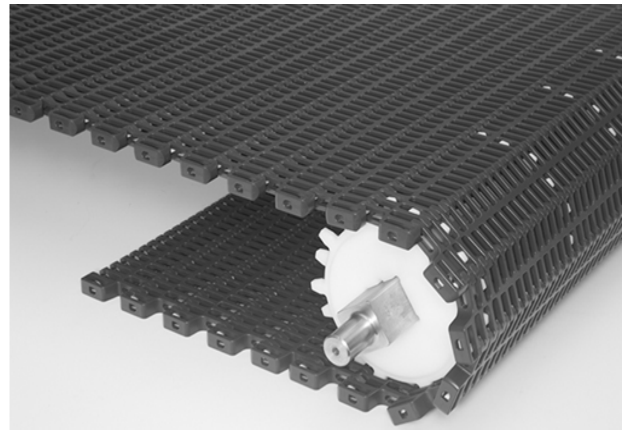
Belt Data

Belt material	Standard rod material Ø 0.24 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	375	170	-50 to 200	-46 to 93	1.86	9.08
Polypropylene	Acetal	1500	2232	300	136	34 to 200	1 to 93	1.26	6.15
SELM	Acetal	1060	1577	300	136	-50 to 200	-46 to 93	1.44	7.03

[1] Contact Intralox Customer Service for more information regarding belt widths under 24 in (610 mm).
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

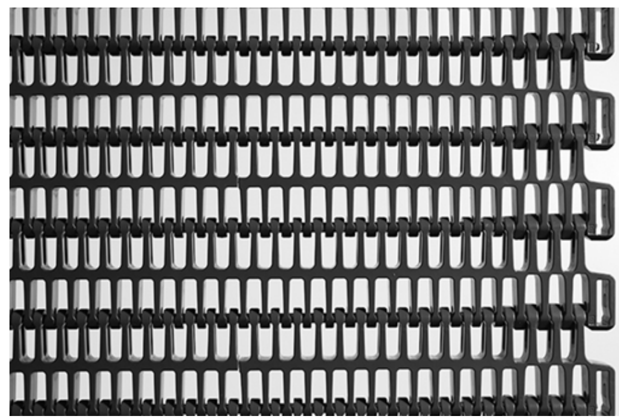
Dual Turning 2.0

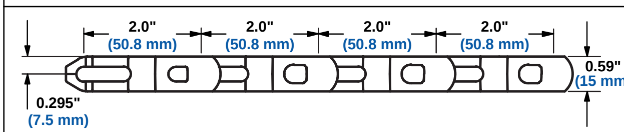
	in	mm
Pitch	2.00	50.8
Minimum Width[1]	12	304.8
Maximum Width	60	1524
Width Increments	0.50	12.7
Opening Size (approx.)	0.38 x 0.64	9.5 x 16.5
Open Area (fully extended)[2]	44%	
Min. Open Area (2.0 TR)	23%	
Hinge Style	Open	
Drive Method	Hinge-driven	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Designed for standard drive and i-Drive systems.
- Rod insertion is accomplished from the edge of the belt. No special tools are required.
- Turn ratio of 2.0 times belt width (measured from inside edge).
- Preferred run direction is to align slotted holes leading.
- Consult the Intralox Engineering Program and i-Drive Program for specific widths not listed here.





Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Curved belt strength	Temperature range (continuous)[3]		Belt weight	
		lb/ft	kg/m		°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1700	2530	For curved belt strength calculations, contact Intralox Customer Service.	-50 to 200	-46 to 93	1.84	8.98
Acetal	Nylon	1700	2530		-50 to 200	-46 to 93	1.81	8.84
SELM	Acetal	1060	1577		-50 to 200	-46 to 93	1.42	6.93
SELM	Nylon	1060	1577		-50 to 212	-46 to 100	1.40	6.84

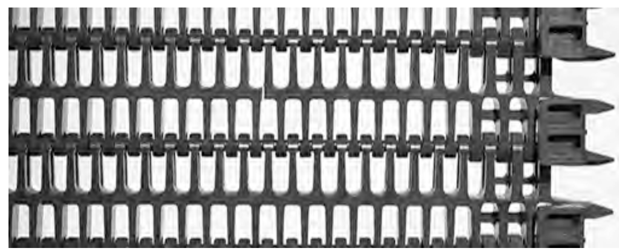
[1] Contact Intralox Customer Service for more information regarding belt widths under 12 in (305 mm).
[2] Open area calculations for S2700 Dual Turning 2.0 are unique to this style, and are not directly comparable to other S2700 styles.
[3] Belt functions mechanically up to 240°F (116°C). Belt used in the temperature window of 212°F to 240°F (100°C to 116°C) is not FDA-compliant.

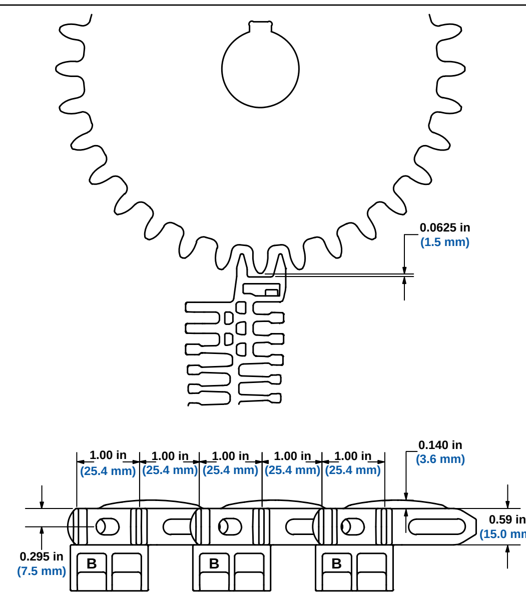
Side Drive

	in	mm
Module Pitch	2.0	50.8
Drive Tooth Pitch	1.0	25.4
Minimum Width	10	254.0
Maximum Width	42	1066.8
Width Increments	0.50	12.7
Opening Size (approx.)	0.38 x 0.64	9.5 x 16.5
Open Area	44%	
Hinge Style	Open	
Drive Method	Side-driven	

Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- **Do not use in spiral conveyor systems.**
- Designed for side-driven applications with a minimum turn radius of 2.0 times the belt width (measured from inside edge to outer edge, not including drive teeth).
- A 1.6TR S2700 Spiralox module can be used on the inner edge to achieve a smaller turn ratio, but only for single-direction curve applications.
- Teeth along the belt edge drive the belt allow for atypical configurations and long conveyors without transfer points.
- The Intralox Side Drive Program can help predict the strength requirements of most side-driven applications, ensuring that the belt is strong enough for the application. Contact Intralox Customer Service for more information.
- Preferred run direction is to align with slotted holes leading. This belt is not designed to run in the opposite direction.
- The Z-dimension is the distance between the edge of the belt (not including drive teeth) and the outer diameter of the sprocket. Maintain this dimension to ensure proper engagement of the belt and sprocket.
- S2700 lane dividers can be used with this belt, but sideguards cannot be used.





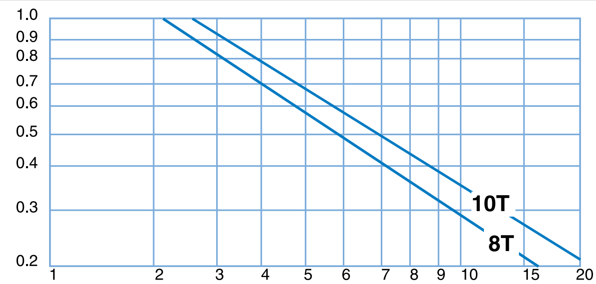
Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Curved belt strength[1]		Temperature range (continuous)		Belt weight		Agency Acceptability	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²	FDA (USA)	EU MC[2]
Acetal	Acetal	175	260	150	220	-50 to 200	-46 to 93	2.17	10.6	•	•

[1] Published curved belt strengths and their method of calculation vary among belt manufacturers. Contact Intralox Customer Service for accurate comparison of curved belt strengths
[2] EU MC European Migration Certificate providing approval for food contact according to EU Directive 2002/72/EC and all its amendments to date.

Sprocket and Support Quantity Reference[1]				
Belt Width Range[2]		Minimum Number of Sprockets Per Shaft[3]	Wearstrips[4]	
in	mm		Carryway	Returnway
24	610	5	2	2
26	660	5	2	2
28	711	5	2	2
30	762	5	3	2
32	813	5	3	2
34	864	7	3	2
36	914	7	3	2
38	965	7	3	2
40	1016	7	3	2
42	1067	7	3	2
44	1118	7	3	2
46	1168	9	3	2
48	1219	9	3	2
50	1270	9	3	2
52	1321	9	3	2
54	1372	9	3	2
56	1422	9	4	3
58	1473	11	4	3
60	1524	11	4	3
For other widths, use an odd number of sprockets at Maximum 8 in (203 mm) centerline spacing.			Maximum 25 in (635 mm) centerline spacing	Maximum 30 in (762 mm) centerline spacing

Strength Factor

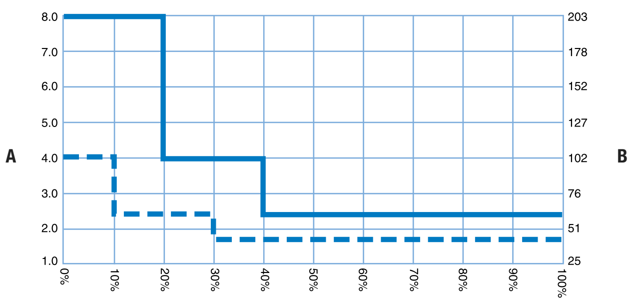


Speed/length ratio (V/L)

Divide belt speed (V) by the shaft centerline distance (L). Strength Factor is found at intersection of the speed/length ratio and the appropriate sprocket line. See *Belt Selection Instructions* for more information.

V = ft/min (m/min); T = number of teeth; L = ft (m)

Sprocket Spacing as a Function of Belt Strength Utilized



Percentage of allowable belt strength utilized

A Sprocket spacing, in
B Sprocket spacing, mm

Solid line: Square bore sprockets
Dashed line: Round bore sprockets

[1] For low-tension capstan drive spirals contact Technical Support Group for suggested carryway support recommendations. Support belt edges using support rollers on drive shafts. Contact Intralox Technical Support for more information.

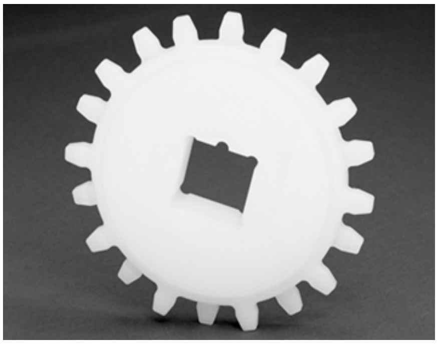
[2] If belt width exceeds a number listed in the table, see the sprocket and support material minimums for the next larger width range. Belts are available in 0.50 in (12.7 mm) increments beginning with minimum width of 24 in (610 mm). If the actual width is critical, contact Intralox Customer Service.

[3] This number is a minimum. Heavy-load applications can require additional sprockets. For lockdown location, see *Retainer Rings/Center Sprocket Offset*.

[4] Carryway spacing depends on a distributed 2 lb/ft² at 65°F (18.3°C) for acetal belts with acetal rods with a 2 in (50.8 mm) and 4 in (101.6 mm) overhang.

Acetal Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
8 (7.61%)	5.2	132	5.4	136	0.8	20.32	1-1/4 1-7/16 2	1-1/2 2-1/2		60
10 (4.85%)	6.5	165	6.7	170	0.8	20.32	1-1/4 1-7/16 2	1-1/2 2-1/2		40 60



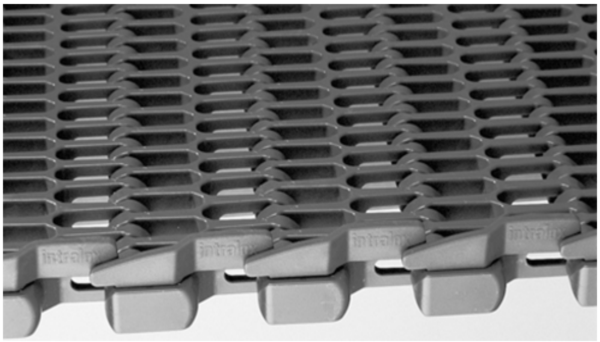
Support Wheel

Available Pitch Diameter in	Available Pitch Diameter mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
5.2	132	1.25 1-7/16 1.5 2	1.5 2.5		40 60
6.5	165	1.25 1-7/16 1.5 2	1.5 2.5		40 60

Overlapping Sideguards

Available Height in	Available Height mm	Available Materials
0.50	12.7	Acetal, SELM
1.00	25.4	

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) acetal overlapping sideguards in acetal is 1.6.
- The turn ratio for 1.00 in (25.4 mm) overlapping sideguard is 1.6 only.

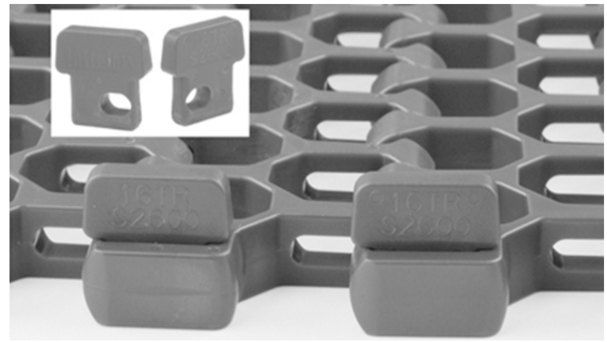


[1] Contact Intralox Customer Service for lead times, preferred method of locking down sprockets, and proper sprocket timing.

Universal Sideguards

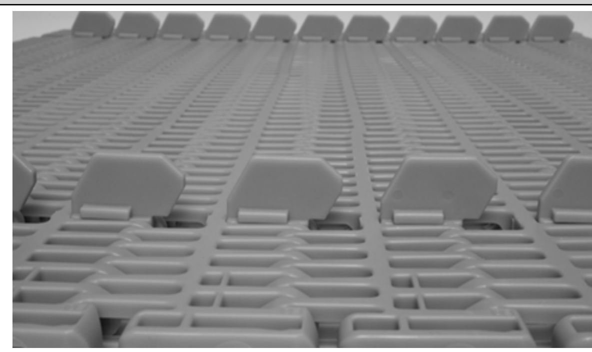
Available Height		Available Materials
in	mm	
0.50	12.7	Acetal, SELM
1.00	25.4	
2.00[1]	50.8[1]	

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.



Lane Dividers

Available Height		Available Materials
in	mm	Acetal, SELM
0.75	19	

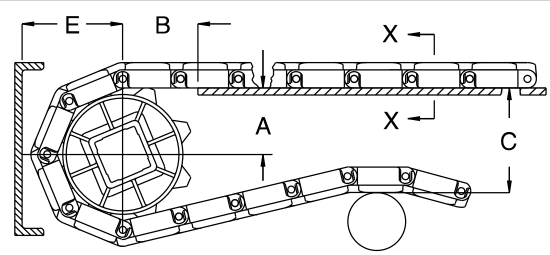


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm	in	mm		in	mm						
Series 2700 Spiral 1.6, 2.2, 2.7												
5.2	132	5.4	137	8	2.12-2.32	54-59	2.25	57	5.23	133	2.97	75
6.5	165	6.7	170	10	2.78-2.94	71-75	2.54	65	6.47	164	3.59	91

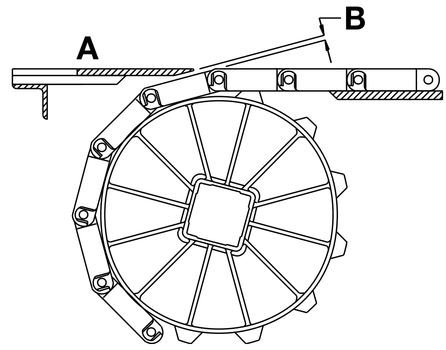
[1] Only available in 1.6 TR

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

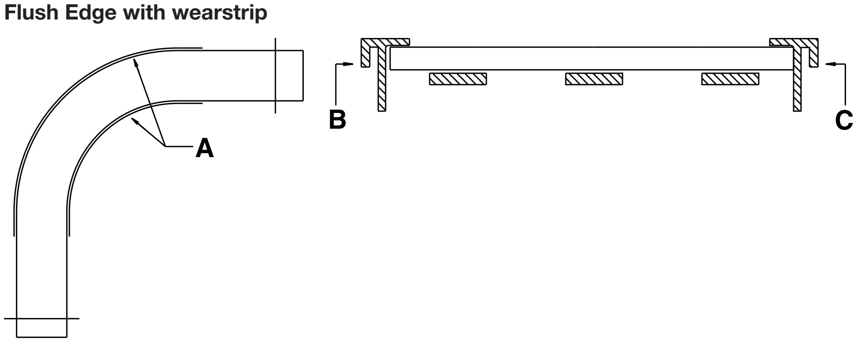
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
5.2	132	8	0.200	5.1
6.5	165	10	0.158	4.0

Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails before the turn, at a distance of 1X the belt width. End the rails after the turn, at a distance of 1X the belt width. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. See *Custom Wearstrips*.

Flush Edge with wearstrip



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 14: Hold down rails and wearstrips for Series 2700 flat-turns

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2700 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

- **A** The minimum turn radius for the standard edge Series 2700 is 2.2 times the belt width, measured from the inside edge. For the tight turning style, the minimum turn radius is 1.7 times the belt width.
- **B** The minimum straight run required between turns of opposing direction is 2.0 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- **C** There is no minimum straight run required between turns that are in the same direction.
- **D** The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times the belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
- **E** The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
- **F** idle shaft
- **G** first turn
- **H** belt width
- **I** belt travel
- **J** second turn
- **K** drive motor
- **L** drive shaft

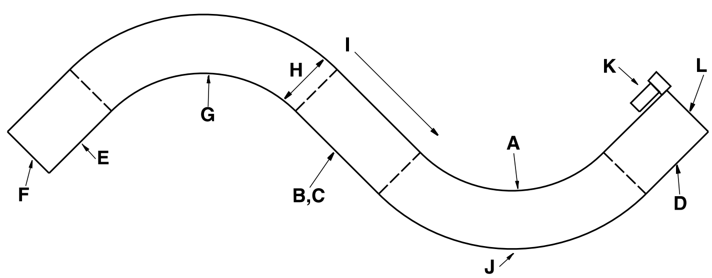
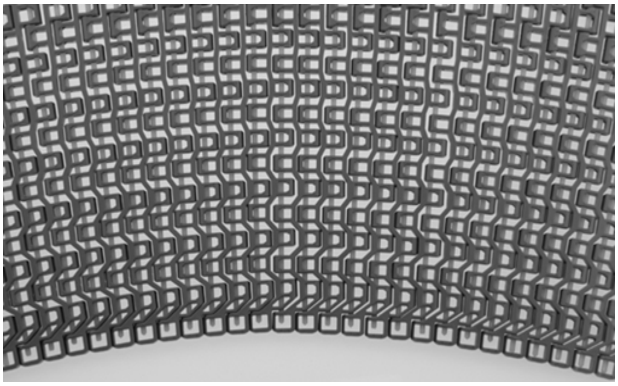
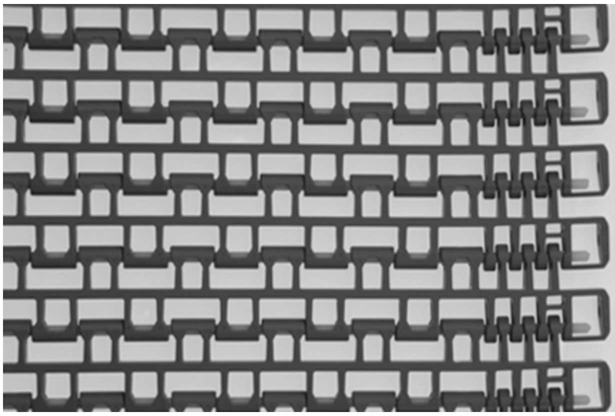


Figure 15: Typical two-turn radius layout

Spiral GTech 1.6

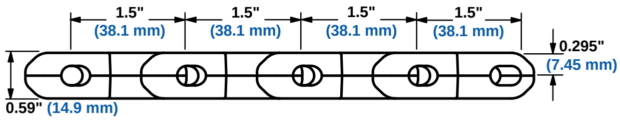
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Sizes (approx.)	1.1 x 0.42	27.9 x 10.7
Open Area (Fully Extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



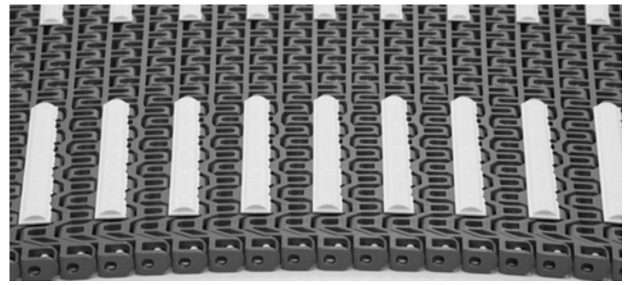
Belt Data

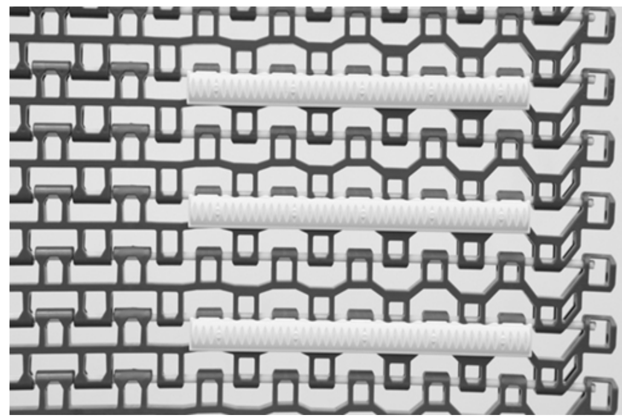
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.28	6.25

[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please contact Intralox Customer Service for accurate comparison of spiral belt strengths.

Spiral GTech Rounded Friction Top

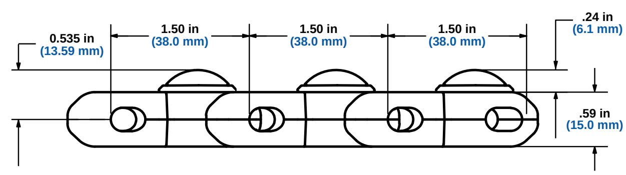
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Sizes (approx.)	1.1 x 0.42	27.9 x 10.7
Hinge Style	Open	
Drive Method	Hinge-driven	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Available in white polypropylene with white rubber or blue polypropylene with high-performance blue rubber.
- Robust edge feature adds strength to the outside edge of the belt.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.
- Must have a 2.0 in (50.8 mm) minimum gap between friction inserts for correct sprocket placement.



Belt Data

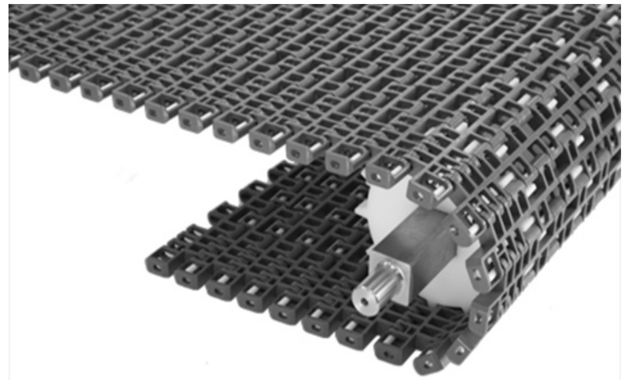
Base belt material	Base/Friction Color	Standard rod material Ø 0.24 in (6.1 mm)	Belt strength		Spiral belt strength[1]		Temperature range (continuous)		Belt weight		Friction Top Hardness	Agency Acceptability[2]	
			lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²		FDA (USA)	EU MC[3]
Acetal	White/White	Acetal	1700	2530	376 (475)	171 (215)	34 to 150	1 to 66	1.44 (1.54)	7.03 (7.52)	55 Shore A	•	•
Acetal	High-Performance FT Blue/Blue	Acetal	1700	2530	376 (475)	171 (215)	34 to 212	1 to 100	1.44 (1.54)	7.03 (7.52)	59 Shore A	•	•

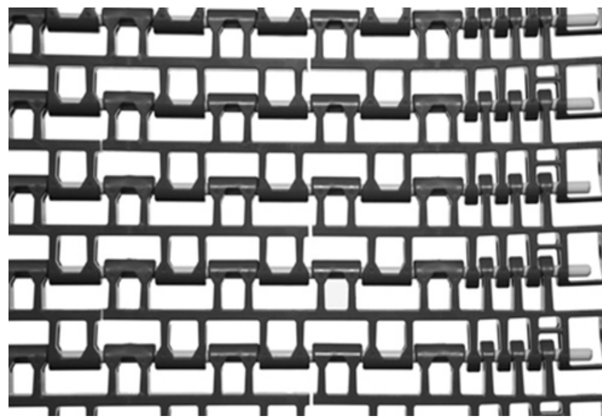
[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Contact an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.
[2] Before Intralox developed Series S2800, USDA-FSIS Meat and Poultry discontinued publishing a list of acceptable new products designed for food contact. As of the printing of this manual, third-party approvals are being investigated, but are not yet sanctioned by the USDA-FSIS.
[3] European Migration Certificate providing approval for food contact according to EU Regulation 10/2011.

SECTION 2
2800

Spiral GTech 2.2 and 3.2

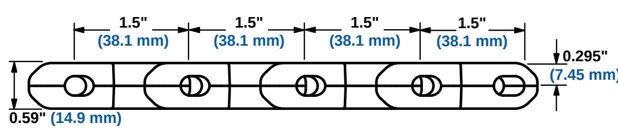
	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Sizes (approx.)	1.1 x 0.42	27.9 x 10.7
Open Area (Fully Extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight belt with extreme beam strength prevents bowing and buckling.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Robust edge feature adds strength to the outside edge of the belt.
- Open hinge and slot design simplifies cleaning.
- Designed for low-tension, capstan drive, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



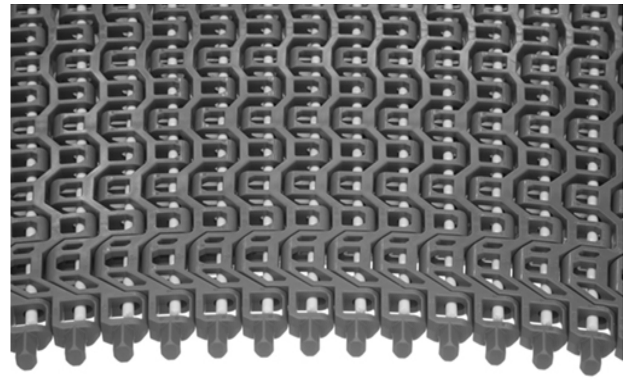
Belt Data

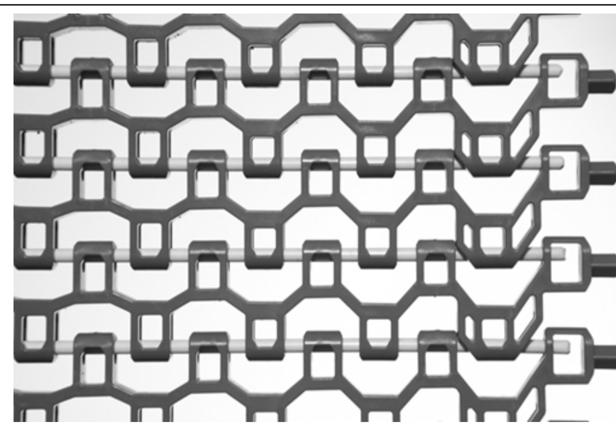
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.27	6.3

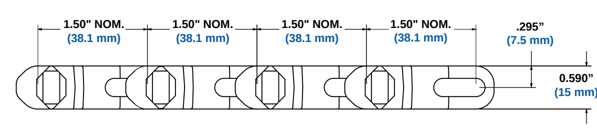
[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

Spiral DirectDrive™

	in	mm
Pitch	1.5	38.1
Minimum Width	24	609.6
Width Increments	1.00	25.4
Opening Sizes (approx.)	1.1 x 0.42	27.9 x 10.7
Open Area (Fully Extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	







Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, relatively strong belt with smooth surface grid.
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

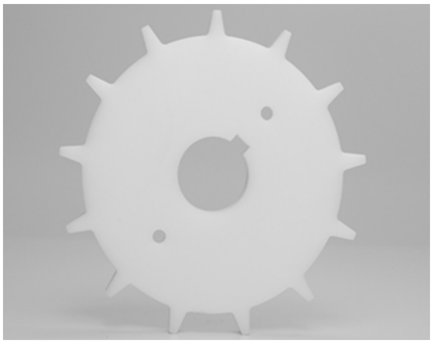
Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[1]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.60	7.81
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.27	6.2

[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

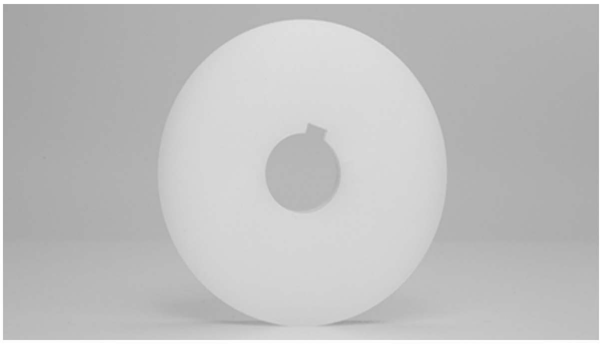
Acetal Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
13 (1.92%)	6.2	157.5	6.4	162.6	1.2	30.5	1-7/16	1.5		40
							1-1/2	2.5		60
							2			



Support Wheel

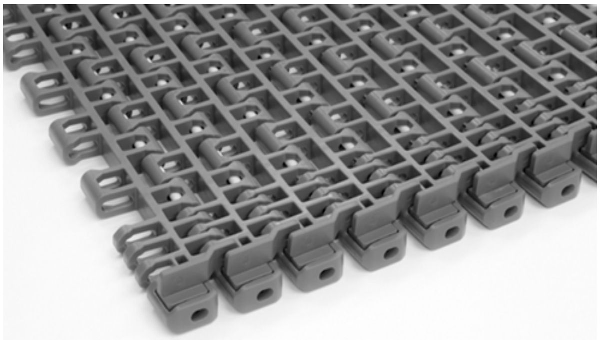
Available Pitch Diameter in	Available Pitch Diameter mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
6.3	160	1-7/16	1.5		40
		2	2.5		60



Overlapping Sideguards

Available Height in	Available Height mm	Available Materials
0.50	12.7	Acetal
1.0	25.4	Acetal

- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards is 1.6.



[1] Contact Intralox Customer Service for lead times.

Lane Dividers

Available Height		Available Materials
in	mm	
0.75	19	Acetal, SELM

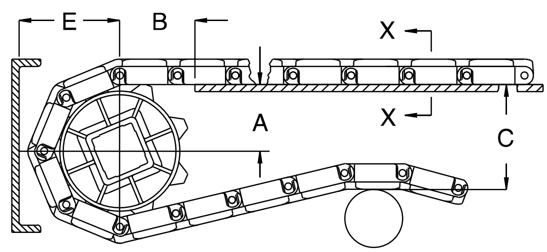
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Lane dividers can be spaced 2 in (50.8 mm) apart along the width of the belt.
- Minimum indent requirements: contact Intralox Customer Service.

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm	in	mm		in	mm						
Series 2800 Spiral GTech 1.6, 2.2 & 3.2 and DirectDrive												
6.3	160	6.5	165	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89
Series 2800 Spiral GTech Rounded Friction Top												
6.3	160	6.5	165	13	2.75-2.84	70-72	2.51	64	6.51	165	3.74	95

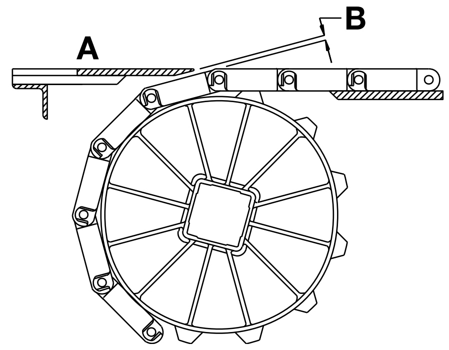
Sprocket Description					A		B		C		E	
Pitch Diameter		Nominal OD		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm	in	mm		in	mm						
Series 2800 Spiralox GTech 1.6, 2.2 & 3.2 Radius and DirectDrive												
6.3	160	6.5	165	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89
Series 2800 Spiralox GTech Rounded Friction Top												
6.3	160	6.5	165	13	2.75-2.84	70-72	2.51	64	6.51	165	3.74	95

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

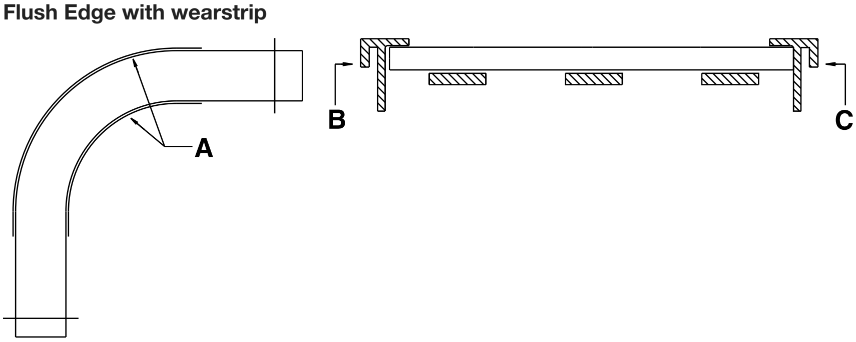
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.3	160	13	0.091	2.3

Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails before the turn, at a distance of 1X the belt width. End the rails after the turn, at a distance of 1X the belt width. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. See *Custom Wearstrips*.

Flush Edge with wearstrip



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 16: Hold down rails and wearstrips for Series 2800 flat-turns

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2800 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

- **A** The minimum turn radius for Series 2800 is 1.6 times the belt width, measured from the inside edge for the standard edge.
- **B** The minimum straight run required between turns of opposing direction is 1.6 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
- **C** There is no minimum straight run required between turns that are in the same direction.
- **D** The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
- **E** The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
- **F** idle shaft
- **G** first turn
- **H** belt width
- **I** belt travel
- **J** second turn
- **K** drive motor
- **L** drive shaft

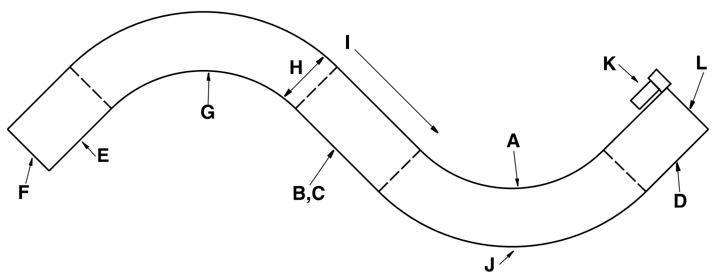
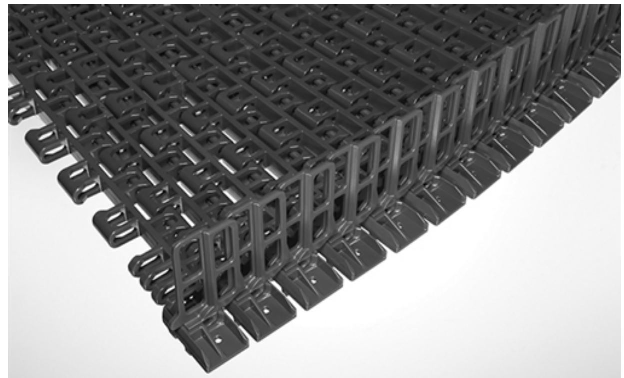


Figure 17: Typical two-turn radius layout

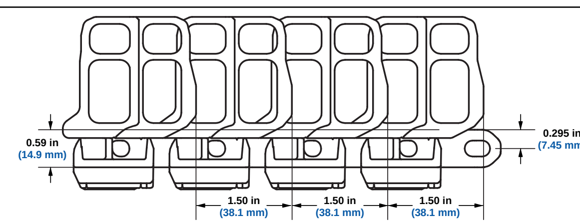
DirectDrive™ Stacker

	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	2.00	50.8
Opening Sizes (approx.)	1.1 x 0.42	27.9 x 10.7
Open Area (Fully Extended)	50%	
Minimum Open Area	36%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- 60-mm, 80-mm, & 100-mm tier spacing available.



Belt Data

Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[1]		Temperature range (continuous)[2]		Belt weight	
		lb./ft	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.96	9.57

[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.
[2] Sideflexing applications must not exceed 180°F (82°C).

Acetal Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
13	6.2	157.5	6.4	162.6	1.2	30.5	2	1.5		40
(1.92%)							1-7/16	2.5		60

Support Wheel

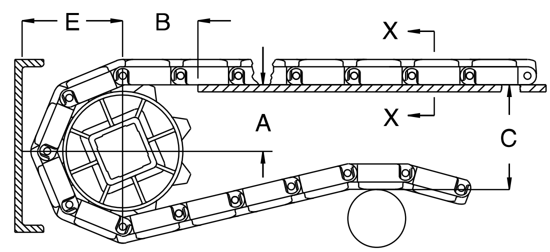
Available Pitch Diameter in	Available Pitch Diameter mm	Available Bore Sizes U.S. Round in	Available Bore Sizes U.S. Square in	Available Bore Sizes Metric Round mm	Available Bore Sizes Metric Square mm
6.3	160	1-7/16	1.5		40
		2	2.5		60

Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description Pitch Diameter in	Sprocket Description Pitch Diameter mm	No. Teeth	A Range (Bottom to Top) in	A Range (Bottom to Top) mm	B in	B mm	C in	C mm	E in	E mm
S2850 DirectDrive Stacker										
6.3	160	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89

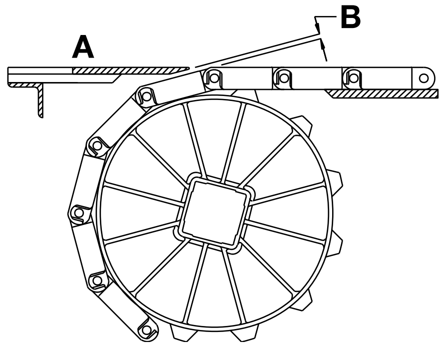
[1] Contact Intralox Customer Service for lead times.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



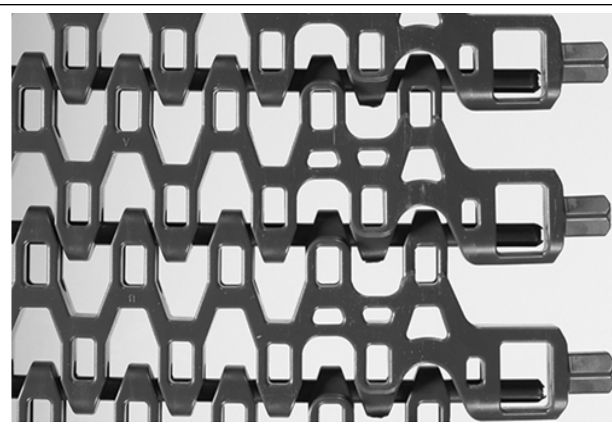
A Top surface of dead plate

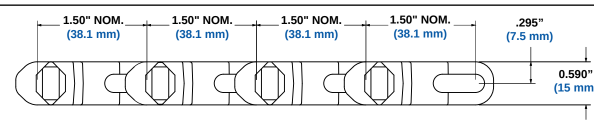
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.3	160	13	0.091	2.3

Spiral DirectDrive™ (DD)

	in	mm
Pitch	1.5	38.1
Minimum Width[1]	13.5	343
Maximum Width[1]	61.7	1567
Width Increments	1.0	25.4
Opening Sizes (approx.)	0.52 x 0.39	13 x 10
Open Area (Fully Extended)	44%	
Minimum Open Area (Collapsed)	26%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

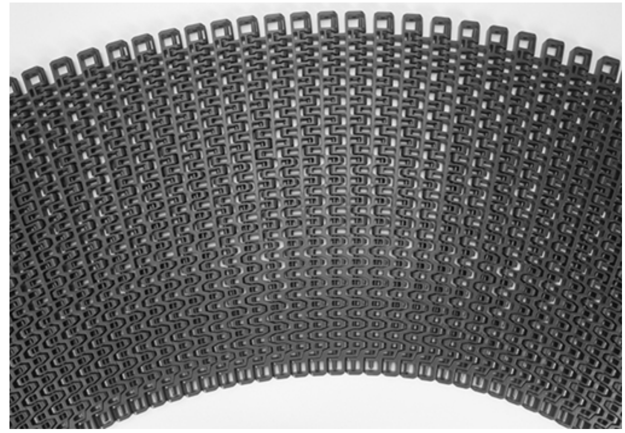
Belt Data

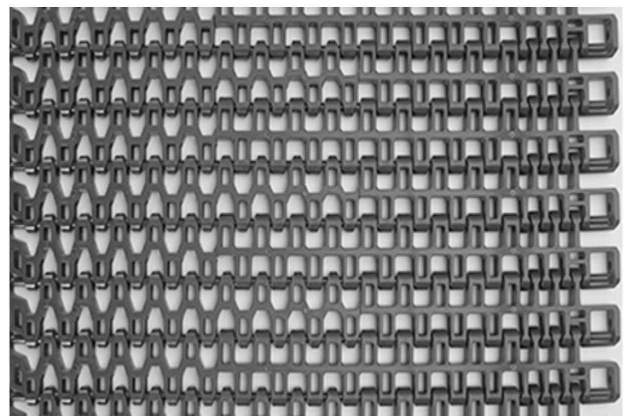
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb/ft	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13
Detectable MX	Detectable MX	1600	2381	475	215	-50 to 200	-46 to 93	2.08	10.16

[1] Width dimension includes tooth protrusion.
[2] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.

Spiral 1.6

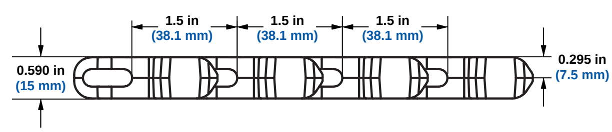
	in	mm
Pitch	1.5	38.1
Minimum Width[1]	13.5	343
Maximum Width[1]	61.7	1567
Width Increments	0.5	12.7
Opening Sizes (approx.)	0.52 x 0.39	13 x 10
Open Area (Fully Extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Cage-friendly inside edge and frame-friendly outside edge.
- Enhanced beam stiffness.
- Eliminates product contamination from metal-wear debris.
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan, spiral applications with a minimum turn radius of 1.6 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.



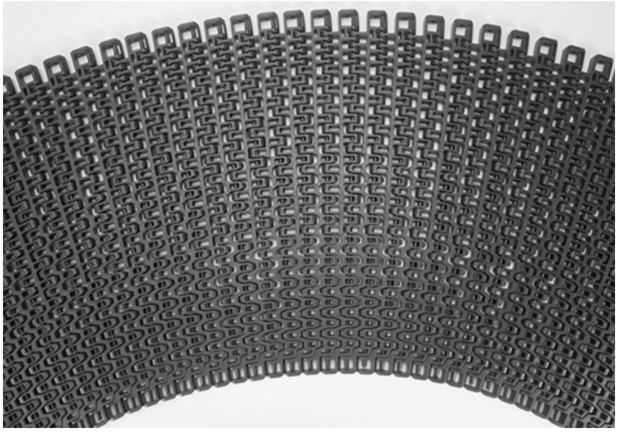
Belt Data

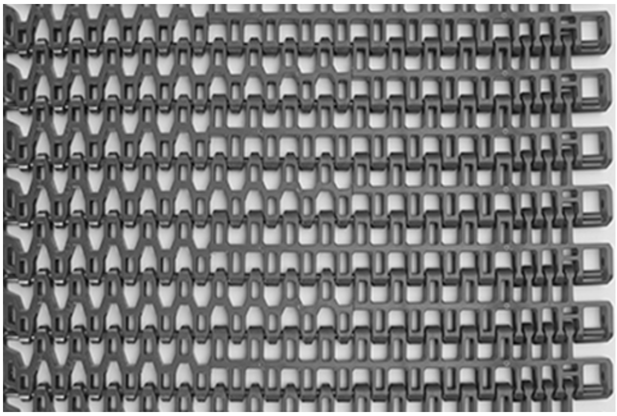
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb./ft.	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13

[1] Width dimension includes tooth protrusion.
[2] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of curve belt strengths.

Spiral 2.2

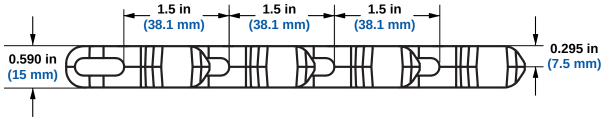
	in	mm
Pitch	1.5	38.1
Minimum Width[1]	13.5	343
Maximum Width[1]	61.7	1567
Width Increments	0.5	12.7
Opening Sizes (approx.)	0.52 x 0.39	13 x 10
Open Area (Fully Extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Drive Method	Center/hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	





Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Belt openings pass straight through the belt to simplify cleaning.
- Robust edge feature adds strength to the outside edge of the belt.
- Relatively uniform open area across the width of the belt aids product freezing and cooling.
- Cage-friendly inside edge and frame-friendly outside edge
- Enhanced beam stiffness
- Eliminates product contamination from metal-wear debris
- Enables simple, quick repairs and changeovers.
- Designed for friction drive, capstan, spiral applications with a minimum turn radius of 2.2 times the belt width (measured from the inside edge).
- Minimum sprocket indent from the inside belt edge and from the outside belt edge can vary. Contact Intralox Customer Service to determine exact placement.

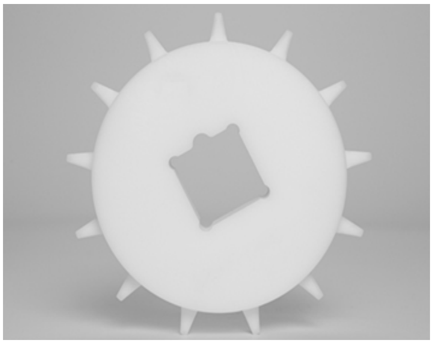


Belt Data

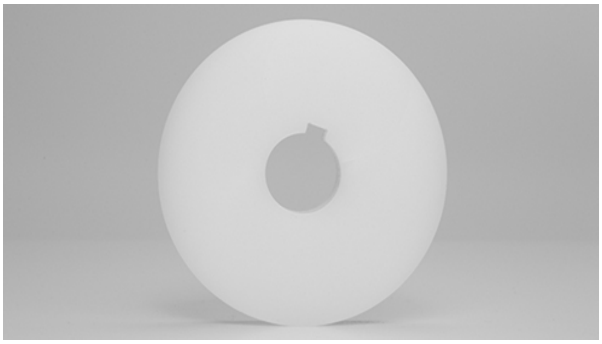
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[2]		Temperature range (continuous)		Belt weight	
		lb./ft.	kg/m	lbs.	kg	°F	°C	lb./ft.²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	1.78	8.69
SELM	Acetal	500	744	375	170	-50 to 200	-46 to 93	1.46	7.13

[1] Width dimension includes tooth protrusion.
[2] Published curved belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of curve belt strengths.

Acetal Sprockets[1]										
No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes			
							U.S.		Metric	
							Round in	Square in	Round mm	Square mm
13 (2.97%)	6.2	157	6.4	163	1.2	30.5	1-7/16	1.5		40
							2	2.5		60



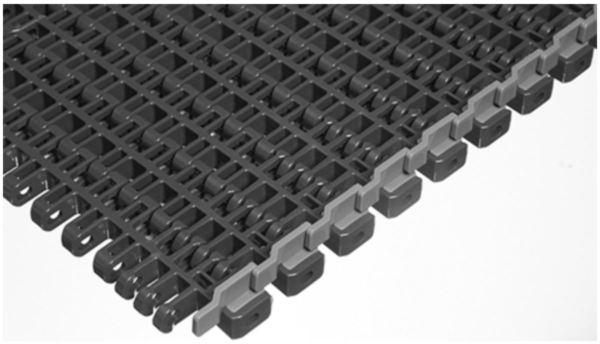
Support Wheel					
Available Pitch Diameter		Available Bore Sizes			
		U.S.		Metric	
in	mm	Round in	Square in	Round mm	Square mm
6.3	160	1-7/16	1.5		40
		2	2.5		60



Overlapping Sideguards

Available Height		Available Materials
in	mm	
0.50	12.7	Acetal
1.0	25.4	Acetal

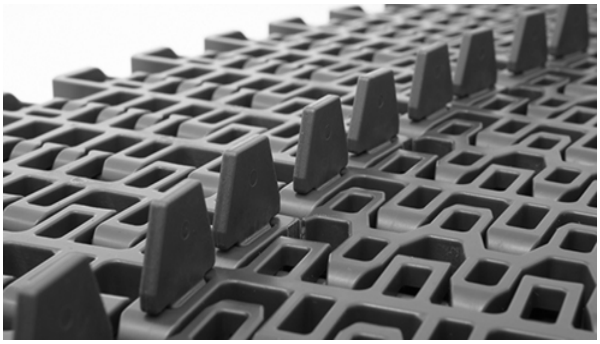
- Maximizes product carrying capacity. Sideguards fit to the very edge of the belt, with no indent.
- Assembly does not require “finger cuts” on the modules, so the belt beam strength is not compromised.
- Makes the outer edge of the belt more snag-resistant.
- Keeps small products from falling through belt gaps.
- Turn ratio for 0.50 in (12.7 mm) overlapping sideguards 1.6.



[1] Contact Intralox Customer Service for lead times.

Lane Dividers

Available Height		Available Materials
in	mm	
0.75	19	Acetal, SELM

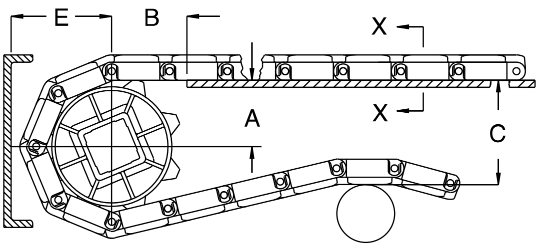


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

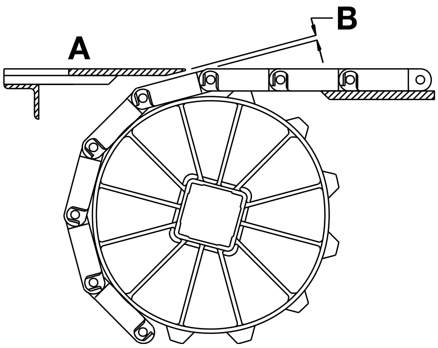
Sprocket Description			A		B		C		E	
Pitch Diameter		No. Teeth	Range (Bottom to Top)		in	mm	in	mm	in	mm
in	mm		in	mm						
Series 2900 Spiral DirectDrive										
6.3	160	13	2.75-2.84	70-72	2.51	64	6.27	159	3.49	89

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

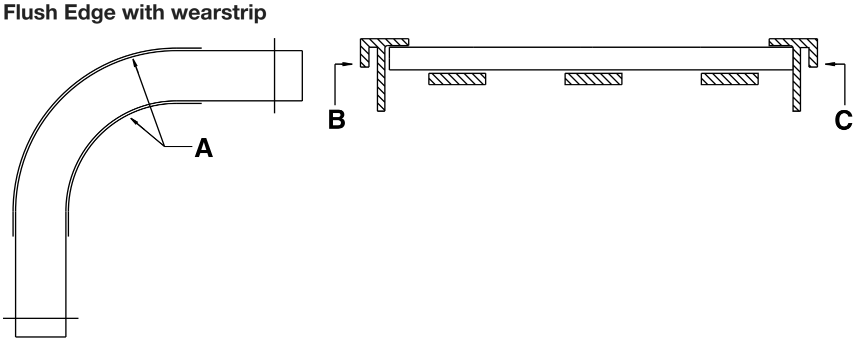
B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.3	160	13	0.091	2.3

Hold Down Rails and Wearstrips

Intralox recommends using continuous hold down rails through an entire turn. Start the rails before the turn, at a distance of 1X the belt width. End the rails after the turn, at a distance of 1X the belt width. This applies to both carryway and returnway. The use of hold down rails along both side of the belt over the full carryway is recommended but not mandatory. See *Custom Wearstrips*.

Flush Edge with wearstrip



A Hold down rail placement
B Outside hold down rail
C Inside hold down rail

Figure 18: Hold down rails and wearstrips for Series 2900 flat-turns

Belt Selection Instructions

For assistance with radius belt and low-tension capstan drive spiral selections, contact Intralox Customer Service Technical Support Group. Run the Engineering Program to ensure that the belt is strong enough for the radius application in question. See *Engineering Program Analysis for Spiral and Radius* for more information.

Series 2900 Design Guide Summary

For more information, see the Installation, Maintenance & Troubleshooting Manual available from Intralox.

A The minimum turn radius for Series 2900 is 1.6 times the belt width, measured from the inside edge for the standard edge.
B The minimum straight run required between turns of opposing direction is 1.6 times the belt width. Shorter straight sections lead to high wear on the edge guide rail and high pull stresses in the belt.
C There is no minimum straight run required between turns that are in the same direction.
D The minimum final straight run (leading to the drive shaft) must be a minimum of 5 ft (1.5 m). If 5 ft (1.5 m) is not feasible, shorter distances (down to 1.5 times belt width) require a weighted take up to avoid sprocket wear and tracking problems. See *Special Take-up Arrangements*.
E The minimum length of the first straight run (immediately after the idle shaft) is 1.5 times the belt width. When shorter lengths are required (down to 1.0 times the width), an idle roller can be used in place of sprockets.
F idle shaft
G first turn
H belt width
I belt travel
J second turn
K drive motor
L drive shaft

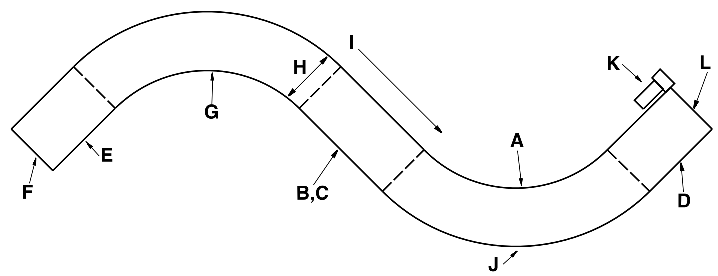
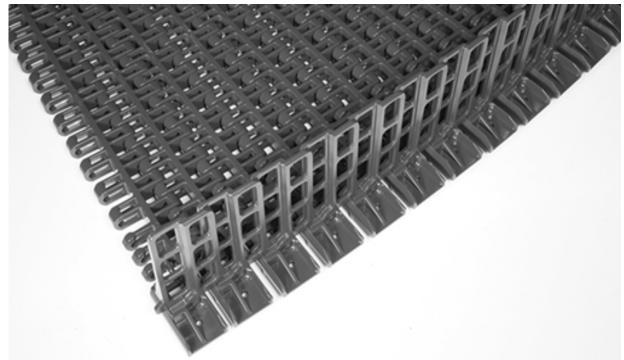


Figure 19: Typical two-turn radius layout

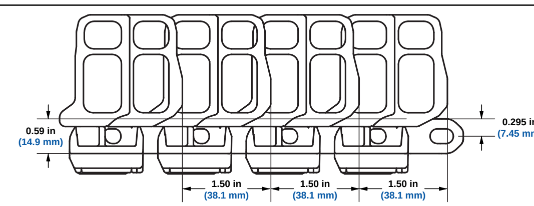
DirectDrive™ Stacker

	in	mm
Pitch	1.5	38.1
Minimum Width	12	304.8
Width Increments	1.00	25.4
Opening Sizes (approx.)	0.52 x 0.39	13.0 x 10.0
Open Area (Fully Extended)	44%	
Minimum Open Area	26%	
Hinge Style	Open	
Drive Method	Hinge-driven	
Rod Retention; Rod Type	Occluded edge; unheaded	



Product Notes

- **This belt has pinch points. See the *Safety* section in the *Intralox Conveyor Belting, Installation, Maintenance & Troubleshooting Manual* for more information.**
- **Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt.**
- Lightweight, strong belt with smooth surface grid for good product release.
- Belt openings pass straight through the belt to simplify cleaning.
- Relatively uniform open area across the width of the belt to aid product freezing and cooling.
- Sideplates are permanently installed and cannot be replaced.
- Designed for stacker applications using patented DirectDrive technology.
- 60-mm, 80-mm, & 100-mm tier spacing available.

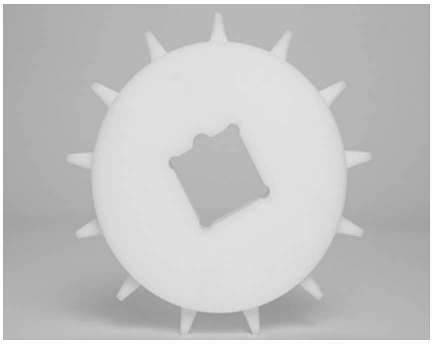


Belt Data									
Belt material	Standard rod material Ø 0.240 in (6.1 mm)	Straight belt strength		Spiral belt strength[1]		Temperature range (continuous)[2]		Belt weight	
		lb/ft	kg/m	lb	kg	°F	°C	lb/ft²	kg/m²
Acetal	Acetal	1600	2381	475	215	-50 to 200	-46 to 93	2.18	10.64

[1] Published spiral belt strengths and their method of calculation vary among belt manufacturers. Please consult an Intralox Spiral Engineer for accurate comparison of spiral belt strengths.
[2] Sideflexing applications must not exceed 180°F (82°C).

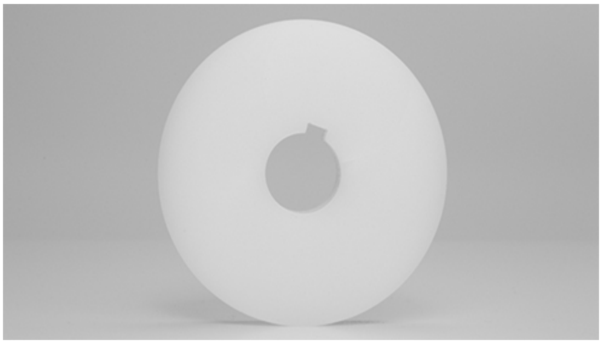
Acetal Sprockets[1]

No. of Teeth (Chordal Action)	Nom. Pitch Dia. in	Nom. Pitch Dia. mm	Nom. Outer Dia. in	Nom. Outer Dia. mm	Nom. Hub Width in	Nom. Hub Width mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
13	6.2	157	6.4	163	1.2	30.5	1-7/16	1.5		40
(2.97%)							2	2.5		60



Support Wheel

Available Pitch Diameter in	Available Pitch Diameter mm	Available Bore Sizes U.S. Round in	U.S. Square in	Metric Round mm	Metric Square mm
6.3	160	1-7/16	1.5		40
		2	2.5		60

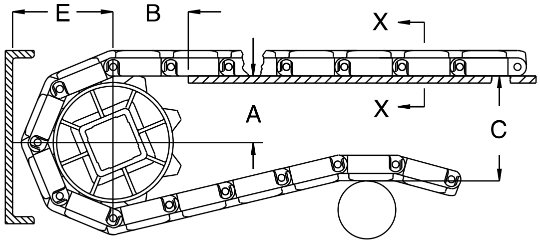


Conveyor Frame Dimensions

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions A, B, C, and E are implemented in any design.

For general applications and applications where end transfer of tip-sensitive product is not critical, use the A dimension at the bottom of the range.

For complete descriptions of the dimensions, see *Basic Conveyor Frame Requirements*.



A ± 0.031 in (1 mm)
B ± 0.125 in (3 mm)
C ± (max.)
E ± (min)

Sprocket Description Pitch Diameter in	Pitch Diameter mm	No. Teeth	A Range (Bottom to Top) in	A mm	B in	B mm	C in	C mm	E in	E mm
DirectDrive Stacker										
6.2	157	13	2.71-2.81	69-71	2.47	63	6.20	157	3.46	88

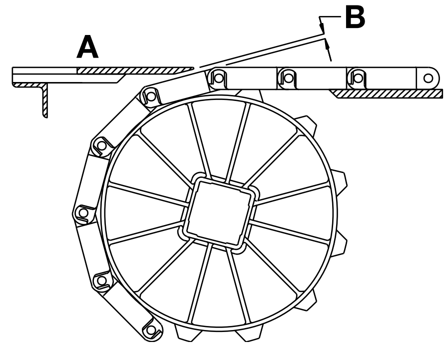
[1] Contact Intralox Customer Service for lead times.

Dead Plate Gap

A gap is needed at transfer points between a belt without finger transfer plates and a dead plate. This gap between surfaces allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. The following table lists the minimum gap between the dead plate and the belt. This measurement is the minimum gap that occurs at the low point of the module, as the high point of the module just contacts the dead plate.

When it is necessary to maintain contact between the tip of the dead plate and the belt, hinge the dead plate mounting bracket. Hinging the mounting bracket allows the dead plate to move as the modules pass. Note: hinged mounting brackets create a small oscillating motion that can cause tippage problems for sensitive containers or products.

Note: The top surface of the dead plate is typically 0.031 in (0.8 mm) above the belt surface for product transfer onto the belt. For product transfer off the belt, the top surface of the dead plate is typically 0.031 in (0.8 mm) below the belt surface.



A Top surface of dead plate

B Dead plate gap

Sprocket Description			Gap	
Pitch Diameter		No. Teeth	in	mm
in	mm			
6.2	157	13	0.092	2.3

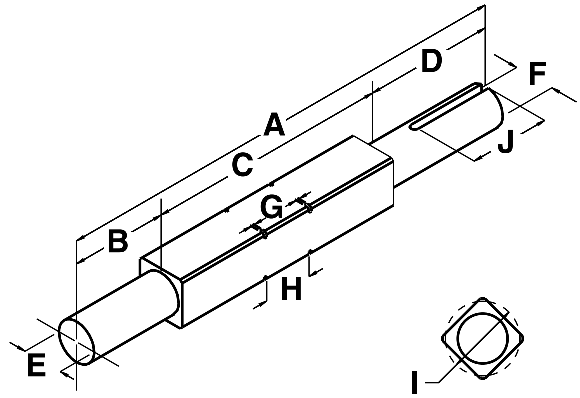
Square Shafts

Machined to Customer Specifications

After the stock is cut to length, the raw shaft is precision straightened. The bearing journals are turned, followed by the cutting of retainer ring grooves, keyways, and chamfers*. The final step is a thorough, quality control inspection before shipping. For help with specifying shaft dimensions, contact Intralox Customer Service.

*If the shaft is to operate under high belt loads, retainer ring grooves are not recommended. Self-set or split heavy-duty retainer type rings are recommended in these cases. Contact the Technical Support Group for retainer ring recommendations.

Note: If using the shaft in a hollow gearbox, contact Intralox Customer Service.



DIMENSIONS REQUIRED:
A - Length: overall
B - Length: bearing-end journal
C - Length: square section
D - Length: drive-end journal and keyway dimensions
E - Diameter: bearing journal
F - Diameter: drive-end journal
G - Width: retainer ring groove
H - Width: sprocket hub
I - Diameter: ring groove
J - Length of keyway

Figure 20: Shaft dimensions

Shafts Available from Intralox USA[1] Shaft Tolerances in Inches			
Square Size	Carbon Steel (C-1018)	Stainless Steel (303/304)	Stainless Steel (316)
5/8 in	0.000 to -0.003	0.000 to -0.004	0.000 to -0.004
1 in	0.000 to -0.003	0.000 to -0.004	0.000 to -0.004
1.5 in	0.000 to -0.003	0.000 to -0.006	0.000 to -0.006
2.5 in	0.000 to -0.004	0.000 to -0.008	0.000 to -0.008
3.5 in[2]	0.000 to -0.005	0.000 to -0.005	N/A

Shafts Available from Intralox Europe[3] Shaft Tolerances in Millimeters		
Square Size	Carbon Steel (KG-37)	Stainless Steel (303/304)
25 mm	0.000–0.130	0.000–0.130
40 mm	0.000–0.160	0.000–0.160
60 mm	0.000–0.180	0.000–0.180
65 mm	0.000–0.180	0.000–0.180
90 mm	0.000–0.220	0.000–0.220

Shaft Dimensions and Tolerances			
Shaft Size	Retainer Ring Groove and Chamfer Dimensions		
	Groove	Width	Chamfer[4]
5/8 in	0.762 ± 0.003 in	0.046 + 0.003/- 0.000 in	0.822 ± 0.010 in
1 in	1.219 ± 0.005 in	0.056 + 0.004/- 0.000 in	1.314 ± 0.010 in
1.5 in	1.913 ± 0.005 in	0.086 + 0.004/- 0.000 in	2.022 ± 0.010 in
2.5 in	3.287 ± 0.005 in	0.120 + 0.004/- 0.000 in	3.436 ± 0.010 in
3.5 in	4.702 ± 0.005 in	0.120 + 0.004/- 0.000 in	4.850 ± 0.010 in
25.4 mm	30 ± 0.1 mm	2.0 + 0.15/- 0.00 mm	33 ± 0.25 mm
40 mm	51 ± 0.1 mm	2.5 + 0.15/- 0.00 mm	54 ± 0.25 mm
60 mm	80 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	82 ± 0.25 mm
65 mm	85 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	89 ± 0.25 mm
90 mm	120 ± 0.1 mm	4.5 + 0.15/- 0.00 mm	124 ± 0.25 mm
Note: In some instances, the retainer ring grooves must be offset from the shaft center. See *Retaining Sprockets*			

Tolerances (Unless otherwise specified)

Overall length	< 48 in ± 0.061 in (< 1200 ± 0.8 mm)
	> 48 in ± 0.125 in (> 1200 ± 1.2 mm)
Journal diameter	- 0.0005 in/- 0.003 in (Øh7 vlgs. NEN-ISO 286-2)
Keyway widths	+ 0.003 in/- 0.000 in (+ 0.05/- 0.00 mm)

Surface Finishes

Journal	63 microinches (1.6 micrometers)
Other machined surfaces	125 microinches (3.25 micrometers)

Unless otherwise specified — USA keyways are for parallel square keys (ANSI B17.1 - 1967, R1973).

Metric keyways are for flat, inlaid keys with round ends (DIN 6885-A).

[1] Consult Intralox for shafts longer than 12 ft
[2] 3.5 incarbon steel shafts can be Nickel Plated for corrosion resistance.
[3] Consult Intralox for shafts longer than 2 m.
[4] Shaft must be chamfered for Series 200, 400 and 800 molded sprockets to fit.

Retainer Rings/Center Sprocket Offset

Selecting Recommended Retainer Rings

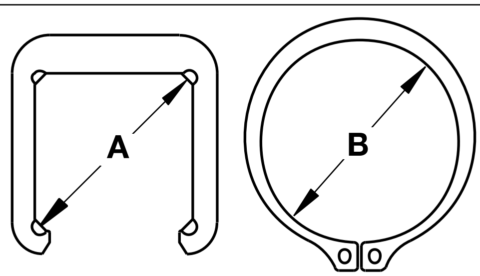
Intralox recommends the use of retainer rings to fix the location of one sprocket on each shaft. The fixed sprocket limits transverse movement of the belt during operation. In many applications, spring-type rings are used with success; however these rings require cutting small grooves into the corners of the shafts. In some applications where belt loads are higher and stresses in the shaft are greater, the presence of ring grooves is undesirable, as they create places where stresses are concentrated. In these cases, Intralox recommends using alternative retainer rings that require no grooves, such as the Self-Set or Split Collar rings.

Use *Table 10* to identify recommended limits of belt pull versus shaft span between bearings, then determine if retainer ring grooves can be used. For a given shaft size and span, if the belt pull (BP), exceeds the values shown, select a ring that requires no grooves in the shaft.

Standard Retainer Rings

- Plastic retainer rings are available in sizes to fit 1.5 in and 2.5 in square shafts.
- Plastic retainer rings are made from polysulfone.
- The temperature range of polysulfone is -125°F to 300°F (-98°C to 149°C).
- Plastic retainer rings require grooves identical to the grooves used for stainless steel retainer rings on 1.5 in and 2.5 in shafts. See the groove chart in the stainless steel retainer ring section for information.
- Plastic retainer rings have the following restrictions:

Plastic Retainer Ring Restrictions					
Retainer Ring Size	Standard retainer rings do NOT work with the following sprockets				
	Series	Pitch diameter		Bore Size	
		in	mm	in	mm
1.5 in	400	4.0	102	1.5	40
	1600	3.2	81	1.5	40
2.5 in	400	5.2	132	2.5	40
	1100	3.1	79	2.5	40



A ring groove diameter for polysulfone retainer rings
B ring groove diameter for steel retainer rings

Figure 21: Retainer rings

- Stainless steel retainer rings are available to fit 5/8 in, 1.0 in, 1.5 in, 2.5 in, 3.5 in, 25.4 mm, 40 mm, 60 mm, 65 mm, and 90-mm square shafts.
- The following ANSI Type 3AMI rings, conforming to MIL SPEC R-2124B are available:

Shaft Size	Retainer Ring Groove and Chamfer Dimensions		
	Groove Dia.	Width	Chamfer[1]
5/8 in	0.762 ± 0.003 in	0.046 + 0.003/- 0.000 in	0.822 ± 0.010 in
1 in	1.219 ± 0.005 in	0.056 + 0.004/- 0.000 in	1.314 ± 0.010 in
1.5 in	1.913 ± 0.005 in	0.086 + 0.004/- 0.000 in	2.022 ± 0.010 in
2.5 in	3.287 ± 0.005 in	0.120 + 0.004/- 0.000 in	3.436 ± 0.010 in
3.5 in	4.702 ± 0.005 in	0.120 + 0.004/- 0.000 in	4.850 ± 0.010 in
25.4 mm	30 ± 0.1 mm	2.0 + 0.15/- 0.00 mm	33 ± 0.25 mm
40 mm	51 ± 0.1 mm	2.5 + 0.15/- 0.00 mm	54 ± 0.25 mm
60 mm	80 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	82 ± 0.25 mm
65 mm	85 ± 0.1 mm	3.5 + 0.15/- 0.00 mm	89 ± 0.25 mm
90 mm	120 ± 0.1 mm	4.5 + 0.15/- 0.00 mm	124 ± 0.25 mm
Note: In some instances, the retainer ring grooves are offset from the shaft center. See *Retaining Sprockets*			

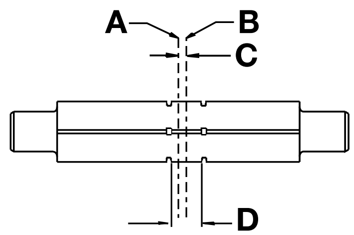
- Stainless steel retainer rings have the following restrictions:

Stainless Steel Retainer Ring Restrictions			
Retainer ring size	Stainless steel retainer rings do not work with the following sprockets		
	Series	Pitch diameter[2]	
		in	mm
1.219 in	900	2.1	53
	1100	2.3	58

[1] For Series 200, 400, and 800 molded sprockets, shafts must be chamfered to fit.

[2] To lock down the Series 900 2.1 in (53 mm) and (58 mm) pitch diameter sprockets, a setscrew is required. Place the setscrew on each side of the sprocket. Contact Intralox Sales Engineering for more information.

Locked Sprocket Position on Shaft



A - Centerline of shaft
C - Offset
B - Centerline of sprocket
D - Sprocket width

Figure 22: Locked sprocket position

Center Sprocket Offset

Series	Number of Links	Offset in	Offset mm	Max. Sprocket Spacing in	Max. Sprocket Spacing mm
100	even	0	0	6	152
	odd	0.12	3	6	152
200	even/odd	0	0	7.5	191
200 RR	even/odd	0.09	2.3	7.5	191
400	even	0	0	6	152
	odd	0.16	4	6	152
400 RT, ARB, TRT	See bottom of chart.				
550	even	0	0	5	127
	odd	0.5	12.7	5	127
800	even/odd	0	0	6	152
800 Angled EZ Clean[1]	even/odd	0.16	4	6	152
800 RR	even	3	76	6	152
	odd	0	0	6	152
850	even/odd	0	0	6	152
888	See Series 888 section in the Installation Instructions or contact Intralox Customer Service.				
900	even	0	0	4	102
	odd	0.16	4	4	102
900 OFG	See Series 900 section in the Installation Instructions or contact Intralox Customer Service.				
1000	even	0	0	6	152
	odd	0.25	6.44	6	152
1100[2]	even (whole)	0	0	4	102
	odd (whole)	0.5	12.7	4	102
	even/odd (0.5 in 12.7-mm increments)	0.25	6.35	4	102
1100 EZ Tracking Sprockets	even (whole)	0.19	4.8	4	102
	odd (whole)	0.31	7.9	4	102

Center Sprocket Offset

Series	Number of Links	Offset in	Offset mm	Max. Sprocket Spacing in	Max. Sprocket Spacing mm
	even/odd (0.5 in 12.7-mm increments)	0.06	1.52	4	102
1200	See Series 1200 section in the Installation Instructions or contact Intralox Customer Service.			6	152
1400	even	0	0	6	152
	odd	0.5	12.7	6	152
1400 FG	See Series 1400 section in the Installation Instructions or contact Intralox Customer Service.			6	152
1500	See Series 1500 section in the Installation Instructions or contact Intralox Customer Service.			6	152
				6	152
1600	even/odd	0	0	4	102
1650[3]	even/odd	0.25	6.4	4	102
1700	even	0.5	12.7	5	127
	odd	0	0		
1750[4]	odd	0.5	12.7	4	102
	even	0	0		
1800	even/odd	0	0	6	152
1900	See Series 1900 section in the Installation Instructions or contact Intralox Customer Service.			3	76
2100	even/odd	1.97	50	3.94	100
2200[5]	even	0.25 to the left[6]	6.4 to the left[5]	4	102
	odd	0.25 to the right[7]	6.4 to the right[6]	4	102
2300	even	0	0	6	152
	odd	1.5	38	6	152
2400[4] [8]	even	0.125 to the left[5]	3.2 to the left[5]	6	152
	odd	0.125 to the right[6]	3.2 to the right[6]	6	152
2600	even/odd	0	0	8	203
2700	even/odd	0	0	8	203
2800	even	0	0	6	152
	odd	0.5	12.7		
4400	even/odd	0.5	12.7	9	229
4500	even	0.5	12.7	6	152
	odd	0	0	6	152
4500 Dual Tooth Sprockets	even	0	0	6	152
	odd	0.5	12.7	6	152
9000	even	0.5	12.7	4	102
	odd	0	0	4	102
10000 Hinge Drive (preferred)	even	0.25 to the left[5]	6.3 to the left[5]	5.91	150
	odd	0.25 to the right[6]	6.3 to the right[6]	5.91	150
10000 Center Drive	even	0.25 to the right[6]	6.3 to the right[6]	5.91	150
	odd	0.25 to the left[5]	6.3 to the left[5]	5.91	150
	Number of rollers per row				
400 RT, ARB, TRT	even	0	0	6	152
	odd	1	25.4	6s	152

[1] 6, 10, and 16 tooth sprockets can be placed on belt centerline
[2] The 8 and 12 tooth steel sprockets can be placed on belt centerline
[3] 20 tooth sprocket has 0 offset
[4] When determining number of links, drop the 0.5 link
[5] When determining number of links, drop the 0.5 link
[6] To the left of the shaft centerline in direction away from keyed journal
[7] To the right of the shaft centerline in direction toward keyed journal
[8] Assuming belt is running in preferred direction

Self-Set Retainer Rings

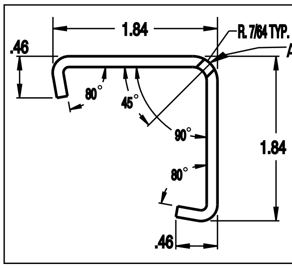
Self-set retainer rings are available to fit 1.0 in, 1.5 in, 2.5 in, 3.5 in, 40 mm, 60 mm, and 65-mm shafts.

Figure 23: Self-set retainer rings

- Retainer rings are made from non-corrosive 316 stainless steel.
- There is no need for machined grooves on the shaft and the shaft does not need to be removed to install these retainer rings.
- Self-set retainer rings are USDA-FSIS accepted.
- Self-set retainer rings snap into place on the square shaft and are fixed in position with a unique setscrew that cannot fall out of the retainer ring during operation.
- The shaft must have chamfered edges for the retainer ring to work properly.
- Self-set retainer rings are not recommended in applications where high lateral forces are to be expected.
- Self-set retainer rings have the following restrictions:

Self-Set Retainer Ring Restrictions

Retainer ring size	Self-set retainer rings do NOT work with the following sprockets:		
	Series	Pitch diameter	
		in	mm
1.0 in	100	2.0	51
	900	2.1	53
	1100	2.3	58
40 mm	900	3.1	79
	1000	3.1	79
	1100	3.1	79
	1600	3.2	81
65 mm	400	5.2	132



A - Custom setscrew, fully inserted, head first, from this side

Round Shaft Retainer Rings

- Round shaft retainer rings are available to fit 0.75 in, 1.0 in, and 25.4-mm round shafts.
- These retainer rings are made of stainless steel.
- These retainer rings are for use with the Series 1100 1.6 in (41 mm) and 2.3 in (58 mm) pitch diameter sprockets.

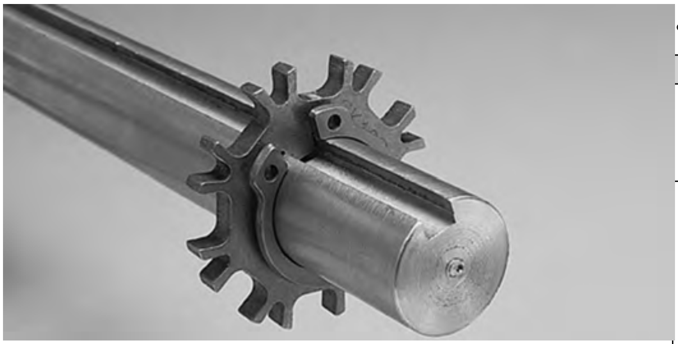


Figure 24: Retainer ring on round shaft

- These retainer rings do not require a groove for placement, they stay in place using friction. It is very important that grooves are not used on round shafting, as this will cause fatigue and shaft failure.

Split Collar Retainer Rings

Split collar retainer rings are available to fit the following shaft sizes:

Split Collar Retainer Ring/Shaft Sizes	
Square shaft	Round shaft
1.5 in	3/4 in
2.5 in	1 in
40 mm	1-3/16 in
60 mm	1-1/4 in
	1-3/8 in
	1-7/16 in
	1-1/2 in
	2 in

- The retainer rings are made from 304 stainless steel.
- For use in applications with high lateral loads on the sprockets.
- These retainer rings do not require the shaft to be chamfered and the shaft does not have to be removed, providing ease of installation.
- Split collar retainer rings have the following restrictions:

Split Collar Retainer Ring Restrictions			
Retainer ring size	Split collar retainer rings will NOT work with the following sprockets		
	Series	Pitch diameter	
		in	mm
1.5 in and 40 mm	400	4.0	102
	900	3.1	79
	900	3.5	89
	1000	3.1	79
	1100	3.1	79
	1100	3.5	89
	1600	3.2	81
2.5 in and 60 mm	400	5.2	132
	1100	4.6	117
	1400	4.9	124
	2600	5.2	132
	2700	5.2	132

Figure 25: Split collar retainer rings

Round Bore Adapters

Sprocket inserts are available to adapt 1.5 in square bore sprockets to use 1 in diameter shafts. They are only recommended for lightly loaded belts or for narrow belt widths, up to 18 in (460 mm).

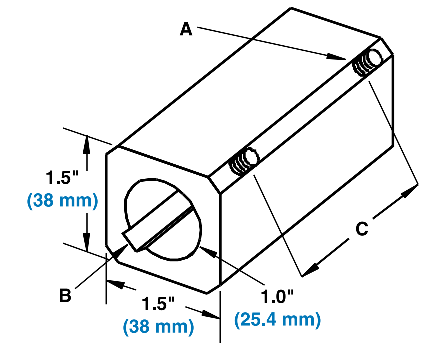
Adapters are made in glass filled polypropylene for strength and chemical resistance. However, these adapters are not to be used with split or abrasion resistant sprockets.

Two adapter sizes are available - 2.5 in (64 mm) and 3.5 in (89 mm) long. Setscrews are provided to retain the sprockets on the adapters and to lock the center sprocket to the shaft. The 3.5 in (89 mm) adapter has a third tapped hole to accommodate a range of hub widths. To determine which adapter to use with a given sprocket hub width, see the following *Round Bore Adapter Selection Table*.

For certain sprocket hub width/adapter size combinations, more than one sprocket can be placed on each adapter. See the sprockets/adapter column in the following *Round Bore Adapter Selection Table* for more information.

The 2.5 in (64 mm) adapter has a torque limit of 875 in-lb (10,000 mm-kg). The 3.5 in (89 mm) adapter is limited to 1200 in-lb (13,800 mm-kg). The operating temperature limits are between 45°F (7°C) and 120°F (50°C).

Round bore adapters are not recommended for use with split sprockets or abrasion resistant sprockets.



A - 1/4 in - 20 × 5/8 in setscrews (UNC threads)

B - Keyway - 0.25 in × 0.125 in (6 mm × 3 mm)

C - Gap between setscrews:

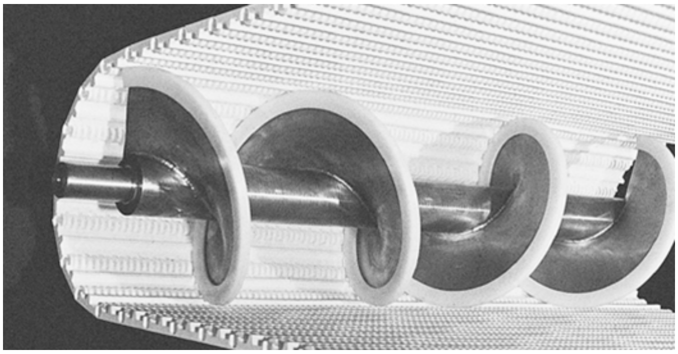
2.5 in	(64 mm)	Adapter
1.5 in	(38 mm)	Gap
3.5 in	(89 mm)	Adapter
2.5 in	(64 mm)	Gap

Figure 26: Round bore adapter

Round Bore Adapter Selection Table[1]								
Sprocket Hub Widths		Center Locked Sprocket			Floating Sprockets			
		Adapter Sizes		Sprockets/ Adapter	Adapter Sizes		Sprockets/ Adapter
in	mm	in	mm		in	mm	
0.75	19	2.5	64	2	2.5	64	1
1.00	25	2.5	64	1	3.5	89	1
1.25	32	3.5	89	2	3.5	89	1
1.50	38	2.5	64	1	3.5	89	1
2.50	64	3.5	89	1	3.5	89	1

[1] Spacers can be needed to lock down center sprockets on adapters.

Scroll Idlers



Scrolls from Intralox may be used in applications where the drive end shaft and sprockets must be kept clean. The curved, flighted surfaces of the scroll direct debris away from the belt center, toward the edges, where it can fall harmlessly to the floor or receptacle.

Intralox offers scrolls in two nominal diameters: 6 in (152 mm) and 9 in (229 mm). Flight pitch, the axial distance for the flight to sweep through a full circle, is also 6 in (152 mm) and 9 in (229 mm), respectively. Since the scroll is also supporting the idle end of the belt, each nominal diameter has an associated minimum scroll length to ensure proper belt support. For very narrow belts, or for extra support, a double-flighted scroll is available. All scrolls are mounted on a 2.5 in (63.5 mm) diameter round shaft. Maximum journal diameter is 2.5 in (63.5 mm) and minimum journal length is 2 in (50.8 mm).

Scroll Dimensions, in (mm)			
Nominal Diameter	Actual Diameter	Min Single-Flighted Scroll Length[1]	Min Double-Flighted Scroll Length[1]
6 (152)	6.7 (170)	12.5 (318)	6.5 (165)
9 (229)	9.7 (246)	18.5 (470)	9.5 (241)

Intralox scrolls are offered in carbon and stainless steel materials. Carbon steel scrolls are treated and painted for protection. All scrolls have a thick section of UHMW wearstrip attached to the flight edges. Stainless steel scrolls with a polished weld bead are available for USDA-FSIS applications.

Scrolls from Intralox may be used in applications where excessive amounts of debris may hamper the performance of sprockets or possibly damage the belt.

Position the scroll idler assembly in the conveyor frame so the "V" at the center of the scroll (where the left and right flights meet) points in the direction of belt travel. Adjust the shaft take-ups, if there is one, to have even tension on both sides.

Scroll Features	Flight Material		
	Carbon Steel	Stainless Steel	Stainless Steel USDA-FSIS
6 in (152 mm) Scroll Size	•	•	•
9 in (229 mm) Scroll Size	•	•	•
Intermittent Welds	•	•	
Continuous, Polished Welds			•
UHMW Flight Edging	•	•	•
Primer Gray Paint	•		

Intralox scrolls have no built-in tracking ability. It may be necessary to use side-mounted wearstrips on the idle end.

SECTION 2

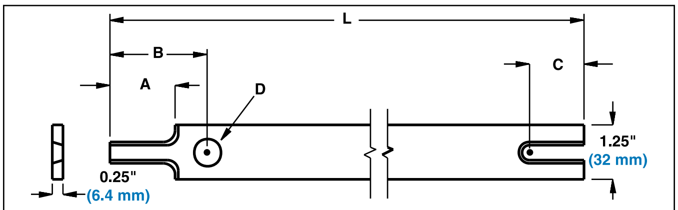
[1] Exclusive of Journals.

Wearstrips

Flat Wearstrips

Standard flat wearstrips are available in UHMW, HDPE (High-Density Polyethylene) and Nylatron (a Molybdenum-filled nylon). UHMW and HDPE wearstrips measure 0.25 in (6 mm) thick × 1.25 in (32 mm) wide × 120 in (3048 mm). Nylatron wearstrips measure 0.125 in (3 mm) thick × 1.25 in (32 mm) wide × 48 in (1219 mm). UHMW and HDPE wearstrips are FDA and USDA-FSIS compliant for direct food contact. Nylatron wearstrip is not FDA or USDA-FSIS accepted for food applications.

Flat finger-joint wearstrips have a notched end design which provides overlapping sections for continuous support. UHMW wearstrips are available in 24 in (610 mm) and 60 in (1524 mm) lengths. HDPE wearstrip is available in 24 in (610 mm) lengths. Fasteners are supplied.



L	A	B	C
24 in (610 mm)	1.125 in (28.6 mm)	1.75 in (44.5 mm)	0.75 in (19.1 mm)
60 in (1524 mm)	1.875 in (47.6 mm)	2.25 in (57.2 mm)	1.50 in (38.1 mm)

Figure 27: Flat finger-joint wearstrips

Angle and Clip-on Wearstrips

Intralox also offers various angle and clip-on wearstrips. All clip-on wearstrips styles come in 120 in (3048 mm) lengths. These wearstrips are designed to attach directly to the conveyor frame without fasteners.

- For new applications, use flat wearstrips with wide surface area for carryways and returnways.
- Use clip-on wearstrips only for lightly loaded retrofit applications or to prove concepts. They are not recommended for normal production operation.
- Contact Intralox Customer Service for application-specific information.

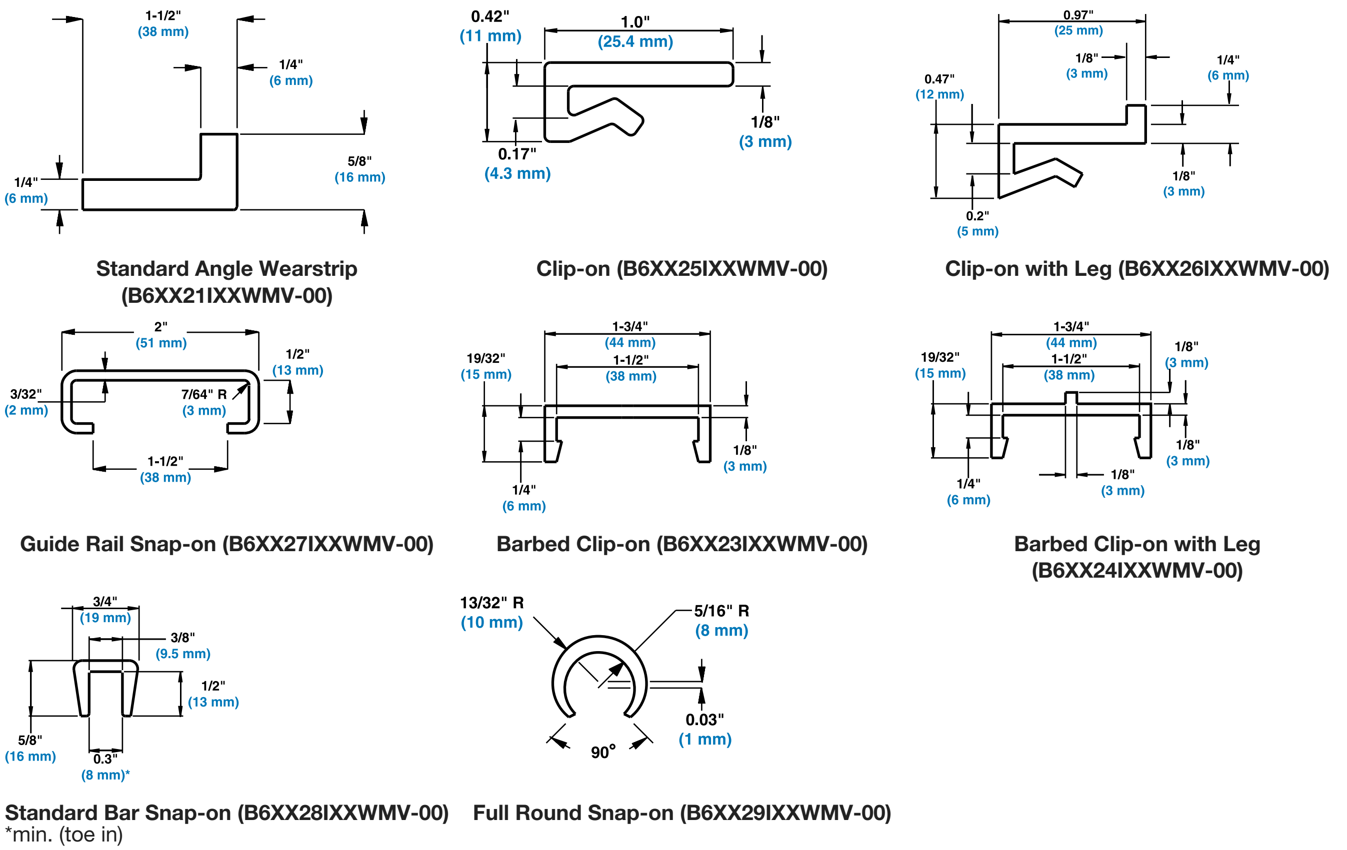
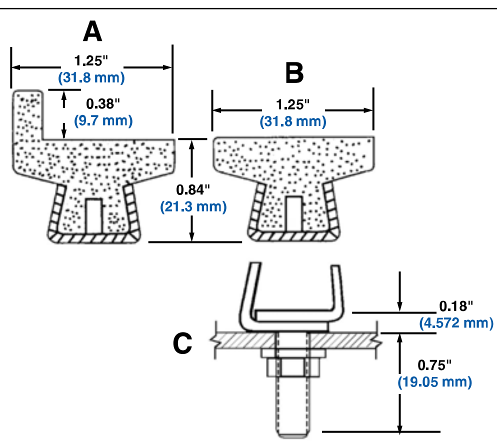


Figure 28: UHMW Specialty wearstrips

Stainless Steel Backed UHMW Wearstrip



A - "L" 120 in stainless steel back UHMW wearstrip (B6XX43IXXWMV-00)

B - "T" 120 in stainless steel back UHMW wearstrip (B6XX42IXXWMV-00)

C - Self-tightening stainless steel wearstrip clamp with nut -5/16-18 UNC (C9AX1XXXXXXX-01)

Figure 29: Stainless steel backed UHMW wearstrips

- Stainless steel backed UHMW wearstrip can be used to create a rigid belt carryway surface on any frame with cross members.
- Stainless steel backed UHMW wearstrip is mounted to cross members with a self-tightening stainless steel clamp with nut (self-tightening stainless steel clamp with nut sold separately).
- Can be installed in parallel, chevron, or other configurations.
- Recommended for temperatures up to 160°F (71°C).
- Available in two profiles: Flat wearstrip ("T") and "L" wearstrip
- Available in 120 in (3048 mm) lengths.
- Installation of wearstrips should allow for thermal expansion and contraction.
- Always chamfer or bend down the leading edges of any wearstrip.

UHMW Pressure Sensitive Tape

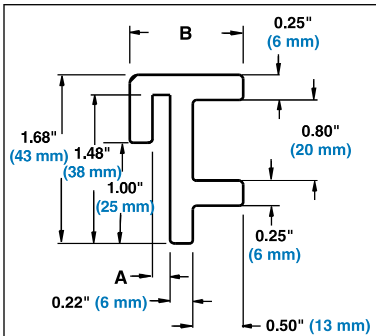
Intralox offers UHMW self-adhering wearstrip tape in rolls of 54 ft. (16.5 m). This tape can be used for quick and easy conversion of steel wearstrips to a lower friction UHMW wearstrip. The 1 in (25.4 mm) wide and 2 in (50.8 mm) wide tape is available0.010 in (0.25 mm) and 0.030 in (0.76 mm) thick.

Note: UHMW pressure sensitive tape is only to be used in light-duty applications and temporary solutions.

Custom Wearstrips

Radius Belt Wearstrips

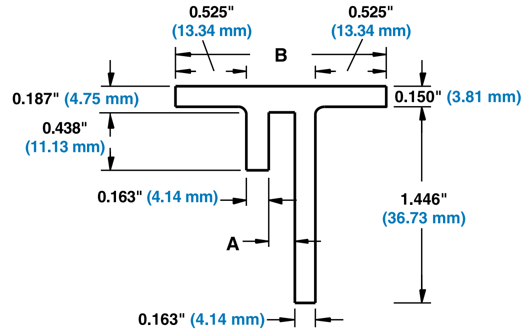
All radius belt wearstrips are available in natural UHMW and self-lubricating, grey, oil-filled UHMW. The angle and center rail wearstrips utilize the EZ Clean design. All wearstrips are available in either 1/8 in (3.2 mm) or 3/16 in (4.7 mm) sizes. S2400 available in UHMW only.



Standard edge, hold down wearstrip

UHMW - 1/8 in (3.2 mm) - (B6XX33IXXWMV-00) 3/16 in (4.7 mm) (B6XX32IXXWMV-00).

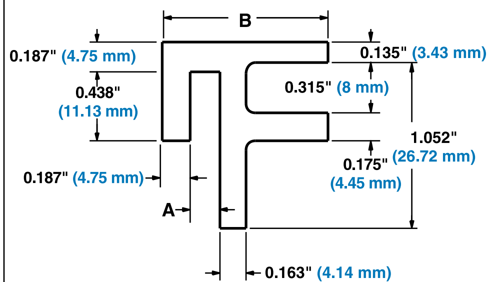
Oil-filled UHMW - 1/8 in (3.2 mm) - (B6XX33IXXWMW-00) 3/16 in (4.7 mm) (B6XX32IXXWMW-00).



Radius belt wearstrip, Center rail hold down wearstrip

UHMW - 1/8 in (3.2 mm) - (B6XX41IXXWMV-00) 3/16 in (4.7 mm) (B6XX40IXXWMV-00).

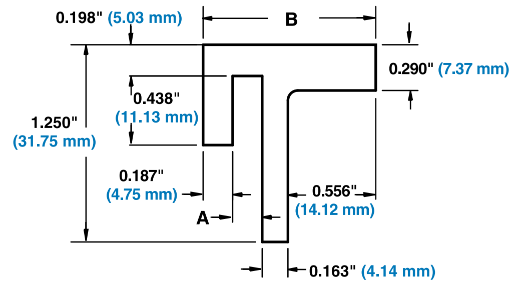
Oil-filled UHMW - 1/8 in (3.2 mm) - (B6XX41IXXWMW-00) 3/16 in (4.7 mm) (B6XX40IXXWMW-00).



Tabbed edge, hold down wearstrip

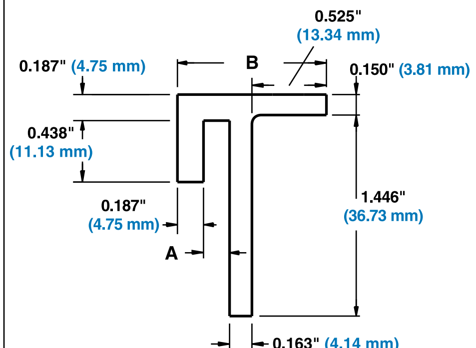
UHMW - 1/8 in (3.2 mm) - (B6XX39IXXWMV-20) 3/16 in (4.7 mm) (B6XX38IXXWMV-10).

Oil-filled UHMW - 1/8 in (3.2 mm) - (B6XX39IXXWMW-00) 3/16 in (4.7 mm) (B6XX38IXXWMW-00).



Radius belt wearstrip, Series 2400, hold down guide wearstrip

UHMW - 1/8 in (3.2 mm) - (B6F546IXXWMV-00) 3/16 in (4.7 mm) (B6F547IXXWMV-00).



Radius belt wearstrip, Angle hold down wearstrip

UHMW - 1/8 in (3.2 mm) - (B6XX37IXXWMV-00) 3/16 in (4.7 mm) (B6XX36IXXWMV-00).

Oil-filled UHMW - 1/8 in (3.2 mm) - (B6XX37IXXWMW-00) 3/16 in (4.7 mm) (B6XX36IXXWMW-00).

Wearstrip Dimensions

			A (Nominal)	
			1/8 in (3.2 mm)	**3/16 in (4.7 mm)**
	Standard Edge	1.00 in (25.4 mm)	1.13 in (29 mm)	
	Tabbed Edge	1.00 in (25.4 mm)	1.06 in (27 mm)	
	Angle	1.00 in (25.4 mm)	1.06 in (27 mm)	
B	Center Rail	1.56 in (40 mm)	1.56 in (40 mm)	
	S2400 Hold Down Guide	1.03 in (26 mm)	1.09 in (28 mm)	

Figure 30: 120 in UHMW radius belt custom wearstrips

Pusher Bars

Accumulation tables are most often used in the beverage industry, allowing upstream production machinery to operate continuously and economically in the event that some downstream machinery stops the flow of the product. These tables act as a buffer to absorb the product overflow until the downstream problem is rectified. The principal function of a pusher bar is to move the last few rows of product off the accumulation table, past the dead plate area and onto the primary conveyor lines. Pusher bars rest on the accumulation table, which must use a Raised Rib style belt (Series 100, 400, and 900).

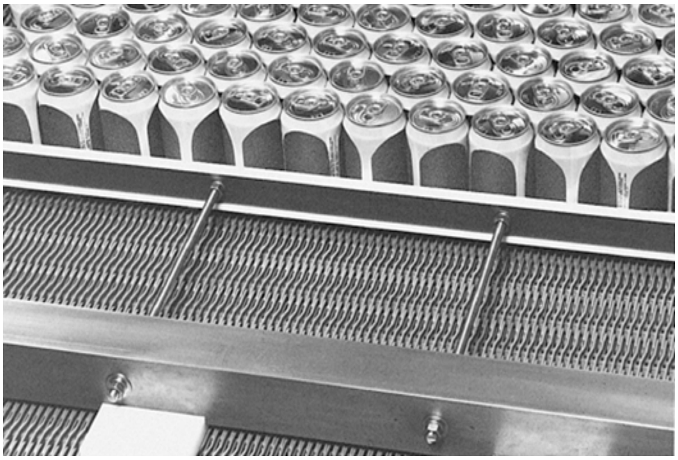
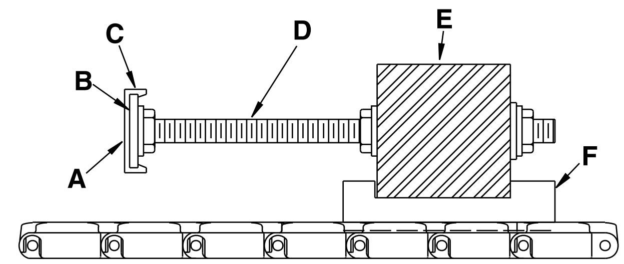


Figure 31: Pusher bar side view

The bar is a 2.5 in (63.5 mm) square stainless or carbon steel shaft which rides in several slotted UHMW guide shoes. The shoes are slotted on the bottom to mesh with the ribs of the belt and keep the bar aligned, perpendicular to the direction of belt travel. The shoes bear the entire weight of the pusher bar, so it is recommended that wearstrips be placed to support the belt directly under the shoes.

The blade of the pusher bar actually does the pushing. It can be specified in 24 in (610 mm) to 120 in (3048 mm) lengths and consists of a rigid steel bar capped with UHMW wearstrip, so as not to mar or damage the product. The blade is set off from the weighted shaft by threaded steel rods, making the amount of offset adjustable to individual needs.

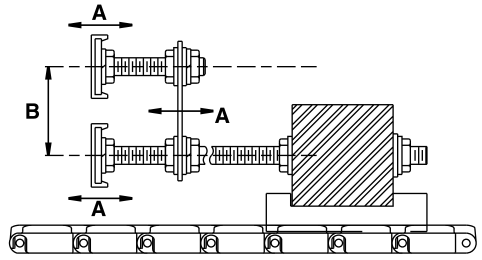


A - Blade
B - Barstock
C - Clip-on wearstrip
D - Threaded rod
E - Weight
F - Guide shoe (slotted bottom surface)

Figure 32: Pusher bar assembly

A dual blade pusher bar is also available for tall or contoured products. The upper blade of this configuration is adjustable up and down and can be extended past or retracted further back from the lower blade.

Adjustment of the pusher bar is dependent upon: 1) placement of the device which limits the pusher bar's forward travel, and 2) dimensions of the product being conveyed. Standard offset is approximately equal to the length of the finger plate to be used: 5.75 in (146 mm) for Series 100, 7.5 in (191 mm) for Series 400 and 6.5 in (165 mm) for Series 900.

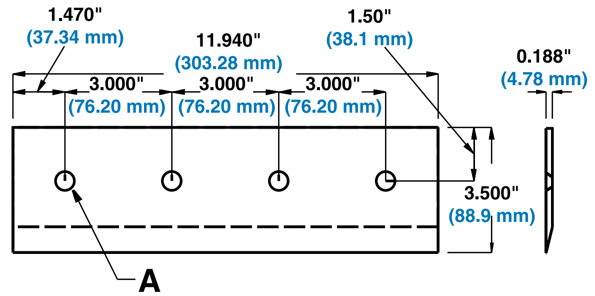


A - Adjustable **B** - Adjustable from 2 -4 in (51-102 mm)

Figure 33: Dual blade pusher bar assembly

Transfer Plates

Intralox offers UHMW transfer plates with operating temperature limits of -100°F (-73°C) to 180°F (82°C).

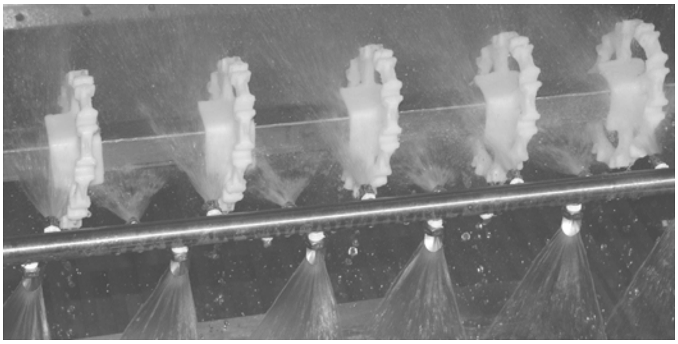


A - Holes for 0.25 in (6 mm) bolts

Figure 34: Transfer plates

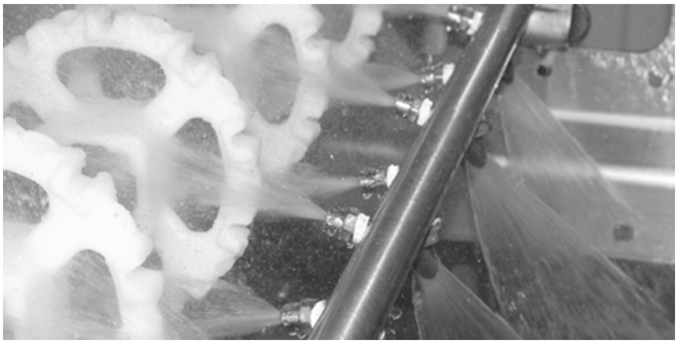
EZ Clean™ in Place (CIP) System

Compatible with most conveyors, the EZ CIP system cleans belts quickly, effectively, and consistently while minimizing water usage.



The CIP system features a spray bar optimally located to increase and expedite debris removal and a custom-engineered spray pattern. The spray pattern is designed to provide thorough cleaning of the belt underside, sprockets, and shaft. The system mounts within the conveyor frame behind the conveyor shaft and sprays the belt at three separate locations. Fan nozzles spray through the open belt hinges below and above the shaft as the belt travels around the sprockets. High impact nozzles spray the belt underside along the belt drive bars to maximize the debris channeling effect built into EZ Clean belts. Cleaning is further optimized when used along with Angled EZ Clean sprockets.

The CIP system can be installed on the drive end or idle end, but the drive end is preferred. The system is made of 303/304 stainless steel, with highly polished surfaces. The minimum water pressure recommended at the intake of the CIP system is 150 PSI (10 bar).



Hold Down Rollers

Hold down roller assemblies can be used in place of hold down shoes or rails on wide elevating conveyors. On typical elevating conveyors, the flights have a notch in the center of the belt so that a hold down rail or shoe can be used to keep the belt on the conveyor frame. Product loss or damage from these shoes is an inevitable side effect.

Standard roller assemblies have a bracket made of acetal, with polypropylene rollers and rods, and are available for the following belt styles:

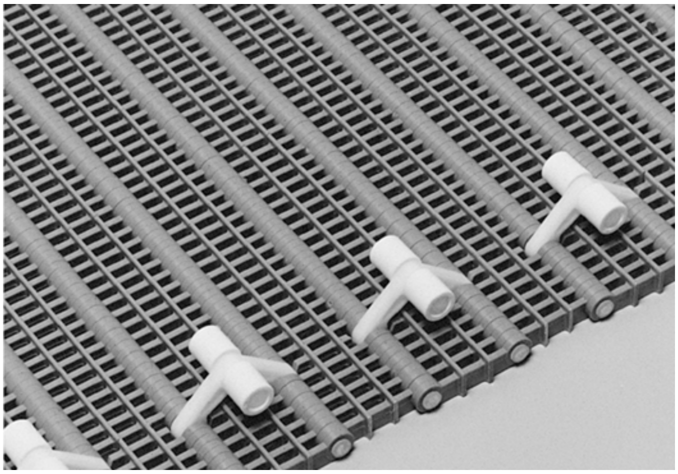
Series 200 — Flush Grid, Open Grid, Open Hinge, Flat Top, and Perforated Flat Top

Series 400 — Flush Grid, Open Hinge and Flat Top

Series 800 — Flat Top, Perforated Top, Flush Grid, and Mesh Top.

Hold down roller assemblies are built securely into the underside of the belt, held in place by the belt's hinge rods. The rollers ride in tracks that anchor the belt in position as it enters the incline of the conveyor. These assemblies can also be used in place of traditional hold down rails or shoes on the side of the conveyor.

Hold down rollers can be placed as frequently as every other belt row, a minimum of 4 in (102 mm) apart to a recommended maximum of 24 in (610 mm) apart. Normally, 8 in (203 mm) spacing, every fourth row is sufficient. Sprocket size is limited by the rollers protruding from the bottom surface of the belt. In order to keep the rollers from coming into contact with the shaft, when using a 1.5 in (or 40 mm) square shaft, the minimum allowable sprocket pitch diameter is 6.4 in (163 mm). When using a 2.5 in (or 60 mm) shaft, the minimum sprocket pitch diameter allowable is 7.7 in (196 mm). See*Design Guidelines* for more detailed information.



Abrasion Resistance System

Excessive rod and sprocket wear in abrasive applications can cause various undesirable conditions. Aside from the obvious effect of reduced belt life, there can be added difficulties in making repairs. A badly worn rod cannot be removed easily. Often, belt modules are damaged in the process. Worn rods also cause belt pitch to increase, which decreases sprocket engagement and, in turn, increases the wear rate on sprocket teeth. The belt may not run as smoothly as it should under these circumstances.

Intralox has developed stainless steel split sprockets and Abrasion Resistant (AR) hinge rods which enhance the performance of Intralox belts in abrasive or gritty environments. Rigorous testing shows that these AR components significantly outlast standard components and increase belt module life. Abrasive particles are less likely to become embedded in the harder AR material. Thus, the components themselves do not become abrasive surfaces wearing on the belt.

Split Sprockets

Intralox split sprockets are an alternative to molded plastic sprockets for all Series 100, 400, 800, 900, 1100, 400, 800, 900, 1100, and 1200 belts. Split sprockets are constructed from FDA-compliant materials, but are not USDA-FSIS accepted. See the individual shaft and sprocket data pages for detailed information.

The old style, all stainless steel abrasion resistant sprockets, are still available as special order items. Contact Intralox Customer Service for more information.

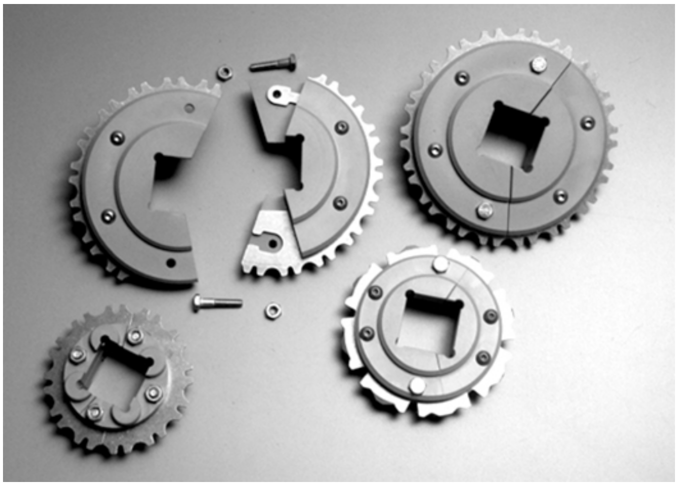


Figure 35: Split sprockets

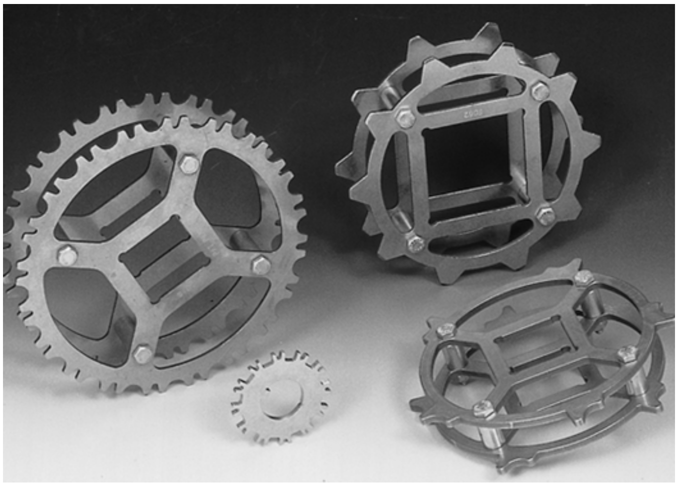


Figure 36: Abrasion resistant (all steel) sprockets

Abrasion Resistance Hinge Rods

Abrasion resistant (AR) rods are stiffer than standard rods, so belt pull capabilities are not sacrificed. AR rods are lighter, less expensive and are more flexible than steel rods. They also provide good chemical resistance, low friction, a wide operating temperature range and are FDA-compliant for direct food contact.

In all belt styles which employ the Intralox snap-lock rod retention system, AR rods are held in place with rodlets installed on both edges of the belt. Rodlets are short, headed rods that are also made of abrasion resistant material.

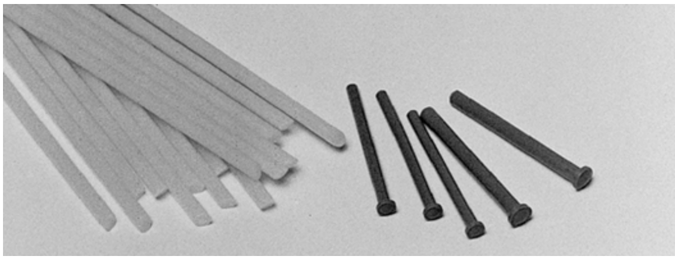


Figure 37: AR rods and rodlets

Belts that utilize an unheaded rod retention system or belts with Slidelox do not require a head of any type.

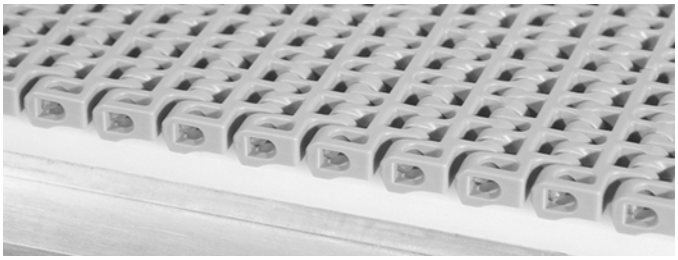


Figure 38: Unheaded rod retention

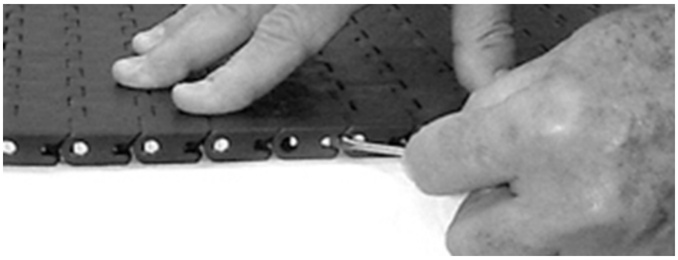


Figure 39: Slidelox rod retention

Series	Style	Rod Retention System
100	All styles	Snap-lock rodlets
200	All styles except Open Hinge	Thermally deformed rod hole
400	All styles except Open Hinge	Slidelox FG & RR; snap-lock rodlets - Flat Top; unheaded Angled Roller
800	All styles	Snap-lock rodlets
850	All styles	Snap-lock rodlets
900	All styles	Snap-lock rodlets
1000	All styles	Series 1000 unheaded
1100	Flush Grid	Series 1100 unheaded
1200	All styles	Slidelox
1400	Flat Top	Slidelox
1500	All styles	Series 1500 unheaded
1600	All styles	Series 1600 unheaded
1650	All styles	Series 1600 unheaded
1700	All styles	Slidelox
1800	Flat Top	Series 1800 unheaded
1900	All styles	Shuttleplug
2200	Flush Grid	Series 2200 unheaded
2400	Flush Grid	Series 2400 unheaded
2600	All styles	Series 2600 unheaded
2700	All styles	Series 2700 unheaded
2800	All styles	Series 2800 unheaded
9000	All styles	Series 9000 unheaded

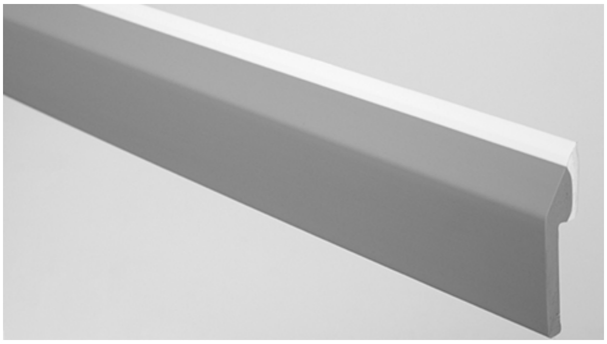
The Slidelox rod retention system is an unheaded rod retention method. This system uses a Shuttleplug to retain the rods during operation. The Slidelox plug can be easily moved to the side when work on the belt is required.

To remove a rod after a belt has been in service for some time, apply a soapy solution or other lubricant to the belt hinge. This approach helps loosen any grit that has become trapped between the rod and the module.

AR rods can absorb water and expand in length and diameter when used in continuously wet, elevated-temperature environments. If an application requires an AR rod in these conditions, contact Sales Engineering to determine the approximate expansion due to water absorption.

EZ Mount Flex Tip Scraper

EZ Mount Flex Tip Scraper				
Available Height		Available Length		Available Materials
in	mm	in	mm	
2.75	70	72	1830	rigid PVC base with flexible polyurethane tip



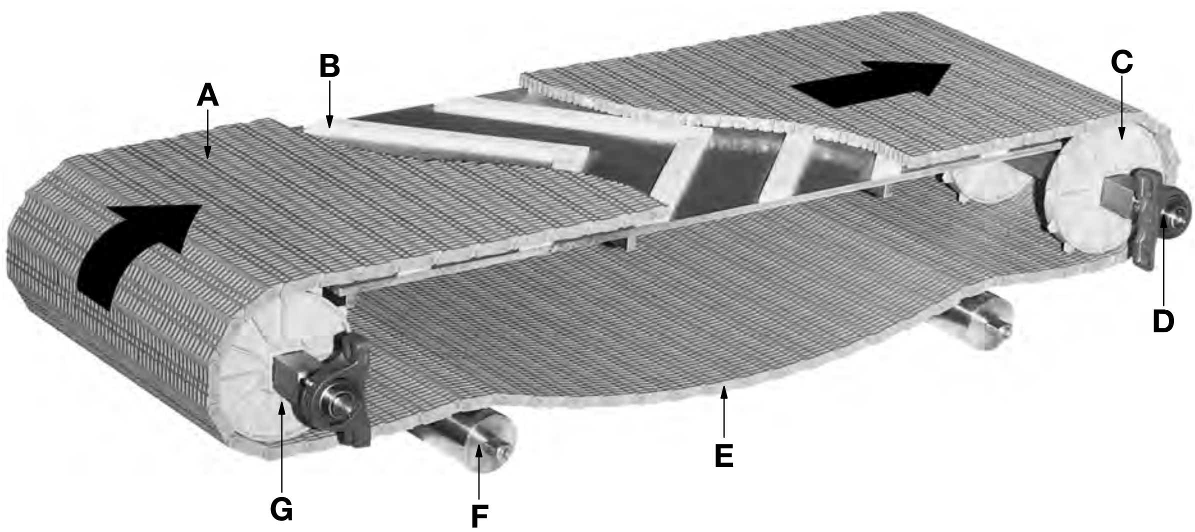
- Available in only one size.
- Only cut to length upon receipt.
- Designed for wet or greasy product applications.
- Not for use with dry products or applications.
- FDA compliant.

Section 3: Design Guidelines

After selecting a belt (series, style and material) and accessories, the conveyor frame must be designed. Intralox provides the following dimensional data and guidelines, based on good design principles and practice, for use in designing new conveyor frames or adapting and retrofitting existing ones.

The illustration below identifies most of the components in a conventional, horizontal conveyor. The items shown are only representative of those in common use. There are many variations of components and design details. The designer must become familiar with those available, to produce the most appropriate and economical conveyor.

Contact Intralox Customer Service to request the Conveyor Belting Installation, Maintenance & Troubleshooting Manual, or to request any additional guidelines.



A Intralox belt
B carryway (chevron wearstrips)
C drive shaft & sprocket
D shaft bearings
E catenary sag
F returnway rollers
G Idle shaft & sprockets

Figure 40: Conventional conveyor components

Basic Conveyor Frame Requirements

Regardless of type or configuration, all conveyors using Intralox belts have some basic dimensional requirements. Specifically, dimensions “A”, “B”, “C”, “D” and “E” in the illustrations and tables below can be implemented in any design. Also, the conveyor can allow access to the side of the belt at some point for rod clearance during the installation, tensioning, or removal of the belt.

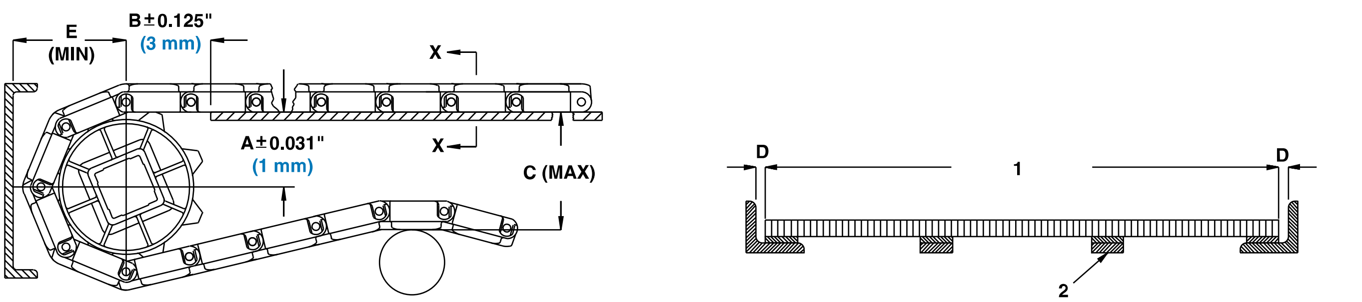


Figure 41: Basic dimensional requirements (roller returnway)

Dimension Definitions

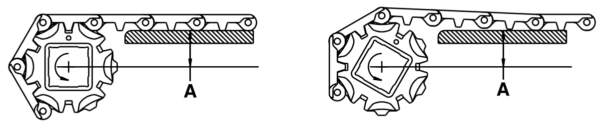
A - The vertical distance between the centerline of the shaft and the top of the carryway.

The belt-to-sprocket engagement and end-off/end-on product transfers are affected by the “A” dimension and the amount of chordal action between the belt and sprockets. Chordal action occurs as each row of modules in a belt rises and falls as it engages the drive sprockets or disengages the idle sprockets. This effect is most pronounced in the large pitch belt/small pitch diameter sprocket combination, such as Series 800 with 4.0 in (102 mm) pitch diameter sprockets.

For small pitch diameter sprockets, the “A” dimension is given as a range to indicate when belts will be horizontal at both high and low points of the chordal action.

For large pitch diameter sprockets/small pitch belt combinations, the effects of chordal action are small and fall within the allowable tolerance. For these sprockets, a range for the “A” dimension is not necessary.

The bottom of the range is determined when the center of the module is at the top of the sprocket. At this point, this leading, engaged module is horizontal (See the following figure.). As this row of modules rotates around the sprocket, the next row starts engaging the sprockets and is lifted above horizontal. It returns to horizontal as this row fully engages the sprockets.



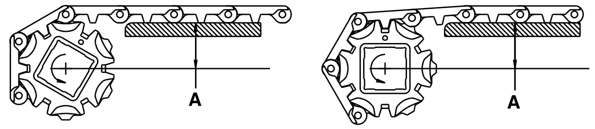
A Vertical distance between shaft centerline and top of carryway

The row of engaging modules is raised above horizontal when the center of the hinge is at the top of the sprocket. The row of engaging modules returns to horizontal as the center of the module passes the center of the sprocket.

Figure 42: Chordal effects - bottom of range

For general applications and applications where end transfer of tip-sensitive product is not critical, use the “A” dimension at the bottom of the range.

The top of the range is determined when the center of the hinge, between two rows of modules, is at the top of the sprocket. At this point, the leading module is horizontal (See the following figure.). As this row of modules engages the sprockets, the row drops below horizontal. It returns to horizontal as the leading edge of the next row starts to engage the sprockets. Avoid this arrangement with Series 800 belts, since the underside module geometry can cause chatter, noise, and wear on the wearstrip or wear plate ends.



A Vertical distance between shaft centerline and top of carryway

The row of engaging modules is horizontal when the center of the hinge is at the top of the sprocket, but goes below horizontal as the center of the module passes the center of the sprocket.

Figure 43: Chordal effects - top of range

The “A” dimension can be set at any point inside the given range. If an “A” dimension is selected, which is between the top and bottom of the range, the belt will both rise above horizontal and drop below horizontal as each row engages the sprockets.

B - The horizontal distance between the centerline of the shaft and the beginning of the carryway. This dimension assumes that a 0.5 in (12.7 mm) thick carryway is used, allowing for a typical 0.25 in (6.4 mm) support and 0.25 in (6.4 mm) wearstrip. The carryway can be extended to within 0.5 in (12.7 mm) of the centerline of the shaft if the supports extend between the sprockets *Figure 1*.

C - The vertical distance between the top of the carryway and the top of the returnway rails or rollers. This approach provides between 180-degree belt wrap (minimum) and 210-degree belt wrap around the drive sprockets. The listed dimensions provide the minimum 180-degree wrap required by most belts for proper engagement.

Some exceptions are Series 1700, which requires a maximum of 180 degrees of belt wrap, and Series 550, which requires no more or no less than 180 degrees of belt wrap.

D - The clearance between the edges of the belt and the side frame member, 0.25 in (6.4 mm) min. Note that the minimum edge clearance between side frames and the belt must be determined at the operating temperature of the belt. Contact Intralox for precise belt measurements and stock status before designing equipment or ordering a belt. See *Thermal Expansion and Contraction* and *Expansion Due to Water Absorption* sections to calculate the operating width of your belt at temperatures above ambient.

E - The minimum horizontal distance between the centerline of the shaft and any framework.

Drive Guidelines

Intralox square shafts provide maximum efficiency in driving the belt. The two primary advantages are: 1) the positive transmission of torque to the sprockets without keys and keyways, and 2) allowing lateral movement of sprockets to accommodate the inherent differences in thermal expansion or contraction between plastics and metals.

Shaft Sizes and Materials

Intralox, LLC USA stocks square shaft materials in carbon steel (C-1018), and stainless steel (303/304 and 316) in the following sizes:

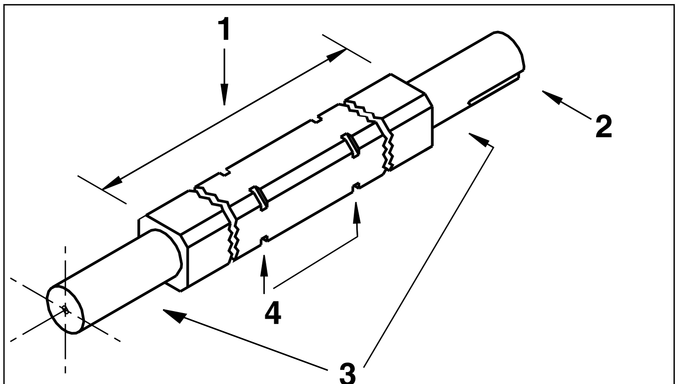
Carbon steel	0.625 in, 1 in, 1.5 in, 2.5 in, 3.5 in
303/304 stainless steel	0.625 in, 1 in, 1.5 in, 2.5 in, 40 mm and 60 mm
304 HR stainless steel	3.5 in
316 stainless steel	1.5 in and 2.5 in

Intralox, LLC Europe offers square shaft materials in carbon steel (KG-37) and stainless steel (304) in the following sizes:

Carbon steel	25 mm, 65 mm, and 90 mm.
Stainless steel	25 mm, 40 mm, 60 mm, 65 mm, and 90 mm.

Determine the correct shaft size for your application using the calculations in the *Belt Selection Instructions*, or in the *Formulas* section. See *Table 8* for typical shaft sizes and material properties.

Note: If the shaft will be used in a hollow gearbox, contact Intralox Customer Service.



1 - Square section length [Distance between bearings, less 1/4 in (6 mm)]
2 - Keyway for driver hub (not required on idle shaft)
3 - Bearing journals
4 - Retainer ring grooves

Figure 44: Typical shaft features

Drive Shaft Torque Loading

An important consideration in the selection of shaft sizes is the torque loading that the drive shaft must absorb. The belt's pull, acting through the sprockets, introduces the torsional or twisting load on the drive shaft. Under any given set of conditions, i.e., product loading and frictional resistance, the belt pull will remain constant, but torque on the drive shaft will vary with the size of sprockets chosen. As the sprocket pitch diameter is increased, the torque on the shaft is also increased. Therefore, if a particular shaft size is desired, but the torque to be absorbed exceeds that recommended in *Table 9*, recalculate the torque with the smaller sprocket if there is a smaller diameter sprocket available in your belt's series. To achieve the same belt speed, the rotational speed (RPM) must be proportionally greater with the smaller sprocket.

Power Requirements

The power required to drive the belt can be calculated in the *Belt Selection Instructions*, or from the formulas beginning on *Formulas*. Note: this calculated power does not include the power required to overcome mechanical or other inefficiencies in the system. Conveyor arrangements and power trains can consist of many possible choices. Use the following table to determine the amount of added power needed for your design.

Machinery Elements	Average Mechanical Efficiency Losses
Ordinary sleeve bearings	2% to 5%
Ball bearings	1%
Gear reducers:	
Spur or helical gears	
Single reduction	2%
Double reduction	4%
Triple reduction	5%
Worm gears	
Single reduction	5%
Double reduction	10% to 20%
Roller chains	3% to 5%
V belts	2% to 4%
Hydraulic power systems	Consult the manufacturer.

Determine the total efficiency losses in the components to be used and use the calculated power to determine the required motor power as follows:

$$\textbf{Motor Horsepower} = \frac{\text{Belt drive power}}{100\% - \text{Total \% Losses}} \times 100$$

For example, if you determine the total efficiency losses in your system amount to 15% and your belt drive power was calculated to be 2.5 horsepower, the required motor horsepower can be found from:

$$\textbf{Motor Horsepower} = \frac{2.5}{100 - 15} \times 100 = 2.94$$

Therefore, in this case, the appropriate motor power to drive this system would be 3 horsepower.

Retaining Sprockets

It is necessary to laterally retain only one sprocket on each of the drive and idler shafts. This sprocket will provide the positive tracking necessary to keep the belt running properly between side frames of the conveyor. By allowing the other sprockets to move laterally, thermal expansion differences between the belt and frame are easily accommodated. By convention, Intralox recommends the sprocket next to or on the belt's centerline be retained using retainer rings on both sides of the sprocket. When only two sprockets are used, retain the sprockets on the drive journal side of the conveyor.

Sometimes, the "center" sprocket will be slightly offset from the centerline of the belt. Ensure the locked sprockets on the idle and drive shaft are aligned on the shafts. If a radius belt Standard Edge or Tabbed Edge wearstrip is used to contain the Series 2200 belt up to the sprockets, it is not recommended that any sprockets be retained on the shaft. In this case, the wearstrip is used to maintain the belt's lateral position.

Intermediate Bearings

On wide belt systems or those under heavy tension loads, one or more additional bearings can be needed. The additional bearings support the center of the drive and idler shafts to reduce deflection to acceptable levels. Excessive drive shaft deflection causes improper belt-to-tooth engagement, a condition which must be avoided.

When intermediate bearings are considered, the shaft deflection formulas are different from the one which applies to shafts supported by only two bearings. With a third bearing, located in the center of the shaft, the deflection formula (see *Deflections with Intermediate Bearings*) is straightforward and easy to apply.

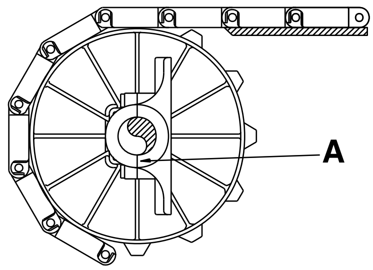
$$D_3 = \frac{1}{185} \times \frac{\frac{w}{2} \times L_S^3}{E \times I}$$

$$= \frac{w \times L_S^3}{370 \times E \times I}$$

Where:
- **D** = Deflection, in (mm)
- **w** = Total shaft load, lb (kg)
- **L_S** = Shaft length between bearings, in (mm)
- **E** = Modulus of Elasticity, lb/in^2 (kg/mm^2)
- **I** = Moment of Inertia, in^4 (mm^4)

When the third bearing is placed off-center, or when more than three bearings are used, the analysis is so complicated that convenient general formulas for deflection cannot be given. A simpler approach is to allow the designer to determine a safe maximum span length, using the charts in Section 4. After calculating the total shaft load, the maximum span for available shaft sizes and materials is easily determined using *Table 12*. Use tables 12A and 12B for conventional conveyors using two bearings and three or more bearings. Use tables 12C and 12D for corresponding curves for bi-directional and pusher conveyors.

Intermediate bearings usually are split journal bearings. Mount these bearings on the conveyor frame, with the split of the bearing housing perpendicular to the direction of the belt travel. (Note: if the split is parallel with the belt travel, its load capacity is reduced significantly.) In cases requiring intermediate bearings, it is prudent to utilize sprockets with the largest practical diameter because of the rather large housing dimensions. Otherwise, a bearing modification can be needed to allow it to fit the limited space available.



A - Split in bearing housing must be perpendicular to the direction of belt pull.

Figure 45: Intermediate bearings recommended mounting arrangement

Rollers as Idle Shafts and Sprocket Replacements

In many applications, idle shafts and their sprockets may be replaced by rollers, supported by stub shafts to account for roller deflection. These pipe rollers can be considerably stiffer than a comparable length of solid, square shafting. For example, a 4 in (102 mm) — Schedule 40 pipe and a 6 in (152 mm) — Schedule 40 pipe have more than twice the stiffness of 2.5 in (63.5 mm) and 3.5 in (88.9 mm) square steel shafts, respectively. Therefore, in cases where loads are high and the belt is wide, the use of rollers such as these may eliminate the need for intermediate bearings to reduce shaft deflection to acceptable levels. Flanging or spooling of the ends of the rollers to retain the belt laterally is necessary in some cases.

Scroll idlers can also be used in place of idle sprockets. See *Scroll Idlers*. Scroll idlers are used to help keep the returnway clean and free of debris.

Soft-Starting Motors and Fluid Couplings

Rapid starting of high-speed or loaded conveyors is detrimental to good belt and sprocket life. RApid starting also causes adverse effects on the entire drive train. When the motor power exceeds 1/4 horsepower per foot of belt width (612 watts per meter), Intralox strongly recommends the use of soft-starting electric motors, variable-frequency drives (VFDs), or one of the several fluid couplings (wet or dry) presently available. These devices are beneficial for all components, since they allow the driven conveyor to accelerate gradually (ramp up and ramp down) to operating speeds.

Belt Carryways

Intralox belting can be supported in the load-bearing part of travel by carryways of various arrangements. Since their primary purposes are to provide a lower friction running surface and reduce wear on both belt and frame, give careful consideration to this part of the design.

The carryway belt contact surfaces can be metal, usually cold-rolled finished carbon or stainless steel, or one of the commonly used plastics available from Intralox. For frictional characteristics of each material, see the belt data pages in *Product Line*, or the coefficients of startup friction and running friction in *Table 2* and *Table 3*. For a description of the plastic wearstrips available from Intralox, see *Wearstrip Types and Sizes*).

Solid Plate Carryways

Solid plate carryways are continuous sheets of metal, UHMW, or HDPE over which the belt slides. They extend the full width of the belt and almost the entire length between idler and drive sprockets. The plates can be perforated with slots or holes to allow for drainage and the passage of foreign material. In heavily loaded applications, this type of carryway surface is considered a good choice because of the continuous support it provides to the belt. Contact the Intralox Technical Support Group for material recommendations.

Wearstrip Carryways

All wearstrips are available in Ultra High Molecular Weight (UHMW) Polyethylene. Certain styles are also available in High Density Polyethylene (HDPE) and Molybdenum-filled nylon (Nylatron).

Wearstrip Types and Sizes

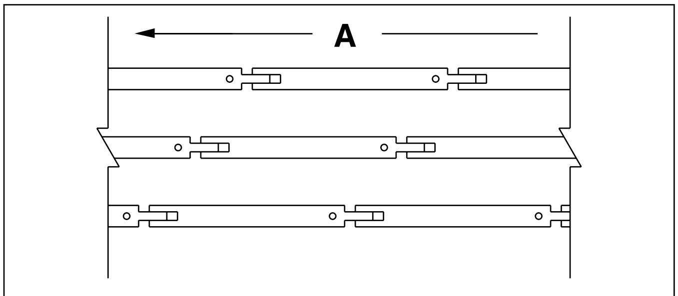
Intralox can provide wearstrips of three different types:

- Standard flat wearstrips are relatively thick, narrow, flat bars of UHMW, HDPE, or Nylatron. UHMW and HDPE flat wearstrips are available in 0.25 in (6.4 mm) thick × 1.25 in (31.8 mm) wide × 10 ft. (3 m) lengths. Molybdenum-filled nylon (Nylatron) flat wearstrips are available in 0.125 in (3.2 mm) thick × 1.25 in (31.8 mm) wide × 8.5 ft. (2.6 m) lengths. The strips are applied directly to the frame and attached with plastic bolts and nuts in slotted holes. This approach allows the strips to expand and contract freely with temperature changes.
- Flat finger-joint wearstrips have a notched-end design that provides an overlapping section for continuous belt support without sharp edges. The 0.25 in (6.4 mm) thick wearstrips are fastened in short lengths at the leading end only, with a 0.375 in (9.5 mm) gap, to provide freedom for elongation caused by temperature changes. They are available in UHMW and HDPE.
- Angle and clip-on wearstrips normally are used in applications where belt edge protection is needed or lateral transfer is required. They are available in lengths of 10 ft. (3 m) in UHMW. In addition to the standard angle wearstrip, several specialty clip-on or snap-on strips are available. These strips attach to the frame without the need of fasteners. See *Wearstrips* for more information on available wearstrips.

Wearstrip Arrangements

- Straight, parallel runners are supports that consist of strips, either metal or plastic, placed on the frame parallel with the belt travel. While relatively inexpensive to install, their disadvantage is that belt wear is confined to the narrow areas in contact with the strips. This arrangement is recommended, therefore, in low-load applications only.

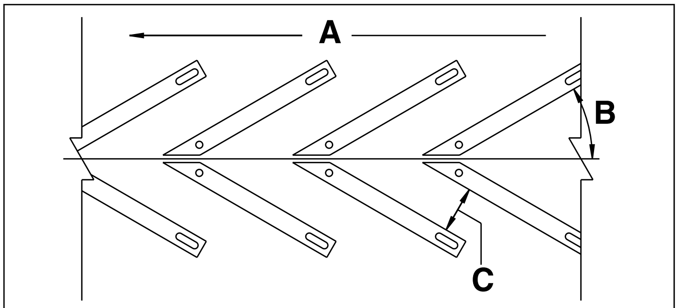
- By placing the strips in an overlapping "V" or Chevron array, the underside of the belt is supported across its full width as it moves along the carryway. Thus the wear is distributed evenly. The angled surfaces can be effective in removing gritty or abrasive material from the underside of the belt. A minimum 0.4 in (10.2 mm) gap is recommended between the points of the wearstrip to reduce debris buildup. This arrangement is also good for heavily loaded applications. By reducing the spacing between adjacent chevrons, the bearing load on the strips and the unsupported belt span is decreased.



A - Belt travel

Figure 46: Straight, parallel wearstrip arrangement

Standard flat wearstrips can be modified to form the Chevron array.



A - Belt travel

B - 10 degrees to 30 degrees allowable

C - Conventional - 2 in (51 mm), maximum - 5 in (127 mm)

Figure 47: Chevron wearstrip arrangement

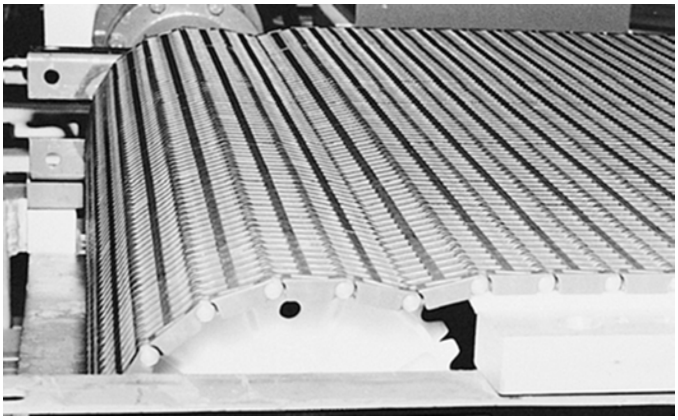


Figure 48: Buckling belt rows

Anti-Sag Carryway Wearstrip Configuration

Under certain conditions, belts will require more carryway support near the sprockets. This is due to the belt tension not being great enough to support product between the end of the wearstrip support and the beginning of the sprocket support. Without adequate support, the belt can buckle See *Wearstrip Arrangements*. This buckling can be eliminated by extending the wearstrip supports, between the sprockets, to within 0.5 in (12.7 mm) of the shaft centerline (See the following figure.).

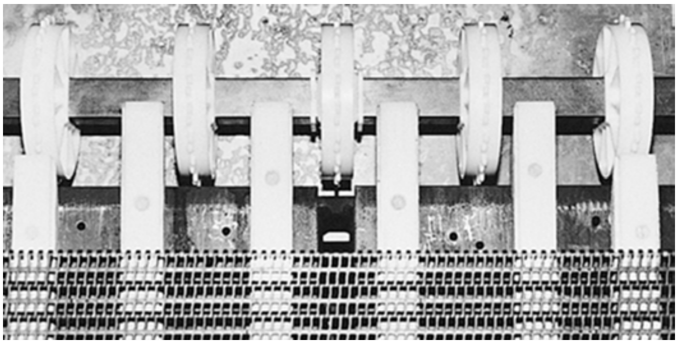


Figure 49: Anti-sag configuration

Belts with a pitch of 1.07 in (27.18 mm) or smaller can need more support, with no more than 2 in (51 mm) of unsupported span. To prevent the belt from sagging or bowing under weight, place the wearstrips so the unsupported spans between the strips, in parallel or chevron array, do not exceed 2 in (50.8 mm). The unsupported span of 2 in (50.8 mm) is measured perpendicular to the support structure (*Figure 1*), regardless of the angle of the support to the direction of belt travel.

Wearstrip Design Considerations

Temperature limits

UHMW flat and angle wearstrips are recommended to 160 °F (71 °C). HDPE is recommended to 140 °F (60 °C); Molybdenum-filled nylon (Nylatron) up to 250 °F (121 °C).

Thermal expansion and contraction

Installation of Intralox flat and angle wearstrips should allow for thermal expansion and contraction. See *Thermal Expansion and Contraction*, for Coefficients of Expansion. At operating temperatures of 100 °F (38 °C) or less, it is sufficient to bevel-cut the opposing ends of strips at an angle of 30° from the horizontal and provide a clearance gap of 0.30 in (7.6 mm). At temperatures exceeding 100 °F (38 °C), the angle of the cut should be 60°. The clearance should be determined from thermal expansion calculations. It is recommended that wearstrip joining locations be staggered for smooth belt operation.

Chemical resistance

See the polyethylene columns of the *Chemical Resistance Guide*, for information on UHMW and HDPE wearstrips.

Returnways and Take-ups

The return side of conventional conveyors using Intralox belts are generally exposed to relatively low tension loads, but nonetheless, are very important in the overall design.

Note: On bi-directional and push-pull conveyors where return side tensions are high, special attention must be paid to this part of the design, see *Special Conveyors*.

Control of Belt Length

One of the principal functions of the returnway is to properly accommodate the change in belt length while operating.

Control of belt length is vital in maintaining sufficient tension after the belt disengages from the drive shaft sprockets. A belt which increases in length can disengage from its drive sprockets if proper design criteria are not followed.

A belt which contracts due to cold temperatures can cause over-tensioning and excessive shaft loads if some surplus belt is not provided. Belts either elongate or contract in operation because of three factors: temperature variations, elongation (strain) under load, and elongation due to break-in and wear.

Temperature Variations

Assuming belts are installed at average ambient conditions, normally about 70°F (21°C), any significant temperature change in operation results in contraction or elongation of the belt. The magnitude of the thermal contraction or expansion is dependent upon the belt material, the difference in temperatures, and the overall belt length. To determine the temperature effects in a particular application, see *Thermal Expansion and Contraction*.

Elongation (Strain) Under Load

All belts elongate if tension is applied. The amount of increase in length depends upon the belt series and style, the belt material, the amount of tension (belt pull) applied, and the operating temperature. Generally, on conventional conveyors where adjusted belt pull (ABP) is about 30% of allowable belt strength (ABS), this load-induced elongation is approximately 1% of the conveyor length. If ABP reaches the ABS, this strain should not exceed 2.5% of the conveyor length.

Elongation Due to Break-In and Wear

New belts usually experience elongation in the first days of operation, as the hinge rods and modules seat themselves. In severe applications, where heavy loads exist or abrasives are present, older belts experience elongation due to wear of the hinge rods and enlargement of the module link rod holes.

Catenary Sag

Due to elongation under load, temperature variations, and pitch elongation, catenary sag is required to ensure proper back tension and belt storage for Intralox belts with low tension. For applications that will experience a large amount of expansion in length, other take-up arrangements may be required. See *Special Take-up Arrangements* for an explanation of these alternate arrangements.

Back Tension

An adequate amount of returnway tension is needed directly after the drive sprocket for proper belt-to-sprocket engagement. This tension is commonly referred to as *back tension*.

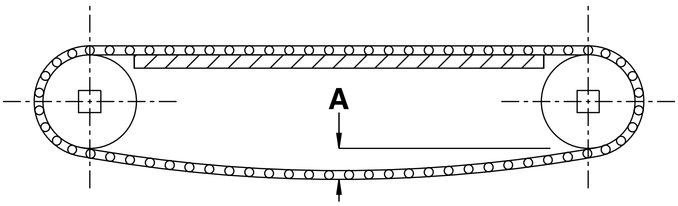
The span length, and the depth of the first catenary sag section directly after the drive sprockets provide this back tension. Back tension is increased as the span is increased, or as the depth is decreased. For this reason, do not allow the depth of this catenary section to exceed the recommendations in the following illustrations. Also avoid allowing the sagged belt to bottom-out on the conveyor frame. This approach greatly reduces the back tension, and can cause sprocket disengagement.

The roller directly after the drive sprocket is commonly referred to as a *snub roller*. Place the snub roller so that the belt is wrapped between 180 degrees and 210 degrees around the drive sprockets. See the "C" dimension in *Dimension Definitions*.

In the design of conventional conveyors, it is seldom necessary to know precisely the amount of sag and tension required for good belt-to-sprocket engagement. In cases when catenary sag is used to accommodate belt length changes, it can be necessary to know the length of the additional or excess belt which hangs between two adjacent supports, and the tension created by that hanging section. For formulas to determine these factors, see *Formulas*. These simplified formulas give close approximations for predicting the results of catenary sag conditions. The actual formulas for catenary curves are more complex. However, in practice, where the span-to-sag ratio is large, these simpler formulas are sufficiently accurate for most applications. For example, with a span-to-sag ratio of 10 to 1, the error in the tension formulas is approximately 2%.

Standard Returnways

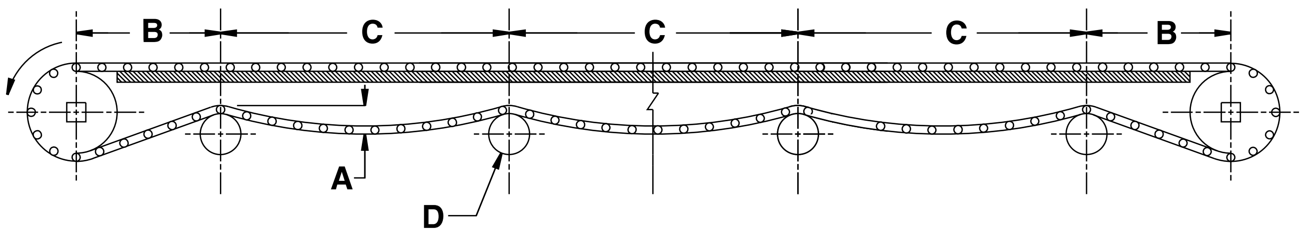
The following illustrations provide recommended returnway arrangements which have proven successful in many applications.



Note: On very short conveyors, less than 6 ft (2 m) long, a returnway support usually is unnecessary. The catenary sag between drive and idler sprockets alone is sufficient for good operation if the sag is limited to a maximum of 4 in (102 mm).

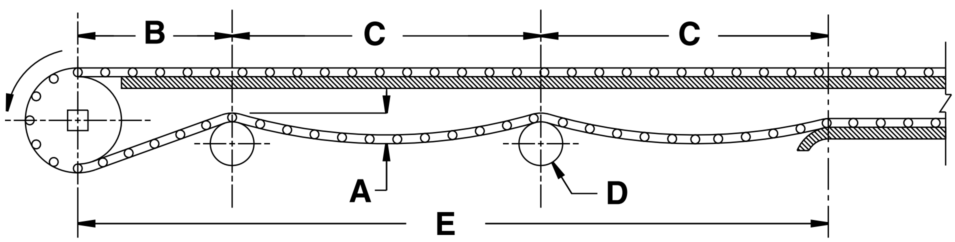
- **A** The amount of catenary sag between each set of return rollers on longer conveyors or between the drive and idle sprockets on short conveyors should be between 1 in (25.4 mm) and 4 in (102 mm).
- **B** The snub roller should be placed 9 in (229 mm) to 18 in (457 mm) from the drive and idle shaft. The snub roller should be placed so that the belt has between 180° and 210° of wrap around the sprocket.
- **C** The returnway rollers should be spaced 36 in (914 mm) to 48 in (1219 mm) apart for all series belts except Series 100 and 400, which should have a 48 in (1219 mm) to 60 in (1524 mm) spacing. This, in combination with A and B, should provide the proper amount of return side tension for good sprocket engagement.
- **D** The minimum roller diameter is 2 in (51 mm) for belts up to 1.07 in (27 mm) pitch and 4 in (102 mm) for larger pitch belts.
- **E** Slide beds should begin at least 60 in (1524 mm) from the drive sprockets. A combination of return rollers and a slide bed can also be used. The catenary spans should total at least 1/3 of conveyor length.

Figure 50: Short conveyors (less than 6 ft[1.8 m])



See legend in preceeeding figure.

Figure 51: Medium to long conveyors (6 ft [1.8 m] and longer)



See legend in preceeeding figure.

Figure 52: Conveyors with slide beds

Roller returnways

As the length of the conveyor increases, it is necessary to provide intermediate support rollers in the returnway, but it is most important the belt be unsupported for a significant part of the total length, as shown in the following figures.

Slide Bed Returnways

If a slide bed is used as part of the returnway, begin the slide bed at least 60 in (1524 mm) from the drive sprockets. See *Conveyors with Slide Beds* for more information.

Special Take-up Arrangements

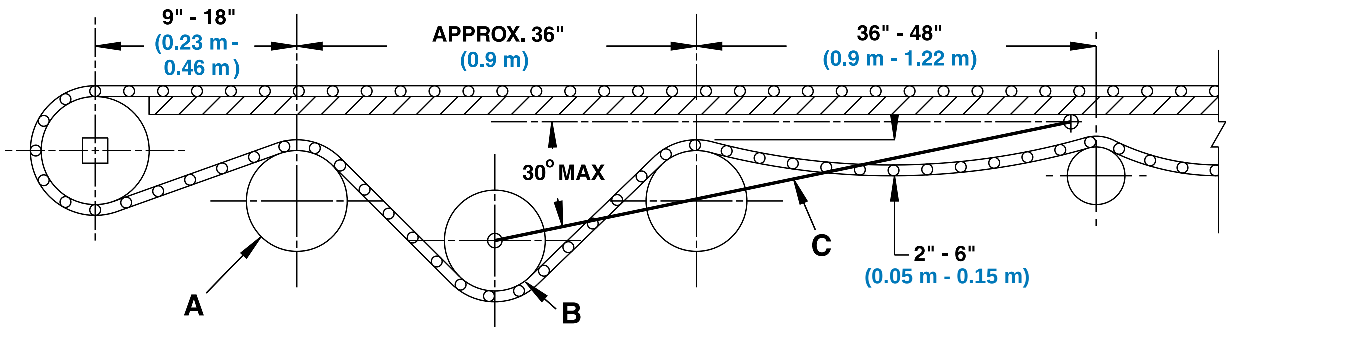
Catenary sag can be described as a dynamic take-up. In many applications it does not provide adequate tension to prevent sprockets from slipping. In these cases, other types of take-ups are required.

Gravity Style Take-Ups

Gravity style take-ups usually consist of a roller resting on the belt in the returnway. Its weight provides the tension required to maintain proper sprocket engagement. The weight is most effective when placed near the drive shaft end of the returnway. These take-ups are recommended for conventional conveyors which are:

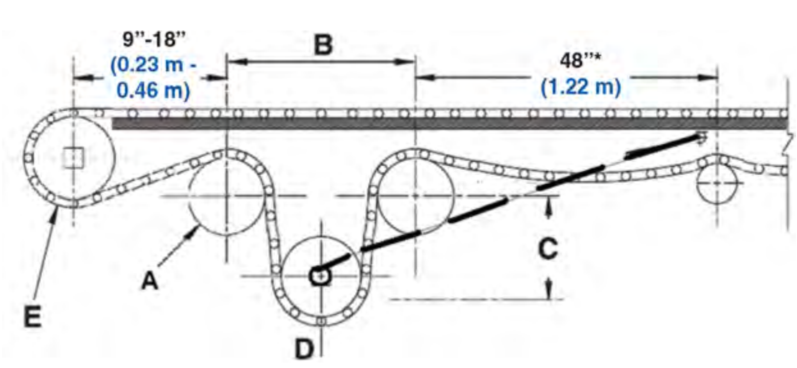
1. Over 75 ft (23 m) long, or
2. Over 50 ft (15 m) long with belt speeds over 150 ft/min (30 m/min), or
3. Exposed to large temperature variations, or
4. Operated at speeds over 50 ft/min (15 m/min), and with frequent starts under loads of over 25 lb/ft^2 (120 kg/m^2). For 1.00 in (25.4 mm) pitch belts, a 4 in (102 mm) diameter roller with a weight of 10 lb/ft (15 kg/m) of belt width is

recommended. For 2.00 in (50.8 mm) pitch belts, the recommended specifications are 6 in (152 mm) diameter and 20 lb/ft (30 kg/m) of belt width.



A load-bearing shafts (typical) **B** gravity take-up roller **C** swing arm

Figure 53: Create back tension on short conveyors



- **A** load-bearing roller diameter must be at least three (3) times the belt pitch.
- **B** spaced just far enough for the opening between rollers **A** to be bigger than roller **D**
- **C** this distance must be no less than three (3) times the belt pitch
- **D** at least as large as **A** (swing arm optional, if necessary)
- **E** drive sprocket
- ***** typical

Pitch	Load-Bearing Roller Diameter
For 0.5 in (12.7 mm) pitch	2 in (50.8 mm) dia.
For 0.6 in (15.2 mm) to 1 in (25.4 mm) pitch	4 in (101.6 mm) dia.
For 2 in (50.8 mm) pitch	6 in (152.4 mm) dia.

Figure 54: Create back tension and belt storage on long conveyors

Screw style take-ups

Screw style take-ups shift the position of one of the shafts, usually the idler, by using adjustable machine screws. The shaft bearings are placed in horizontal slots in the conveyor frame. The screw style take-ups are used to move the shaft longitudinally, thus changing the length of the conveyor. Screw take-ups can be used only to make minor adjustments to return the catenary sag to its best position. They cannot be used as primary length control devices.

The disadvantages of screw take-ups are that shafts can be misaligned easily, and the belt can be over tightened, reducing belt and sprocket life as well as increasing shaft deflection.

Special Conveyors

Bi-Directional Conveyor

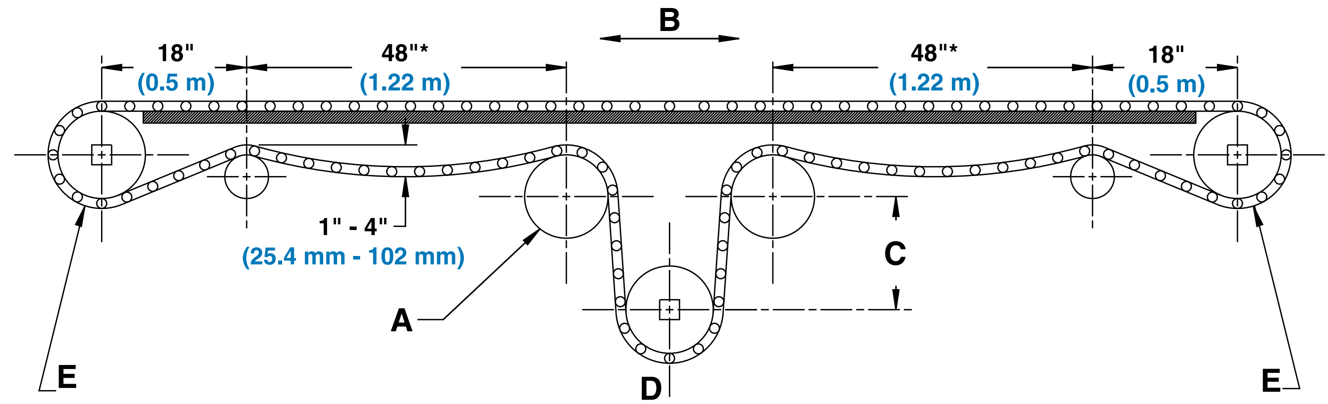
Bi-directional conveyors are usually designed in two basic drive configurations: the pull-pull type and the push-pull type. Both configurations share some common features, but each has certain advantages and disadvantages. Use the following information to help determine the best configuration for a particular application.

Pull-Pull Designs

There are three common variations of the pull-pull configuration: center-drive, two-motor drive, and single-motor and slave-drive.

Center-Drive Design

The center-drive is shown in the following figures. In this design, a reversible drive shaft is placed in the returnway, near the center of the conveyor. Place this drive shaft so that adequate belt tension develops on both sides of the returnway with catenary sag sections. Notice that the rollers designated as "A" in the figure are load-bearing. The shafts and bearings which support them must be so designed.



A - Load-bearing rollers (typical):
- For 0.5 in (12.7 mm) pitch, 2 in (50.8 mm) dia.
- For 0.6 in (15.2 mm) to 1 in (25.4 mm) pitch, 4 in (101.6 mm) dia.
- For 2 in (50.8 mm) pitch, 6 in (152.4 mm) dia.
- For 2.5 in (63.5 mm) pitch, 8 in (203.2 mm) dia.

B - Belt travel

C - This distance must be no less than three (3) times the belt pitch

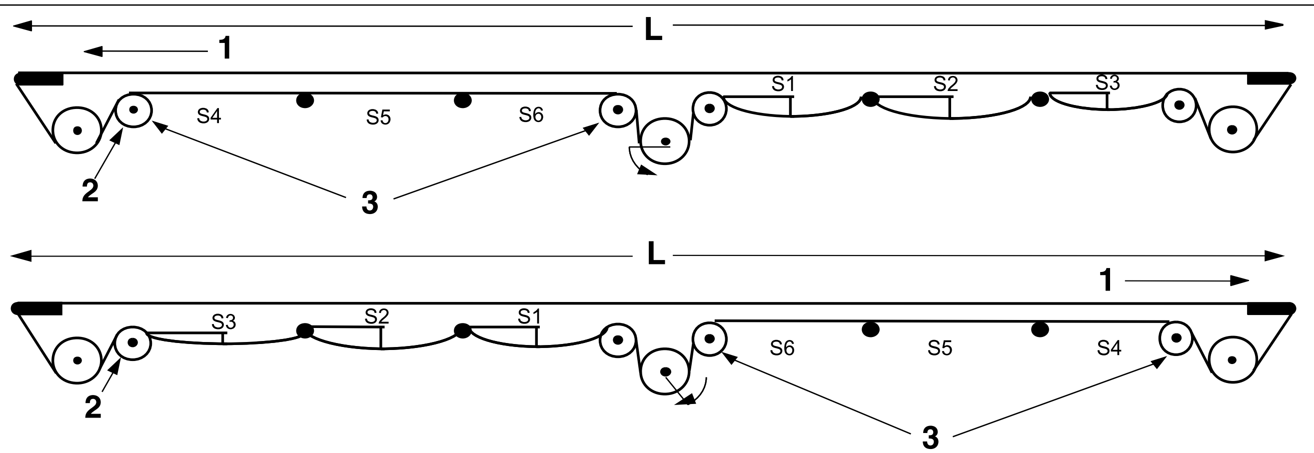
D - Drive sprockets

E - Rollers can be substituted for sprockets to avoid using intermediate bearings. On conveyors that have a length that is no greater than twice the width, unspooled rollers can be used. On longer conveyors, the rollers must be spooled allowing 3/16 in (5 mm) to 3/8 in (10 mm) clearance between the inside of the flange and the belt edges.

Note: For belts operating at temperatures above ambient, this clearance must exist at operating temperature.

*Typical

Figure 55: Center-driven bi-directional conveyor



1 Belt travel

2 Snub rollers

3 Reaction force

L Length of conveyor, ft (m) ℄ to ℄

Figure 56: Center drive with nosebars

Center-drive bi-directional conveyors, when designed correctly, afford excellent operating characteristics because sprocket engagement occurs over 180 degrees of rotation. In addition, only one reversing motor is required.

Note: Because belt tension is applied to both the carryway side and returnway side of the idler shafts at opposite ends of the conveyor, it is important to design these shafts for twice the belt tension determined by calculations of the adjusted belt pull (ABP). Therefore, the shaft deflection calculations and sprocket spacing determination must be based on two times the ABP. Because of these larger shaft loads, it can be necessary to use very large shafts, or to use rollers in lieu of idle sprockets and shafts on these designs.

Two-Motor Drive Design

The two-motor drive design has the advantage of relatively low returnway belt tension, but requires additional hardware (an additional motor and slip clutches) and electrical control components. Despite the additional equipment requirements, on extremely large conveyors with heavy loads, this approach is often the most practical drive system.

Single-Motor and Slave-Drive Design

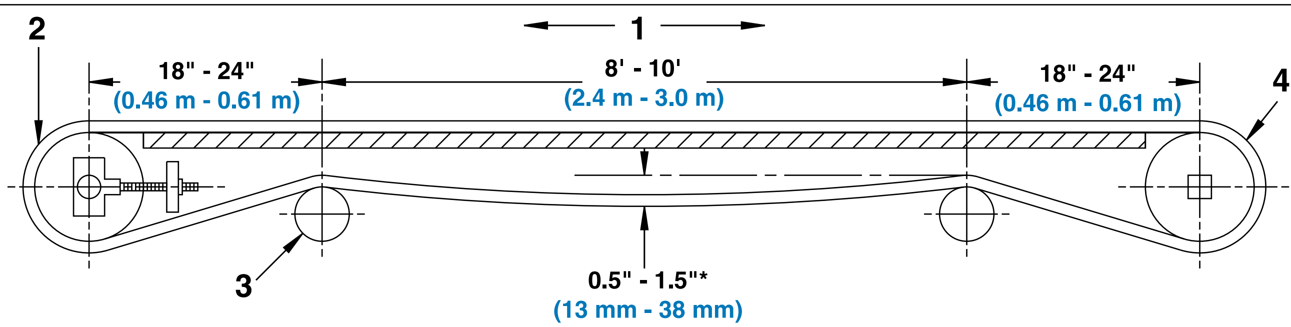
Another low-tension option is the single-motor (reversible) design. This design employs a roller chain, alternately driving either of two chain sprockets on the conveyor shafts. The additional hardware required does increase cost. Because of the length of roller chain involved, this drive system is usually limited to short conveyors.

Push-Pull Designs

Push-pull designs require special attention to returnway tension, shaft deflection, and sprocket spacing. When the drive shaft pulls the load towards itself, the conveyor acts like other conventional units. If the direction of belt travel is reversed, the drive shaft pushes the loaded belt. Sprocket slipping or jumping can occur in this situation, if the return-side tension is not greater than the carryway tension. Excess belt can buckle upwards in the carryway and interfere with product handling.

It is important to design a push-pull bi-directional conveyor with the required return-side belt tension. Experience has shown this tension must be about 120% of the carryway-side ABP. To determine the carryway-side ABP, see *Belt Selection Instructions*, or *Formulas*. After the carryway side ABP is identified, use the following formula to calculate the required returnway tension.

Required returnway tension = 1.2 × ABP



1 Belt travel
2 Screw take-up end
3 Roller or shoe
4 Drive sprocket
* Sag

Figure 57: Push-pull bi-directional conveyor

Effect on shaft deflection and sprocket spacing

Since both drive and idler shafts will experience a tension load as the belt approaches and leaves the sprockets, the total shaft loading is more than twice that of a conventional uni-directional conveyor. Therefore, when calculating the shaft deflection, it is most important to increase the Total Running Shaft Load for the added belt tension. The corrected Adjusted Belt Pull can be found from:

Corrected ABP = 2.2 × ABP

Use this value in calculating the Total Shaft Load and Shaft Deflection. Formulas for these can be found in the *Belt Selection Instructions*, or the *Formulas*. Because the belt is tensioned on both sides of the sprockets, a greater shaft deflection of about 0.22 in (5.6 mm) is tolerable for these conveyors.

The Corrected ABP can also be used in determining the proper spacing of shaft sprockets. See the Drive Shaft Sprocket Spacing chart in *Product Line* for the belt being considered. Remember that both shafts will be considered as drive shafts for deflection and sprocket spacing calculations.

The power and torque to drive the push-pull unit is not affected by the returnway tension, however, the greater shaft loading does affect the loads on bearings. The designer is therefore cautioned to allow for this additional load in the selection of the shaft bearings.

Elevating Conveyors

Elevating conveyors are similar to horizontal units with several design differences required for good operation. First, the upper shaft is strongly recommended as the drive shaft. The extreme difficulty of "pushing" product up an incline precludes this approach as a viable alternative. Second, as the angle of incline increases, the effectiveness of catenary sag as a method of length control decreases. Intralox recommends using some mechanical form (screw or spring) of take-up on the lower or idler shaft.

Elevators almost always involve the use of flights and sideguards which present special requirements in the design. For example, shoes or slide beds on the return side must be designed so these flights or sideguards do not interfere with the smooth operation of the conveyor. See *General Notes* for more information.

General Notes

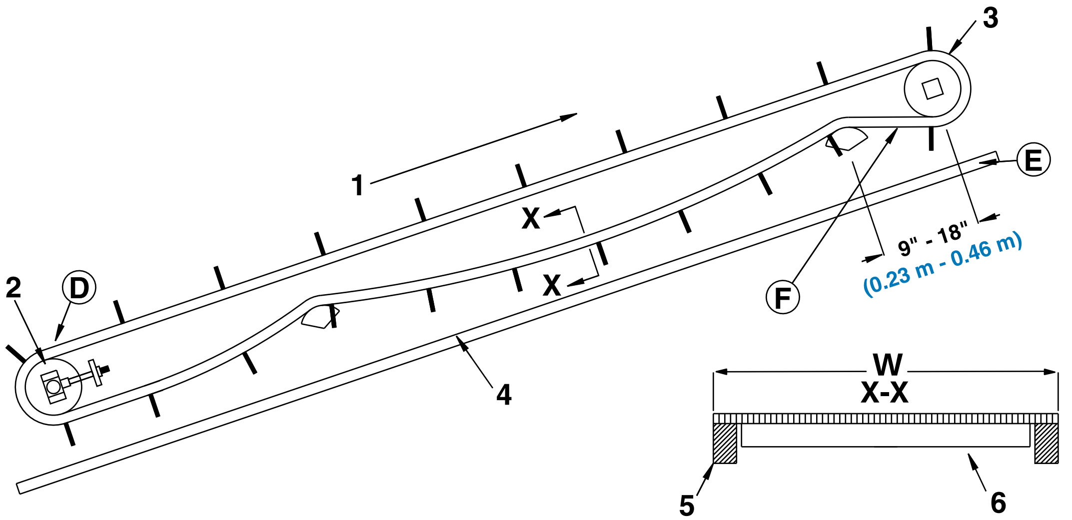
The following general notes apply to all elevating conveyors. See *Variations* for illustrations and additional notes about specific variations.

General Notes on Elevating Conveyors

- **A** If sprockets are used at intermediate points, the center sprockets are NOT retained. If rollers or shoes are used, a 3 in (76 mm) minimum radius is required for 1.00 in (25.4 mm) pitch belts; a 5 in (127 mm) minimum radius for 2.00 in (50.8 mm) pitch belts.
- **B** To minimize wear, ensure the hold down shoe radius is as large as the application allows. The minimum radius is 6 in (152 mm).
- **C** Internal roller or shoe must have a minimum diameter of 3 in (76 mm).
- **D** Consider a drum or scroll on the idle end if product or foreign materials are expected to fall between the belt and the sprockets.
- **E** Keep drip pans clear of flights and sideguards between drive sprockets and the first shoe or roller.
- **F** For proper sprocket engagement, do not allow belt sag to develop between the drive sprocket and the first roller or shoe.

Variations

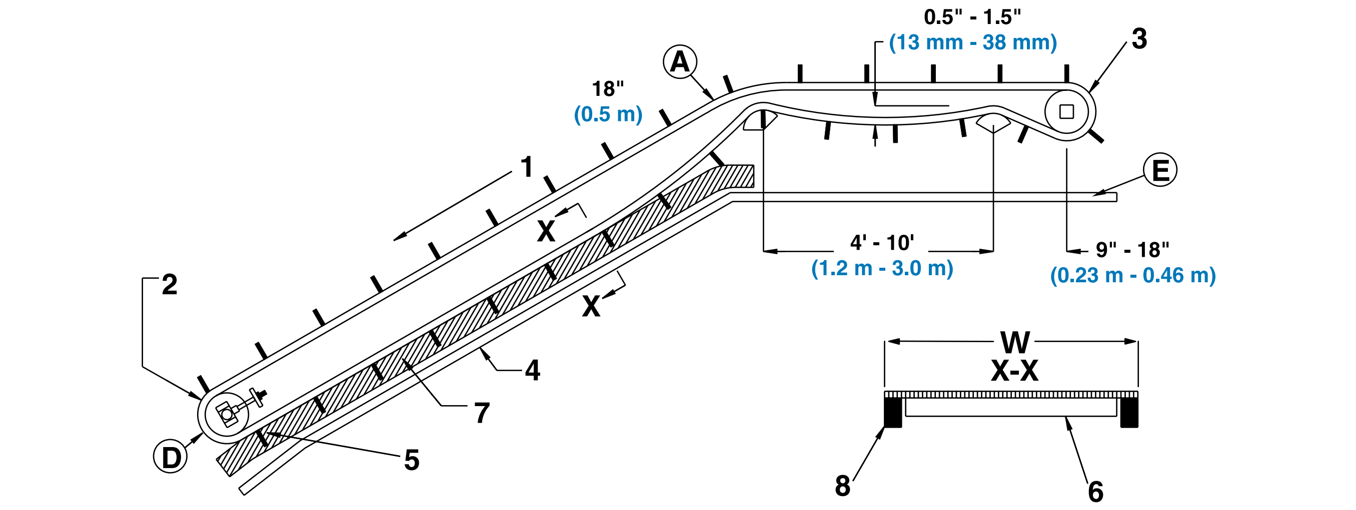
- *Incline conveyor*
- *Decline conveyor*
- *Elevating conveyor with belt edge slider return*
- *Elevating conveyor with wide sideguards and shoe return*
- *Elevating Conveyor with Shoe Return*



1 belt travel
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 shoe or rollers
6 flights

Note: Center notch required if "W" (belt width) exceeds 24 in (610 mm) (for belt pitch > 1.07 in [27.2 mm]) or 18 in (457 mm) (for belt pitch ≤ 1.07 in [27.2 mm]).

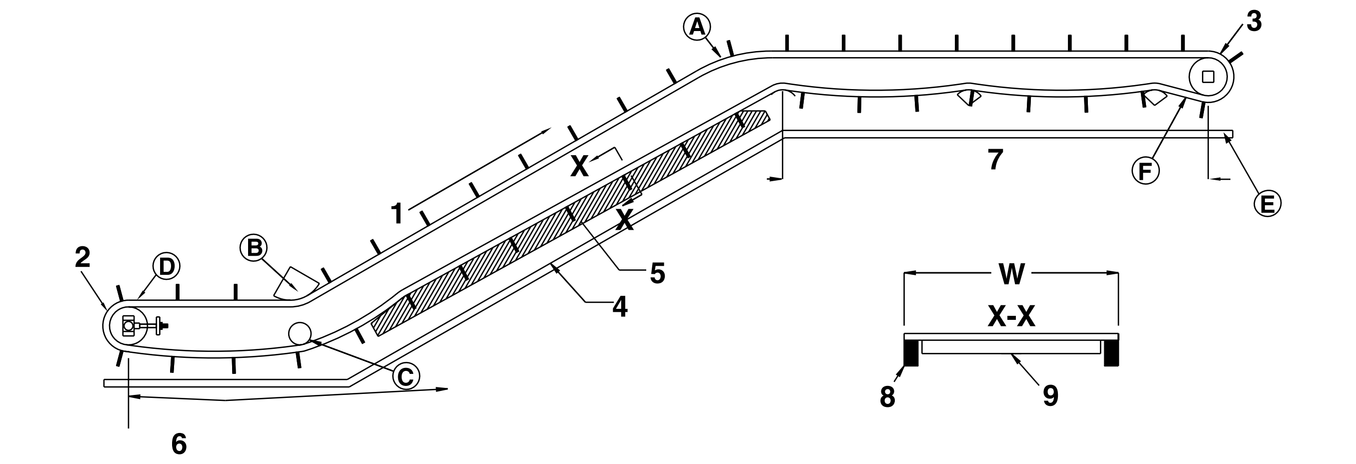
Figure 58: Incline conveyor



1 belt travel
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 use active take-up on idle end to maintain adequate return side tension
6 flights
7 slider supports
8 slider supports on belt edges

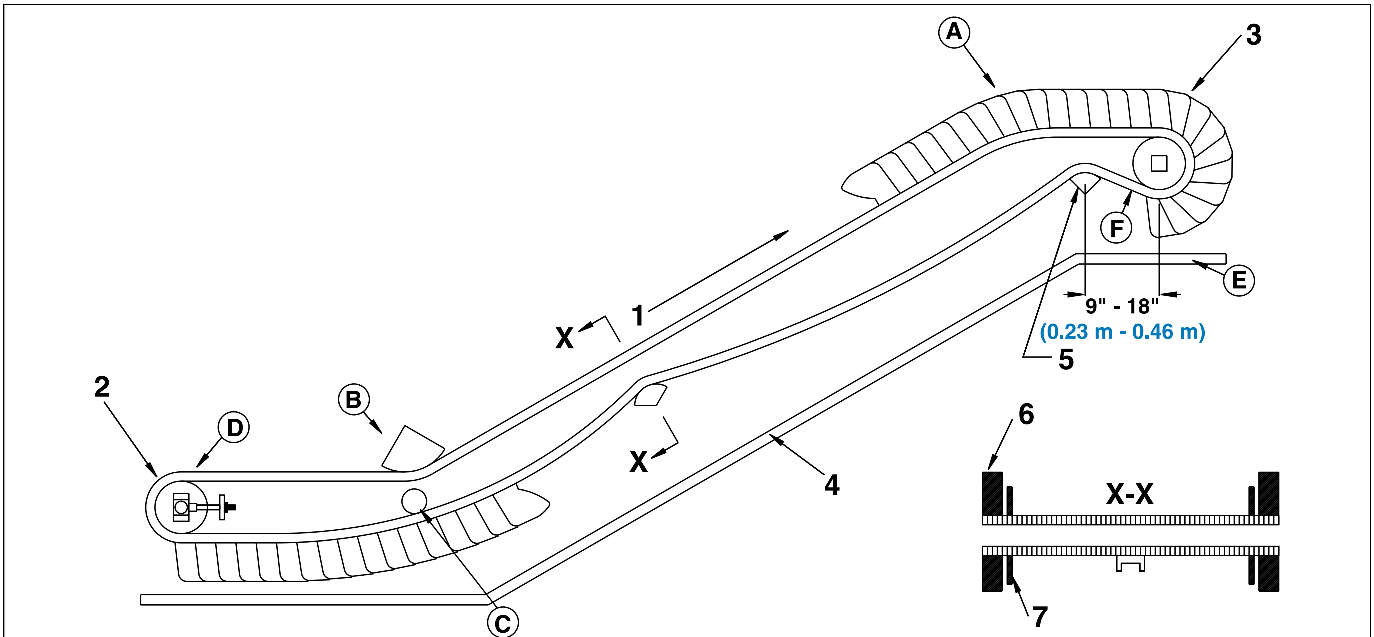
Note: Catenary length of 4 ft (1.2 m) to 5 ft (1.5 m) for loads under 10 lb/ft² (50 kg/m²).
Note: Catenary length of 8 ft (2.5 m) to 10 ft (3 m) for loads over 10 lb/ft² (50 kg/m²).
Note: Center notch required if "W" (belt width) exceeds 24 in (610 mm).

Figure 59: Decline conveyor



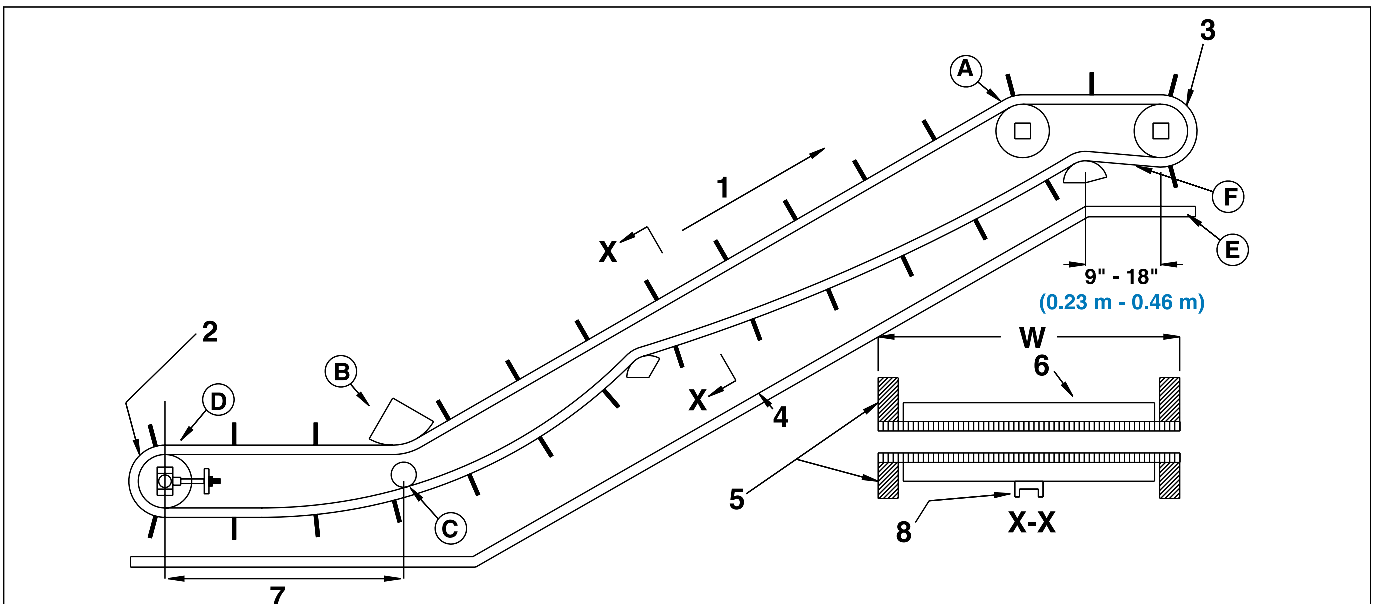
1 belt travel
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 slider supports
6 provide adequate unsupported length for sag to absorb expected belt elongation, or provide active idle end take-up — gravity, spring-loaded or pneumatic type
7 use returnway design dimensions on *Standard Returnways*
8 slider supports on belt edges
9 center notch required if "W" (belt width) exceeds 24 in (610 mm) (for belt pitch > 1.07 in [27.2 mm]) or 18 in (457 mm) (for belt pitch ≤ 1.07 in [27.2 mm]).

Figure 60: Elevating conveyor with belt edge slider return



1 belt travel
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 minimum backbend radius 4.5 in (115 mm)
6 shoes or rollers
7 sideguards

Figure 61: Elevating conveyor with wide sideguards and shoe return



1 belt travel
2 idle sprocket
3 drive sprocket
4 guard or drip pan as required
5 shoes or rollers
6 flights
7 if longer than 4 ft (1.2 m) use returnway support in this section.
8 center notch required if “W” (belt width) exceeds 24 in (610 mm) (for belt pitch > 1.07 in [27.2 mm]) or 18 in (457 mm) (for belt pitch ≤ 1.07 in [27.2 mm]).

Figure 62: Elevating conveyor with shoe return

Hold Down Rollers

Some elevating conveyors can employ hold down roller assemblies in place of hold down shoes or rollers. These roller assemblies ride in steel rails on the carryway and returnway side of the conveyor. To minimize wear, ensure that the rail bend radius is as large as the application allows. Ensure that the minimum bend radius is 12 in (305 mm). The minimum rail thickness is 0.125 in (3.2 mm), and must be at least 0.75 in (19 mm) wide. The minimum bend radius is proportional to the thickness of the carryway rail. A thicker rail requires a larger bend radius. Normally, the roller assemblies are spaced every fourth row along the length of the belt. The tightest spacing possible is every second row. Assembly spacing has no effect on bend radius.

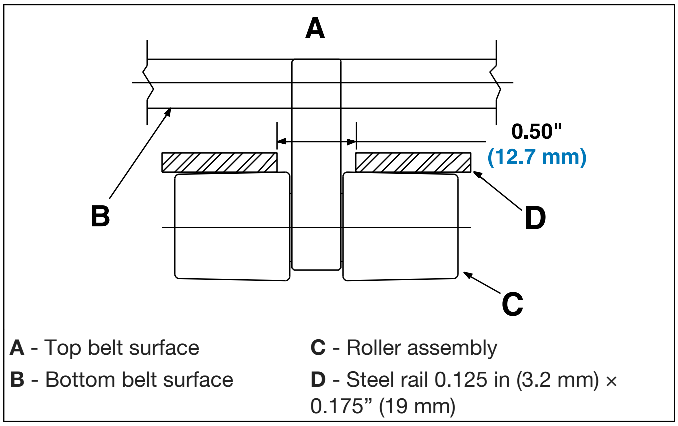


Figure 63: Hold down roller

When large temperature variations are encountered, rails must be placed carefully to accommodate the thermal expansion of the belt. The transverse movement of the roller assemblies can be calculated by using the Coefficients of Thermal Expansion. See *Thermal Expansion and Contraction*. The distance of the hold down roller assembly to the belt centerline is used to calculate the movement.

For example:

A 24 in (610 mm) Series 400 Flush Grid polypropylene belt, with hold down rollers indented 4 in (102 mm) from each side, will operate at 100°F (38°C). The distance at ambient temperature, 70°F (21°C), from a hold down roller assembly to the belt centerline is 8 in (203 mm).

$$\Delta = L_1 \times (T2 - T1) \times e$$

$$\Delta = 8 \text{ in} \times (100°F - 70°F) \times 0.0008 \text{ in/ft/°F} \times \frac{1 \text{ ft}}{12 \text{ in}}$$

$$\Delta = 0.016 \text{ in } (0.41 \text{ mm})$$

Where:

L_1	=	Distance from hold down roller to belt centerline
T_1	=	Ambient temperature
T_2	=	Operating temperature
e	=	Thermal expansion coefficient (0.0008 in/ft/°F for polypropylene)

Each hold down roller assembly moves 0.016 in (0.41 mm) when the belt is raised to operating temperature.

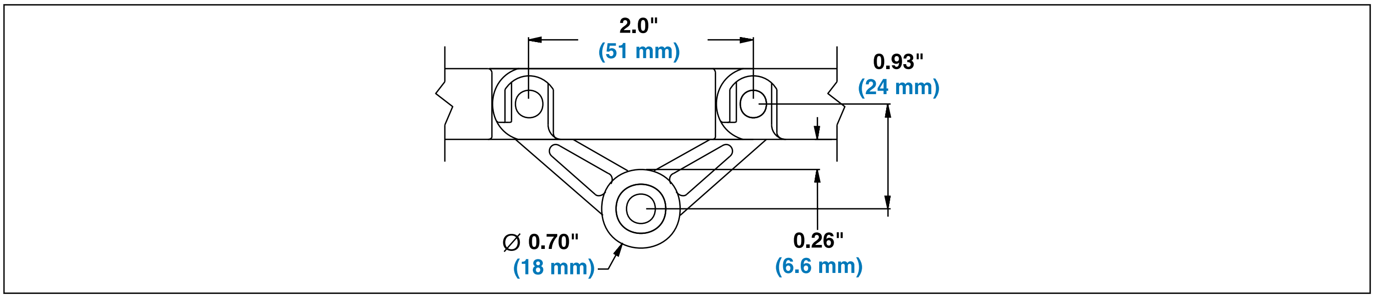
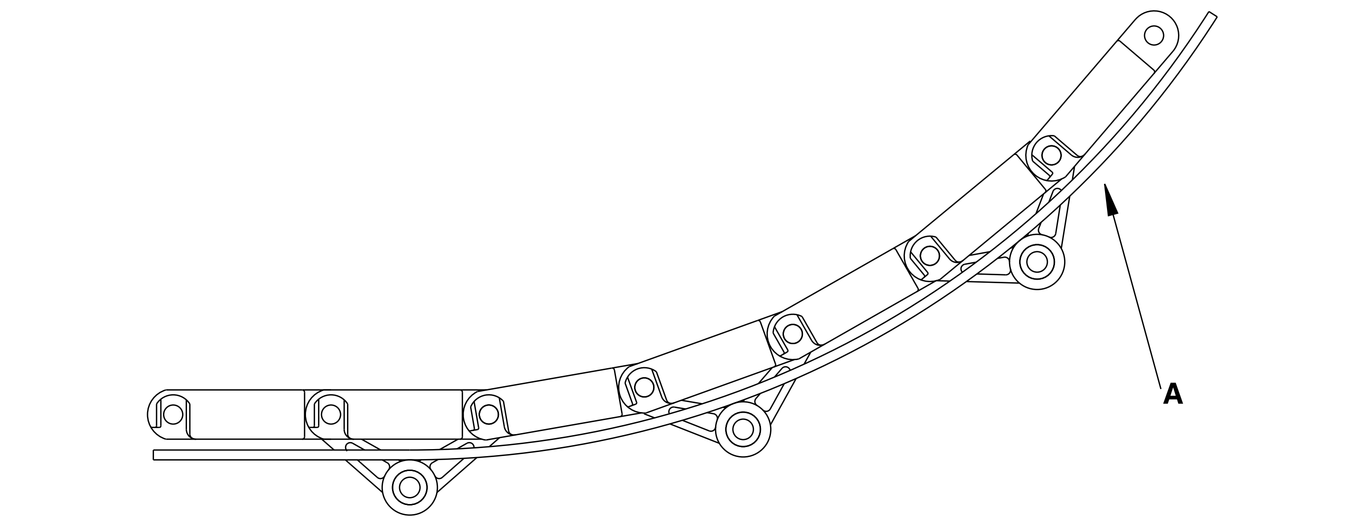


Figure 64: Hold down roller, side view



A - Bend radius 12 in (305 mm) with 0.125 in (3.2 mm) thick rail   Hold down rollers installed in Series 400 Flush Grid every 4 in (102 mm)

Figure 65: Hold down roller, side view

Buckets for Series 200 belts

Buckets are available for use with Series 200 Open Grid, Flush Grid, Flat Top and Perforated Flat Top belts. The same guidelines that apply to flighted belts generally apply to belts with buckets. The minimum backbend radius of a belt with buckets is 3.5 in (88.9 mm). Rollers and shoes must be sized accordingly.

Sprockets cannot be located behind the bucket gussets. Gussets will interfere with the normal action of the sprockets.

Friction Modules

Several Intralox belt styles incorporate a high friction material to move products (cartons, trays, bags, etc.) on inclines.

Integral Friction Surface Modules

The high friction rubber of Friction Top modules is molded to a polypropylene or polyethylene base. Normal wearstrip, carryway, and sprocket recommendations apply.

Conveyor Design Issues for Friction Modules

The following guidelines apply:

- Design the returnway to eliminate rubbing contact with friction modules. When using return rollers, the minimum roller diameter is 3 in (76 mm). For detailed returnway information, see *Elevating Conveyors*.
- The friction between the product and the belt is deliberately very high. Flow pressures and belt pulls are high in applications where the product is allowed to back up. These situations are not recommended for any friction top belt.
- End-to-end transfers at both the infeed and discharge ends are recommended. Sliding side transfers are ineffective, due to the high friction quality of the friction modules.
- Thermal expansion is controlled by the base material.
- Operating temperature limits are controlled by the limits of both the friction top material and the base material.

Radius Conveyors

Series 2200 and Series 2400 are designed for radius applications with a turn radius of 2.2, measured from the inside belt edge, or 1.7 for tight-turning Series 2400. Radius systems have many more design considerations than straight running systems. Some design considerations are discussed in *Product Line*. The data pages for Series 2200 and Series 2400 list requirements for both calculating the belt loads on a radius system and basic design requirements for each belt. Contact Intralox Technical Support for more information.

Tight Transfer Methods

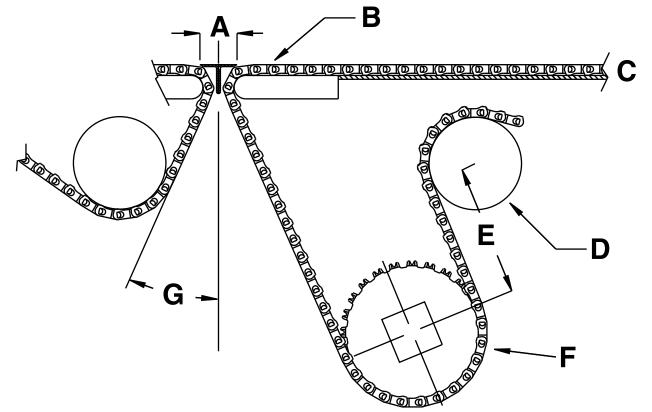
When tight transfers are desired, nosebars or rollers can be used for Series 550, 1000, 1100, 1500, 2300, and 2400. For Series 550 and 2300, contact Intralox Customer Service for Design Guidelines.

Arrangements which allow the nosebars to rotate freely are preferred. Belt tension increases dramatically as it slides around stationary nosebars. The increased belt pull is a function of the friction between the sliding belt and the stationary nosebar, and the angle of wrap between the belt and the nosebar.

Nosebar conveyors often cause an increased amount of belt hinge movement, leading to accelerated hinge wear. Therefore, we recommend using premium materials for both modules and rods. If the application allows this approach, acetal modules and AR-nylon rods are the preferred materials. Contact Intralox Customer Service for recommendations specific to your application.

Select the nosebar material to result in the lowest possible sliding friction between the belt and nosebar. Lower friction reduces belt tension. The amount of belt wrap around the nosebar also affects belt tension. Allow as little wrap as possible. A common nosebar configuration is shown in *Figure 1*. For belts with a pitch less than 0.6 in (15.2 mm), see the *Series 550 Nosebar Conveyor Design Guidelines*.

A static nosebar is often exposed to a combination of high contact pressure and high belt speed. Therefore, the nosebar material must be able to deal with this combination of pressure (P) and speed (v). For the combination of relative low speed and low pressure, a wear-resistant material like oil-filled nylon works well (check PV-value with your supplier). For applications with high contact pressure and/or high belt speed, a nose-roller is recommended (check applied forces and rpm with your supplier).



A - 1 in (25.4 mm) dead plate
B - 0.875 in (22.2 mm) minimum diameter nosebar or roller
C - Use side wearstrip for tracking
D - 3 in (76 mm) minimum diameter suggested
E - 4 in (102 mm) minimum
F - Drive sprocket
G - Typically 20 degrees to 25 degrees. This angle is used to reduce wear on the rods and rod holes. Increasing this angle could increase wear on the rods and rod holes

Figure 66: Common nosebar configuration for belts with pitch ≥ 0.6 in (15.2 mm)

Series 1100 Flat Top and Perforated Flat Top Edge Loss

In order to go around a 0.875 in nosebar and achieve self-clearing dead plates, the Series 1100 Flat Top and Perforated Flat Top belts do not have a sealed edge. To accurately size the fan, both airflow through the belt and edge loss of airflow must be considered. This example describes how to size the fan flow required for the Series 1100 Perforated Flat Top belts.

For a 30 in wide belt that is 10 ft long, under a vacuum of 4 in of water, the area under vacuum is 25 sq ft. The length under vacuum is 10 ft. As per the airflow table, at a vacuum of 4 in of water, airflow is 450 SCFM per sq ft through the belt and 110 SCFM per linear foot for the edge. SCFM = (square feet belt under vacuum × airflow through the belt) + (linear feet belt × edge loss). Therefore, total flow is (25 × 450) + (10 × 110) = 12,350 SCFM.

Transfer Design Guidelines

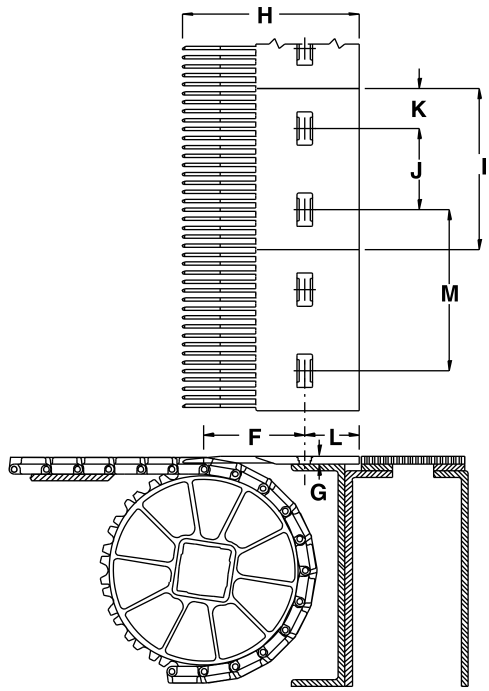
End-off/End-on Transfers

Finger Transfer Plates

Intralox Raised Rib belts and matching finger transfer plates are a highly efficient, low maintenance transfer system currently used in many container handling applications.

Correct installation of finger transfer plates is essential for trouble free service and long belt life. Proper installation is particularly important in areas where belting is subjected to high temperature variations and significant thermal expansion.

The metal plate support angle used to secure the finger transfer plates to the conveyor frame should be drilled and tapped for 1/4 – 20 screws (metric size M6). Accurate drilling and tapping are important! Finger transfer plates are molded with slots for Intralox shoulder bolts. These bolts prevent the plate from being clamped too tightly to the support angle. The loose fit allows the plates to move laterally and remain properly engaged with the belt ribs during expansion or contraction caused by changes in temperature. The length of the slots in the finger transfer plates limits the amount of expansion and contraction that can be accommodated. It is possible that very wide belts undergoing large temperature variations will exceed the expansion or contraction limits. Contact Intralox Sales Engineering if the values shown in the accompanying table are not large enough for your application.



For an even number of finger transfer plates, locate from the centerline of the belt. Straddle the centerline for an odd number of plates.

The finger transfer plate is to be level with the belt +0.03 in (0.8 mm), -0.00 with hinge rod at top dead center.

Figure 67: Finger transfer plates dimensional requirements

Dimensional Requirements for Finger Transfer Plate Installation, in (mm)												
	Series 100, 2400		Series 400[1]		Series 1200[2]		Series 900				Series 1900	
							6 in (152 mm)		4 in (102 mm) retrofit			
F	2.38	(61)	3.50	(89)	3.50	(89)	3.50	(89)	2.38	(61)	3.50	(89)
G	0.19	(5)	0.31	(8)	0.31	(8)	0.25	(6)	0.19	(5)	0.31	(8)
H	5.83	(148)	7.25	(184)	7.25	(184)	6.50	(165)	5.83	(148)	6.11	(155)
I	3.96	(101)	5.91	(150)	5.91	(150)	5.92	(150)	3.94	(100)	5.91	(150)
J	2.50	(64)	3.00	(76)	3.00	(76)	3.00	(76)	2.18	(55)	3.00	(76)
K	0.74	(19)	1.45	(37)	1.45	(37)	1.45	(37)	0.90	(23)	1.45	(37)
L	2.00	(51)	2.00	(51)	2.00	(51)	2.00	(51)	2.00	(51)	5.50	(140)
M	Spacing											
Spacing at Ambient Temp.	Polypropylene	Acetal	Polypropylene	Polyethylene	Polypropylene Composite		Polypropylene	Acetal	Acetal		Enduralox™ Polypropylene	
	3.979 (101.1)	3.976 (101.0)	5.952 (151.2)	5.933 (150.7)	6.000 (152.4)		5.981 (151.9)	5.975 (151.8)	3.976 (101.0)		6.000 (152.4)	

Maximum Belt Width × Temperature			
Belt Material	Series 100	Series 400	Series 900
Inches × °F (mm × °C)			
Polypropylene	3750 (52,900)	15,000 (211,700)	7500 (105,800)
Polyethylene	2000 (28,200)	8000 (112,900)	4000 (56,400)
Acetal	5000 (70,600)	—	10,000 (141,000)

[1] Dimensions are for two-material, Series 400 Standard Finger Transfer Plates only. See *Series 400* Finger Transfer Plate dimensions for more information.

[2] Dimensions are for two-material, Series 1200 Standard Finger Transfer Plates only. See *Series 1200* Finger Transfer Plate dimensions for more information.

Temperature Effects

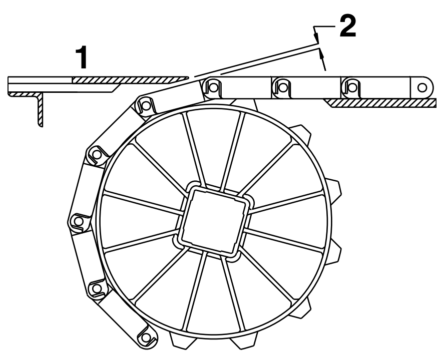
As temperature varies, the width of the belt changes in proportion to the magnitude of the temperature change. To ensure proper finger transfer plate operation, perform the following check:

1. Determine the maximum expected change in temperature from ambient, in °F (°C).
2. Multiply the maximum temperature change by the belt width, in inches (millimeters).
3. If the calculated value is greater than the value obtained from the chart, contact Intralox Sales Engineering before proceeding.

Dead Plates

Where there is a transfer point from a belt without finger transfer plates onto a dead plate, there must be a gap between the surfaces. This gap allows for the chordal action of the belt. As the belt engages the sprockets, chordal action causes the modules to move past a fixed point (the tip of the dead plate) with varying clearances. See the dead plate gap tables at the end of each series in *Product Line* for the gap distance. This is the amount of gap which occurs at the low point of the modules, if the dead plate tip just contacts the high point as the modules pass.

In some installations, it can be desirable to keep the tip of the dead plate in contact with the belt, rather than allow a gap to occur. This can be done by hinging the mounting bracket for the dead plate. This allows the dead plate to move as the modules pass, but results in a small oscillating motion which can present tipping problems for sensitive containers or products.

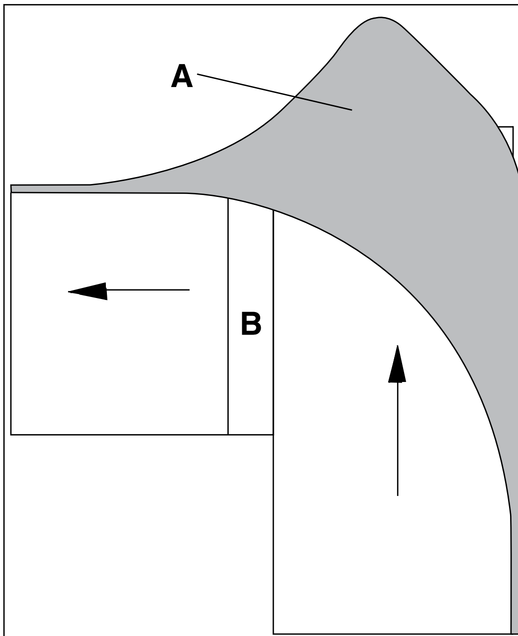


1 top surface of dead plate - typically 0.031 In (0.8 mm) above the belt surface for product transfer onto the belt, and 0.031 In (0.8 mm) below the belt surface for product transfer off the belt.
2 dead plate gap

Figure 68: Dead plate gap

90-Degree Container Transfers

For 90-degree transfer of beverage containers from one conveyor to another, full-radius guide rails with dead plates are commonly used. The dead plates span the space between the delivery and the takeaway conveyors. Containers that move along a full-radius guide rail exert high pressure on the rail and on each other. This often results in container damage. See the following figure. Pressure forces peak to the end of the outer curve as the containers move onto the dead plate.

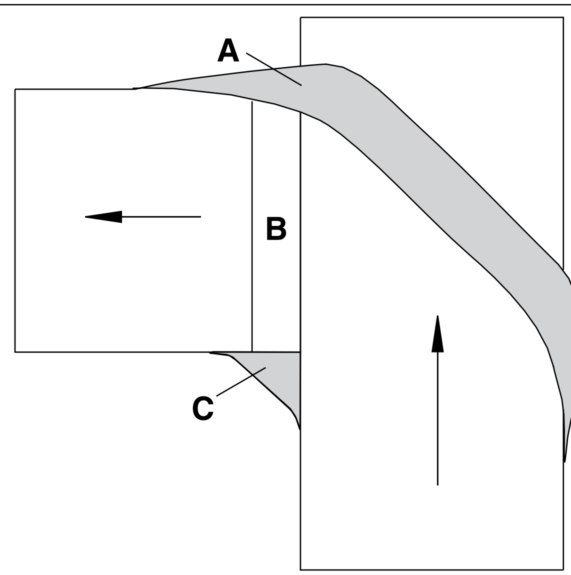


A High-pressure forces on guide rail from moving containers
B Dead plate

Figure 69: Conventional full-radius guide rail contour with excessive container pressure force buildup

Parabolic Guide Rails

A beverage industry engineer designed the parabolic guide rail for better distribution of the container pressure forces along the outer guide rail. *Figure 1* shows that the forces are more evenly distributed. This approach results in significantly less potential for container damage along the outer rail. However, an excessively large dead area, which strands containers, arises along the inner parabolic guide rail contour.



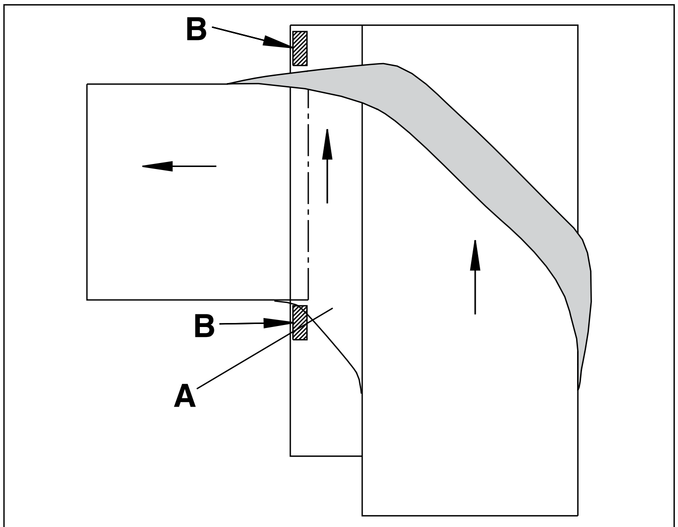
A More evenly distributed pressure forces from moving containers
B Dead plate
C Dead area

(Showing reduced pressure force buildup and dead area)

Figure 70: Parabolic guide rail contours

Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer Belts

A solution to the dead area problem incorporates a Series 900, Series 1100, or Series 1400 ONEPIECE Live Transfer Belt, either slaved to the delivery conveyor or independently driven. In the following figure, a 6.0 in (152 mm) transfer belt is shown running parallel to, and in the same direction as, the delivery conveyor. This approach eliminates the dead area along the inner parabolic guide rail, as well as the dead plate itself, enabling continuous container movement and eliminating stranded containers through the turn.



A - 6.0 in (152 mm) ONEPIECE Live Transfer belt
B - Support

Figure 71: Parabolic guide rail contours with 6.0 in (152 mm) ONEPIECE Live Transfer belt

See *Product Line* for more information on the Series 900, Series 1100, and Series 1400 ONEPIECE Live Transfer belts.

Contact Customer Service Sales Engineering for maximum number of sprockets allowed on Live Transfer belts.

Vacuum Transfer Applications

Series 900 and Series 1100 Perforated Flat Top belts are often used to invert empty containers held against the belt by a vacuum created on the opposite side of the conveyor. As the containers are carried around large diameter drums to the returnway side of the conveyor, they are inverted, then discharged from the belt.

The differential pressure acting to hold the containers to the belt also acts to hold the belt to the carryway. Thus, an additional belt pull is introduced. On small belts with low differential pressures, this added pull can be low and insignificant. On large belts with high differential pressures, the additional pull can be quite high. Under average conditions, the specific added belt pull should not exceed 1.25 lb/ft² (0.24 kg/m²) per inch (mm) water column, vacuum.

The designer can also be interested in the amount of airflow through the belt at various differential pressures. Airflow depends on the amount of open area, the differential pressure, the container spacing on the belt, and the air leakage around the perimeter of the belt. For airflow information on different belt series and styles, see *Table 11*.

Special Design Guidelines

Thermal Expansion and Contraction

With few exceptions, the dimensions of all substances increase as their temperature is increased and contract as their temperature is decreased. Since plastics expand and contract rather significantly, this factor must be considered in the conveyor design whenever operating temperatures differ from ambient temperature.

The designer must allow for changes in both belt length and width to accommodate expansion or contraction. An adequate unsupported span in the returnway must be provided to absorb the increase in belt length. There must be sufficient side clearance, particularly on wide belts, to prevent interference with the side structure. In low temperature applications, the frame must support the belt fully in its cold condition, yet not interfere at ambient temperatures.

Changes in the dimensions of a belt are determined in this manner:

$$\Delta = L1 \times (T2 - T1) \times e$$

where:
- **Δ** = change in dimension, in (mm)
- **L, W** = total belt length/width at initial temperature, ft. (m)
- **T2** = operating temperature, °F (°C)
- **T1** = initial temperature, °F (°C)
- **e** = Coefficient of Thermal Expansion, in/ft/°F (mm/m/°C)

Example:

The ambient temperature is 70°F (21°C). The operating temperature is 180°F (82°C). What is the greatest increase in belt length and width of a 60 ft (18.3 m) long by 10 ft (3 m) wide polypropylene belt while in operation?

$$L = 60 \times (180 - 70) \times 0.0010$$
$$\Delta = 6.6 \text{ in (168 mm)}$$

This belt increases in length by 6.6 in (134 mm)—not an insignificant amount. Its width expands by:

$$W = 10 \times (180 - 70) \times 0.0010$$
$$\Delta = 1.1 \text{ in (28 mm)}$$

Therefore, this belt would need a method by which approximately 5.5 in (140 mm) of increased belt length could be absorbed on the return side of the conveyor. The width of the conveyor frame must be approximately 1 in (25 mm) wider than its corresponding design under ambient conditions.

Coefficients of Thermal Expansion		
Materials	in/ft/°F	(mm/m/°C)
Belts		
Acetal, HSEC acetal	0.00072	(0.11)
Polyethylene		
Series 100 belts	0.0015	(0.23)
Series 400 Raised Rib belts	0.0015	(0.23)
All other belts	0.0011	(0.17)
Polypropylene		
(less than 100°F [38°C])	0.0008	(0.12)
Polypropylene		
(greater than 100°F [38°C])	0.0010	(0.15)
Composite polypropylene	0.0004	(0.06)
Nylon (HR, HHR, AR)	0.0005	(0.07)
Flame retardant	0.0008	(0.12)
Hi-Impact	0.0010	(0.156)
SELM	0.0005	(0.07)
Wearstrips		
HDPE and UHMW-PE		
-100°F to 86°F (-73°C to 30°C)	0.0009	(0.14)
86°F to 210°F (30°C to 99°C)	0.0012	(0.18)
Nylatron	0.0004	(0.06)
Teflon	0.0008	(0.12)
Metals		
Aluminum	0.00014	(0.02)
Steel (carbon and stainless)	0.00007	(0.01)

Expansion Due to Water Absorption

If nylon belts are used in continuously wet, elevated temperature environments, they have a tendency to absorb water and expand both in length and width. If an application requires a nylon belt in these conditions, contact Intralox Technical Support Group to determine the approximate expansion due to water absorption of the belt.

Slip-Stick Effect

Surging on long conveyors can be caused by a condition known as slip-stick. In this situation, the belt acts like a large spring or rubber band. The belt will make relatively short, pulsed movements throughout the length of the conveyor. The idle end of the belt may not move until there is enough belt tension to overcome the friction forces between the belt and the carryway. Instead of accelerating smoothly, the belt surges ahead. This in turn causes a brief drop in belt tension, allowing the belt to be slowed by friction. In some instances, the belt will even stop for a moment until the tension develops again Then the process repeats itself. The idle end of the conveyor surges despite the constant speed of rotation of the sprockets at the drive end.

Carryway friction, belt stiffness, belt weight and length play a large role in determining the severity of surging in a conveyor. Stiffness is a reflection of how far a belt will stretch under a given tension. A stiffer belt will develop belt tension with less elongation. A lighter weight belt will not have as much friction force to overcome.

Other factors that can affect surging are chordal action, belt speed, drive system pulsation, return roller diameter and return roller spacing. Chordal action and drive system pulsation can initiate surging. However, return roller diameter and spacing are more critical. Return rollers influence the way in which the belt in the returnway oscillates. Oscillation in the returnway can be transmitted to the carryway side of the belt, causing surging. For more information on roller spacing and diameter, see *Returnways and Take-ups*. Chordal action information is presented on *Chordal Action and Sprocket Selection*.

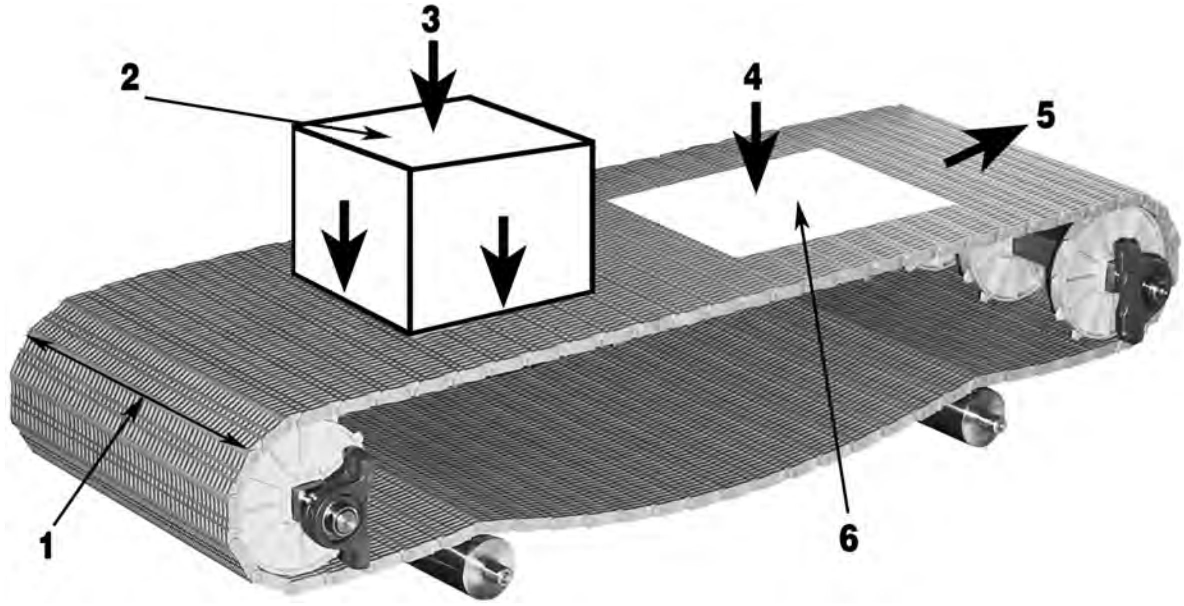
Section 4: Formulas and Tables

Section 4 provides the appropriate formulas and tables required calculate the values for selecting the proper belt for any application. This section also provides measurement conversion factors for all the units used in the formulas and tables. A *Chemical Resistance Guide* is provided to determine if the desired belt material will be chemically compatible for the application.

Symbols Used

		Units of Measure	
		U.S.	**Metric (SI)**
BS	Belt strength rated [70°F (21°C)]	lb/ft of width	kg/m of width
ABS	Allowable belt strength at operating conditions	lb/ft of width	kg/m of width
ABSU	Allowable belt strength utilized	%	%
BP	Belt pull at drive sprocket	lb/ft of width	kg/m of width
ABP	Adjusted belt pull	lb/ft of width	kg/m of width
M	Product loading on belt	lb/ft^2	kg/m^2
M_p	Backed-up product load	lb/ft^2	kg/m^2
W	Weight of belt	lb/ft^2	kg/m^2
℄	Centerline	—	—
L	Length of conveyor, shaft ℄ to shaft ℄	ft	m
H	Elevation change of conveyor	ft	m
F	Total friction factor	—	—
F_w	Friction coefficient, wearstrip to belt	—	—
F_p	Friction coefficient, product to belt	—	—
SF	Service factor	—	—
B	Width of belt	ft	m
Q	Weight of shaft	lb/ft	kg/m
w	Total load on shaft	lb	kg
L_s	Length of shaft, between bearings	in	mm
T_o	Torque on drive shaft	in-lb	kg-mm
PD	Pitch diameter of sprockets	in	mm
V	Speed of belt travel	ft/min	m/min
°F	Degrees, fahrenheit	°F	—
°C	Degrees, celsius	—	°C
T	Temperature factor	—	—
S	Strength factor	—	—
HP	Horsepower	hp	—
P_w	Power, watts	—	Watts
E	Modulus of elasticity (Young's modulus)	lb/in^2	kg/mm^2
I	Moment of inertia	in^4	mm^4
D	Deflection of shaft	in	mm
n	Shaft speed of rotation	rpm	rpm
Ø	Diameter	in	mm

Formulas



1 - **B**, belt width
2 - Unit area, 1 ft² (1 m²)
3 - **M**, product loading
4 - **W**, belt weight
5 - **BP**, belt pull per 1 ft (1 m) of width
6 - Unit area, 1 ft² (1 m²)

Figure 72: Primary loads — conventional conveyor

Calculating Belt Pull or Tension Load

The tensile strength on operating conveyor belts is produced by the combination of loads imposed by frictional resistance and by moving the product to a different elevation, if applicable.

Friction forces are developed in two ways. First, the weights of the belt and the conveyed product bear on the carryway to create a resistance as the belt is driven. Second, if the product is held stationary while the belt continues to move under it, there is an added resistance between the belt and the product.

Each of these friction forces is proportional to a coefficient of friction. Coefficient of friction is dependent upon the materials in question, their surface qualities, the presence or absence of a lubricant, the cleanliness of the surfaces, and other factors. For typical values of coefficients of friction for common conveying applications using Intralox belts, see *Table 2*. The coefficient of friction between the belt and the carryway wearstrips is designated as F_W. The coefficient between the product being moved and the belt is represented as F_p.

The first step in calculating belt pull (BP), is calculation of the backed-up product load, M_p:

Formula 1: Backed-up Product Load

$$\mathbf{M_P = M \times F_p} \times \left(\frac{\text{Percentage of belt area backed-up}}{100} \right)$$

Note: If there is no slippage of product on the belt, and no backed-up product, ignore $\mathbf{M_p}$, since it does not apply.

Notice that *Table 2* gives two listings of F_W for belts made of polypropylene, one for clean, smooth-running applications and another for abrasive applications. In this case, *abrasives* are defined as small amounts or low levels of fine grit, dirt, fiber, or glass particles present on the carryway. The designer should be aware that many factors affect friction. Slight variations in conditions can produce wide deviations. Allow for these variations when using friction coefficients in design calculations.

After calculating M_p and finding the friction factor F_W, calculate the belt pull (BP), using this formula:

Formula 2: Belt Pull

$$\mathbf{BP} = [(M + 2W) \times F_W + M_p] \times L + (M \times H)$$

This equation for belt pull reflects its two components: $[(M + 2W) \times F_W + M_p] \times L$ for the friction load and $(M \times H)$ for the change in elevation, if one exists.

Adjusting the Calculated Belt Pull for Actual Service Conditions

Service conditions can vary greatly. Adjust the belt pull (BP), calculated from Formula 2 to allow for those factors. The adjusted belt pull (ABP) is determined by applying an appropriate service factor (SF).

On bi-directional or pusher conveyors, where the return-side belt tension is high, consider both terminal shafts as drive shafts when determining adjusted belt pull.

Formula 3: Adjusted Belt Pull
ABP = BP × SF
For pusher conveyors:
ABP = BP × SF × 2.2

To determine service factors, see *Table 6*.

Calculate Allowable Belt Strength (ABS)

Intralox belts have strength ratings, determined at ambient temperature and low speed. The strength of plastics generally decreases as the plastic temperature increases. The wear rate is directly proportional to speed but inversely proportional to conveyor length. Because of these factors, the rated belt strength (BS), must be adjusted according to this formula:

Formula 4: Allowable Belt Strength
ABS = BS × T × S

The rated belt strength (BS), and strength factor (S), are provided in the *Product Line* section. If a belt rating is specified for the sprocket material being used and the rating is lower that the belt rating, use the lower rating. For temperature factor (T), see *Table 7: (T) Temperature Factor*. If a center drive is used, determine strength factor (S) by using the following equation:

for S greater than 0.6	**S'** = 1-2 (1-**S**)
for S less than 0.6	**S'** = 0.2
then,	**ABS** = BS × T × S'

Determine Maximum Spacing of Drive Shaft Sprockets and Recommended Minimum Number of Shaft Sprockets

To determine the number of sprockets needed, first determine the belt pull in relation to the available strength of the belt. Using the adjusted belt pull and allowable belt strength calculate the allowable belt strength utilized (ABSU) using this formula.

Formula 5: Allowable Belt Strength Utilized
ABSU = (ABP ÷ ABS) × 100%

See the *Sprocket Quantity as a Function of Belt Strength Utilized* graph for the appropriate series in the *Product Line* section. Use the ABSU to find the minimum sprocket spacing in inches (or meters). Determine the number of drive sprockets required for a conveyor by dividing belt width in inches (or meters) by sprocket spacing, then rounding up to the next whole number.

Idle shaft sprockets on conventional conveyors are normally exposed to less tension than drive sprockets and, therefore, can operate with wider spacing. However, this spacing must never exceed 6.0 in (152 mm) for all series except Series 200, where the maximum spacing must never exceed 7.5 in (190 mm). Specific recommendations for the minimum number of idle shaft sprockets can be found in the appropriate sprocket tables for the appropriate belt in the *Product Line* section.

If the calculated ABSU is above 75%, contact Intralox Customer Service to run the *Intralox Engineering Program* and verify your results.

Confirmation of Shaft Strength

Two important functions of the drive shaft must be analyzed before its ability to operate properly can be determined. Those functions are its ability to absorb the bending force of belt pull with an acceptable shaft deflection, and its successful ability to transmit the necessary torque from the driver.

The initial step here is to make a preliminary selection of a shaft size which fits your sprocket of choice. The shaft bends or deflects under the combined loads of the adjusted belt pull (ABP) and its own weight. These forces are assumed to be co-planar and can be combined into a total shaft load (w), determined by:

Formula 6: Total Shaft Load
w = (ABP + Q) × B

For shaft weight (Q), see *Table 8*: *Shaft Data*. B-Shaft Data represents the width of the belt.

Shaft Deflection

For shafts supported by two bearings, the deflection (D), can be found from:

Formula 7: Shaft Deflection – 2 Bearings

$$\mathbf{D} = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I}$$

For modulus of elasticity (E) and moment of inertia (I) values, see *Table 8*. L_S is the unsupported span of the shaft between bearings.

Maximum Shaft Deflection Recommendations

As drive shafts bend or deflect under heavy loads, the longitudinal distance between the drive shaft and the idler shaft is less at the belt centerline than at the edges. This difference causes an uneven distribution of tension in the belt, with the greatest being absorbed at the edges. Since the tension distribution is uneven, the load absorbed by the sprocket teeth is not equal. Intralox has determined that satisfactory performance can be obtained if shaft deflections do not exceed certain limits. These limits are:

Conventional, Uni-Directional Conveyors

Maximum shaft deflection = 0.10 in (2.5 mm)

Bi-Directional or Pusher Conveyors

Maximum shaft deflection = 0.22 in (5.6 mm)

If the preliminary shaft selection results in excessive deflection, it is necessary to pick a larger shaft size, a stronger material, or use intermediate bearings to reduce shaft span.

Deflections with Intermediate Bearings

With a third bearing located in the center of the shaft, the deflection formula to be used is:

Formula 8: Shaft Deflection – 3 Bearings

$$\mathbf{D_3} = \frac{1}{185} \times \frac{\frac{w}{2} \times L_S^3}{E \times I}$$

$$\mathbf{D_3} = \frac{w \times L_S^3}{370 \times E \times I}$$

In this case, L_S is the span between the center bearing and an outer bearing.

In applications with very wide belts under heavy loads, it can be necessary to use more than one intermediate bearing to reduce deflections to an acceptable level. Since the formulas for deflections in these cases become complex and unwieldy, Intralox provides a safe, maximum span length for the total shaft load (w) in *Table 12: Maximum Drive Shaft Span Length*.

When using these tables, remember to first calculate the total shaft load (w), using the formula provided in *Confirmation of Shaft Strength*.

In applications with bi-directional conveyors or pusher conveyors, also correct the adjusted belt pull (ABP), for the increased tension required. For the corrected ABP, see Formula 5.

Drive Shaft Torque

To overcome the resistance of moving the belt and the product, the drive shaft must be strong enough to transmit the twisting or rotating forces imposed by the drive motor. The torsional action introduces shearing stresses on the shaft. The shearing stresses are usually most critical in the bearing journals next to the driver.

Rather than require shearing stress calculations, use *Table 9*to quickly determine the maximum recommended drive shaft torque for a given shaft journal diameter and shaft material. For example, assume your preliminary shaft selection is 2.5 in (63.5 mm) and made of carbon steel. Since the maximum journal diameter is 2.5 in (63.5 mm), the maximum recommended torque for this size is 22,500 in-lb (259,000 kg-mm).

The actual torque (T_O), to be transmitted can be calculated from:

Formula 9: Torque, Drive Shaft

$$\mathbf{T_o} = ABP \times B \times \frac{P.D.}{2}$$

where PD represents the sprocket pitch diameter, in (mm)

Compare the actual torque with the maximum recommended torque to determine if this journal size is adequate. If not, try the next larger shaft size or a stronger material. If these options are not possible, try a smaller sprocket size. Often, the actual torque is considerably lower than the maximum recommended. If so, reducing the journal diameter to an acceptable smaller size can reduce the cost of bearings required.

Determining the Power Needed to Drive the Belt

The power required to overcome the resistance of moving the belt and product can be calculated from the following formulas:

Formula 10: Horsepower – U.S. Units

$$\text{Horsepower, } \mathbf{HP} = \frac{ABP \times B \times V}{33{,}000}$$

where: **ABP** = Adjusted belt pull, lb/ft of belt width
B = Belt width, ft
V = Belt speed, ft/min

Another version using different factors is:

Formula 11: Horsepower – U.S. Units

$$\text{HORSEPOWER, } \mathbf{HP} = \frac{T_o \times V}{16{,}500 \times P.D.}$$

where: $\mathbf{T_o}$ = Torque, in-lb
P.D. = Pitch diameter, in
V = Belt speed, ft/min

Formula 12: Power – Metric Units

$$\text{POWER, } \mathbf{WATTS} = \frac{ABP \times B \times V}{6.12}$$

where: **ABP** = Adjusted belt pull, kg/m of belt width
B = Belt width, m
V = Belt speed, m/min

and another version is:

Formula 13: Power – Metric Units

$$\text{POWER, } \mathbf{WATTS} = \frac{T_o \times V}{3.06 \times P.D.}$$

where: $\mathbf{T_o}$ = Torque, kg-mm
P.D. = Pitch diameter, mm
V = Belt Speed, m/min

If torque is known in Newton-millimeters, the equation for power is:

Formula 14: Power – SI Units

$$\text{POWER, } \mathbf{WATTS} = \frac{T_o \times V}{30 \times P.D.}$$

where: $\mathbf{T_o}$ = Torque, N-mm

Determining Drive Motor Power Requirements

The power calculated to drive the belt does not include the power to overcome the friction in gears, bearings, chains, and other mechanical parts of the system. See the *Design Guidelines* section for a list of component efficiency losses in common use, then increase the belt drive power accordingly.

Thermal Expansion or Contraction of Materials

As materials experience increases or decreases in temperature, their dimensions increase or decrease. Belts that are installed at one temperature but operate at another, or that pass through different temperatures in the operating circuit, expand or contract accordingly. Since plastics have relatively high rates of expansion and contraction, it is necessary to consider this characteristic if significant temperature changes are expected.

Use the following formula to determine changes in the length, width, or thickness of a material.

Formula 15: Thermal Expansion or Contraction

$$\Delta = L_1 \times (T_2 - T_1) \times e$$

where: **Δ** = change in dimension, in (mm)
$\mathbf{L_1}$ = dimension at initial temperature, ft (m)
$\mathbf{T_2}$ = operating temperature, °F (°C)
$\mathbf{T_1}$ = initial temperature, °F (°C)
e = coefficient of thermal expansion, in/ft/°F (mm/m/°C)

For coefficients of thermal expansion of various materials, see *Thermal Expansion and Contraction*.

SECTION 4

Catenary Sag

A belt hanging between two supports under the influence of gravity assumes the shape of a curve called a *catenary*. The specific dimensions of this curve depend upon the distance between supports, the length of hanging belt, and the belt weight. Usually, the actual shape of this curve is not important, but the conveyor designer is interested in two things: the excess belt required and the tension created by the sagging belt.

Note: For more information about catenary sag, see *Returnways and Take-ups*

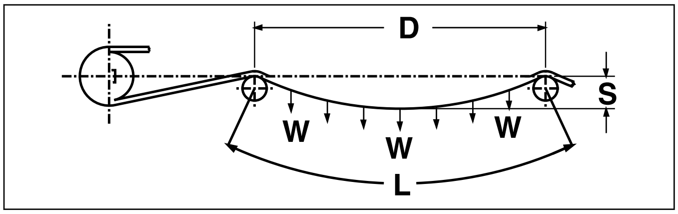


Figure 73: Catenary sag

The excess belt (X), or the difference between L and D in the preceding figure is found from:

Formula 16: Excess Belt – Catenary Sag

$$X = \frac{2.66 \times S^2}{D}$$

where:			
	X	=	excess belt, ft (m)
	S	=	sag, ft (m)
	D	=	distance between supports, ft (m)

The tension (T) created by a catenary section of belt is found from:

Formula 17: Tension – Catenary Sag

U.S. Units

$$T = \frac{d^2 \times W}{96 \times s}$$

where:			
	T	=	tension, lb/ft of belt width
	s	=	sag, in
	d	=	distance between supports, in
	W	=	belt weight, lb/ft².

Metric Units

$$T = \frac{d^2 \times W}{8000 \times s}$$

where:			
	T	=	tension, kg/m of belt width
	s	=	sag, mm
	d	=	distance between supports, mm
	W	=	belt weight, kg/m²

Note: Radius belt formulas are provided in the *Flat-Turn Program for Radius Applications* program. Contact Intralox Customer Service for more information.

Sample Problems

Steel Can Handling Example

Conditions (in Metric Units)

A beverage handler proposes to use Series 400 Raised Rib polypropylene belts to carry steel cans, weighing 122 kg per square meter, on a conveyor that is 18.3 m long and 1.2 m wide. The belt will run wet on UHMW wearstrips at a speed of 6 m per minute. Frequent starts under load are expected and the steel cans will accumulate a total of 15.2 m. The operating temperature is to be 82°C. A 12-tooth, 198-mm pitch diameter is preferred. Carbon steel shafts are acceptable.

Step 1: Calculate Backed-Up Product Load (M_P)—Formula 1

$$M_p = M \times F_p \times \left(\frac{\text{Percentage of belt area backed-up}}{100}\right)$$

The coefficient of friction (F_W) between the belt and the UHMW wearstrips is determined from *Table 2* to be 0.11. The coefficient of friction (F_P) between the steel cans and the belt is found from *Table 3* to be 0.26.

Since the steel cans will be backed-up 15.2 m, the percentage of belt area backed-up is

$$\frac{15.2}{18.3} \text{ or } 83.1\%$$

Then the backed-up product load, M_P, is:

$$M_p = 122 \times 0.26 \times \left(\frac{83.1}{100}\right)$$

$$M_p = 26.4 \text{ kg/m}^2$$

Step 2: Calculate Belt Pull (BP)—Formula 2

$$BP = [(M + 2W) \times F_W + M_P] \times L + (M \times H)$$

M = Product loading (122 kg/m²)
W = Belt weight (9.52 kg/m²)
L = Conveyor length (18.3 m)
M_p = Backed-up product load (26.4 kg/m²)
H = Elevation change (zero)

Note: Since there is no elevation change, disregard the factor M x H in the formula.
Therefore:

$$BP = [(122 + (2 \times 9.52)) \times 0.11 + 26.4] \times 18.3$$

$$BP = 767 \text{ kg/m of belt width}$$

Step 3: Calculate Adjusted Belt Pull (ABP)—Formula 3

$$ABP = BP \times SF$$

The service factor (SF), is determined from *Table 6* to be 1.2.

Then:

$$ABP = 767 \times 1.2$$

$$ABP = 920 \text{ kg/m of belt width}$$

Step 4: Calculate Allowable Belt Strength (ABS)—Formula 4

$$ABS = BS \times T \times S$$

BS = Rated belt strength (see *Table 4*)
T = 0.98 (see *Table 7*)
S = 1.0

$$ABS = 2200 \times 0.98 \times 1.0$$

$$ABS = 2156 \text{ kg/m of width}$$

Therefore, since ABS exceeds ABP, Series 900 Raised Rib in acetal is a suitable choice.

Step 5: Determine Maximum Spacing of Drive Shaft Sprockets

$$ABSU = (ABP \div ABS) \times 100\%$$

$$ABSU = (920 \div 1{,}714) \times 100\%$$

$$ABSU = 54\%$$

From the sprocket spacing chart in the *Series 400* product line, the maximum sprocket spacing is about 70 mm.

Step 6: Determine Drive Shaft Deflection

Since this belt is fairly wide, first try a 60-mm square shaft.

Use the following formula to calculate the total shaft load (w):

$$w = (ABP + Q) \times B \qquad \text{(Formula 6)}$$

From *Table 8*, find the shaft weight (Q) to be 29.11 kg/m of length. Then:

$$w = (920 + 29.11) \times 1.2$$

$$w = 1{,}139 \text{ kg}$$

For shaft deflection, assume first the shaft is to be supported by two bearings. Therefore, the deflection (D), is found from:

$$D = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I} \qquad \text{(Formula 7)}$$

Since the belt is to be 1.2 m or 1200 mm wide, assume the unsupported length of shaft (L_S), is 1320 mm, and from *Table 8*, the modulus of elasticity (E), and the moment of inertia (I), are found to be 21,100 kg/mm² and 1,080,000 mm^4, respectively. Then:

$$D = \frac{5}{384} \times \frac{1139 \times 1320^3}{21{,}000 \times 1{,}080{,}000}$$

$$D = 1.50 \text{ mm}$$

Since this deflection is less than the recommended limit of 2.5 mm, supporting it with two bearings is acceptable.

Step 7: Calculate Drive Shaft Torque (T_O)—Formula 9

$$T_o = ABP \times B \times \frac{P.D.}{2}$$

$$T_o = 920 \times 1.2 \times \frac{198}{2}$$

$$= 109{,}296 \text{ kg-mm}$$

From the maximum recommended torque curve in *Table 9*, we see the maximum torque for a journal diameter of 60 mm is 180,000 kg-mm. Therefore, the minimum journal diameter in this case should be about 55 mm.

Step 8: Calculate Belt Drive Power—Formula 10

$$\textbf{Belt power} = \frac{ABP \times B \times V}{6.12}$$

$$\textbf{Belt power} = \frac{920 \times 1.2 \times 6.0}{6.12}$$

$$\textbf{Belt power} = 1082 \text{ Watts}$$

Step 9: Determine Drive Motor Power

Assume this conveyor will be driven by an electric motor, through a triple reduction, spur gear reducer, chain and sprockets. The shafts are supported by ball bearings. From the table on *Power Requirements*, the total of the efficiency losses in the machinery components are estimated to be 11%.

The motor power is found from:

$$\textbf{Motor power} = \frac{1082}{100 - 11} \times 100$$

$$= 1216 \text{ watts}$$

Therefore a 2-kW motor is a good choice.

Food Handling Example

Conditions (in U.S. Units)

120,000 lb/hr of raw, washed vegetables (product loading of 10 lb/sq ft) are to be lifted a vertical distance of 15 ft on an elevating conveyor 25 ft long and 2 ft wide. The environment is wet, the temperature is ambient, and belt speed is to be 75 ft/min. Wearstrip material is ultra high molecular weight (UHMW) and the pre-selected belt is a Series 800 Perforated Flat Top polypropylene with flights and sideguards. The flight spacing is 8 in The belt will be started unloaded and run continuously. The preferred sprockets are 10 tooth, 6.5 in pitch diameter. Stainless steel (303/304) shafts are required.

Step 1: Determine the Backed-up Product Load (M_P)—Formula 1

$$M_p = M \times F_p \times \left(\frac{\text{Percentage of belt area backed-up}}{100}\right)$$

Since there is no product backed-up, disregard M_P. From *Table 2*, $F_W = 0.11$.

Step 2: Calculate Belt Pull (BP)—Formula 2

$$\textbf{BP} = (M + 2W) \times F_W \times L + (M \times H)$$

$$\textbf{BP} = [10 + 2(1.54)] \times 0.11 \times 25 + (10 \times 15)$$

$$\textbf{BP} = 186 \text{ lb/ft of belt width}$$

Step 3: Calculate Adjusted Belt Pull, (ABP)—Formula 3

$$\textbf{ABP} = BP \times SF$$

Service factor is 1.4 (See *Table 6*, Elevating conveyor).

Then:

$$\textbf{ABP} = 186 \times 1.4$$

$$\textbf{ABP} = 260 \text{ lb/ft of belt width}$$

Step 4: Calculate Allowable Belt Strength (ABS)—Formula 4

$$\textbf{ABS} = \textbf{BS} \times \textbf{T} \times \textbf{S}$$

The rated belt strength (BS) is 1,000 lb/ft. (See *Table 4*.) The temperature factor (T) is 0.98 and the strength factor (S) is 0.92. (See *Table 7*.)

$$\textbf{ABS} = 1{,}000 \times 0.98 \times 0.92$$

$$\textbf{ABS} = 902 \text{ lb/ft of belt width}$$

Since ABS exceeds ABP, Series 800 Perforated Flat Top polypropylene belt is adequate for this application.

Step 5: Determine Maximum Spacing of Drive Shaft Sprockets

$$\textbf{ABSU} = (ABP \div ABS) \times 100\%$$

$$\textbf{ABSU} = (260 \div 902) \times 100\%$$

$$\textbf{ABSU} = 29\%$$

From the sprocket spacing chart in the *Series 800* product line, the maximum spacing of drive shaft sprockets is 6.0 in.

Step 6: Determine Drive Shaft Deflection

Total shaft load (w), is:

$$\mathbf{w} = (ABP + Q) \times B \qquad \text{(Formula 6)}$$

Pre-select a 1.5 in square stainless steel shaft.

Therefore:

$$\mathbf{w} = (260 + 7.65) \times 2$$

$$\mathbf{w} = 535 \text{ lb}$$

and shaft deflection (D), is:

$$\mathbf{D} = \frac{5}{384} \times \frac{w \times L_S^3}{E \times I} \qquad \text{(Formula 7)}$$

Assume L_S is 28 in From *Table 8*, E is 28,000,000 lb/in² and I is 0.42 in⁴.

Therefore:

$$\mathbf{D} = \frac{5}{384} \times \frac{535 \times 28^3}{28{,}000{,}000 \times 0.42}$$

$$\mathbf{D} = 0.013 \text{ in.}$$

Which is less than the recommended limit of 0.10 in.

Step 7: Calculate Drive Shaft Torque (T_O)—Formula 9

$$\mathbf{T_o} = ABP \times B \times \frac{P.D.}{2}$$

$$\mathbf{T_o} = 260 \times 2 \times \frac{6.5}{2}$$

$$\mathbf{T_o} = 1690 \text{ in-lb}$$

From *Table 9* a torque of 1690 in/lb requires a minimum journal diameter of about 0.85 in with 303/304 stainless steel. Therefore, a journal diameter of 1.0 in (25.4 mm) is recommended.

Step 8: Calculate Belt Drive Power—Formula 10

$$\textbf{Belt horsepower} = \frac{ABP \times B \times V}{33{,}000}$$

$$\textbf{Belt horsepower} = \frac{260 \times 2 \times 75}{33{,}000}$$

$$\textbf{Belt horsepower} = 1.18 \text{ HP}$$

Step 9: Determine Drive Motor Power

Assume it is determined from *Power Requirements*, that the total efficiency losses are expected to be 20%. The Motor Horsepower, then, is found from:

$$\textbf{Motor horsepower} = \frac{1{,}18}{100 - 20} \times 100$$

$$= 1.48 \text{ HP}$$

In this case, a 1.5-HP motor is a suitable choice.

Bi-Directional Conveyor Example

Conditions (in Metric Units)

A canning plant accumulator table, measuring 6 m in length and 2.4 m wide, is to handle cans weighing 50 kg/m². Belt speed will be 3.0 m/min. Frequent loaded starts are expected. The belt will operate at 21°C. The wearstrips are to be stainless steel. The belt will run dry. Series 900 Raised Rib in acetal is the preferred belt, using 18 tooth, 156-mm pitch diameter sprockets on 60-mm square shafts of 304 stainless steel.

Step 1: Determine the Backed-up Product Load (M_P)—Formula 1

$$\mathbf{M_p} = M \times \mathbf{F_p} \times \left(\frac{\text{Percentage of belt area backed-up}}{100}\right)$$

Since there is no product backed-up, ignore M_P.

$F_W = 0.19$

Step 2: Calculate Belt Pull (BP)—Formula 2

$$\mathbf{BP} = (M + 2W) \times F_W \times L + (M \times H)$$

$\mathbf{M}$ = 50 kg/m²

$\mathbf{W}$ = 8.19 kg/m²

$\mathbf{L}$ = 6 m

$\mathbf{F_W}$ = 0.19

$\mathbf{H}$ = zero

$$\mathbf{BP} = [50 + 2(8.19)] \times 0.19 \times 6$$

$\mathbf{BP}$ = 76 kg/m of width

Step 3: Calculate Adjusted Belt Pull (ABP)—Formula 3

$$\mathbf{ABP} = BP \times SF \times 2.2$$

$$\mathbf{ABP} = 76 \times 1.2 \times 2.2$$

$\mathbf{ABP}$ = 201 kg/m of width

Step 4: Calculate Allowable Belt Strength (ABS)— Formula 4

$$\mathbf{ABS} = \mathbf{BS} \times \mathbf{T} \times \mathbf{S}$$

BS = Rated belt strength (see *Table 4*)

T = 0.98 (see *Table 7*)

S = 1.0

$$\mathbf{ABS} = 2200 \times 0.98 \times 1.0$$

$$\mathbf{ABS} = 2156 \text{ kg/m of width}$$

Therefore, since ABS exceeds ABP, Series 900 Raised Rib in acetal is a suitable choice.

Step 5: Determine Maximum Spacing of Drive Shaft Sprockets

Since both the carryway and returnway sides are under tension, the idle shafts must be treated as drive shafts for sprocket spacing and deflection calculations.

$$\mathbf{ABSU} = (\text{ABP} \div \text{ABS}) \times 100\%$$

$$\mathbf{ABSU} = (201 \div 2{,}156) \times 100\%$$

$$\mathbf{ABSU} = 9\%$$

From the sprocket spacing chart in the *Series 900* product line, the maximum sprocket spacing is 95 mm.

Step 6: Confirm Drive Shaft Strength

Total shaft load (w), is:

$$\mathbf{w} = (\text{Corrected ABP} + \text{Q}) \times \text{B} \qquad \text{(Formula 6)}$$

$$\mathbf{w} = (182 + 29.11) \times 2.4$$

$$\mathbf{w} = 507 \text{ kg}$$

A check of *Table 12* reveals that the shaft load of 507 kg applied to a 60-mm square stainless steel shaft. This allows a maximum span of about 2600 mm. Since this conveyor is 2.4 m or 2400 mm wide, intermediate bearings are not required.

Calculate drive shaft torque (T_o) (Formula 9):

$$\mathbf{T_o} = \mathbf{T_o} = \text{ABP} \times \text{B} \times \frac{\text{P.D.}}{2}$$

ABP = 201 kg/m of width

B = 2.4 m of width

P.D. = 156 mm

$$\mathbf{T_o} = \mathbf{T_o} = 201 \times 2.4 \times \frac{156}{2}$$

$$\mathbf{T_o} = 37{,}627 \text{ kg-mm}$$

From the maximum recommended torque chart, the minimum journal diameter for a torque of 37,627 kg-mm would be about 27 mm. Since a 60-mm shaft is needed, due to deflection, the journal diameter can be as large as 55 mm, for example.

Step 7: Calculate Power Required to Drive Belt (Formula 10)

$$\textbf{Belt power} = \frac{\text{ABP} \times \text{B} \times \text{V}}{6.12}$$

ABP = 201 kg/m of width (above)

B = 2.4-kg/m width (above)

V = 3.0 m/min (above)

$$\textbf{Belt power} = \frac{201 \times 2.4 \times 3.0}{6.12}$$

$$\textbf{Belt power} = 236 \text{ Watts}$$

Step 8: Determine Drive Motor Power

For information about efficiency losses in mechanical components, see *Power Requirements*. Assume the total of the efficiency losses for this conveyor are determined to be about 25%. Therefore, motor power is:

$$\textbf{Motor power} = \frac{236}{100 - 25} \times 100$$

$$= 315 \text{ Watts}$$

Therefore, a 1/3 kW motor is a good selection.

Tables

Table 1. **(W) Belt Weight in lb/ft² (kg/m²)**

Series	Style	Standard Materials			Special Applications Materials[1]
		Polypropylene	Polyethylene	Acetal & HSEC Acetal	
This information is incorporated into the charts for each series and belt style.					

Table 2. **(F_w) Coefficient of Startup Friction Between Wearstrip & Belt**

Wearstrip Material	Standard Materials[1]									
	Polypropylene				Polyethylene		Acetal		HSEC Acetal	
	Smooth Surface		Abrasive Surface[2]		Smooth Surface		Smooth Surface		Smooth Surface	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
UHMW	0.11	0.13	NR	NR	0.24	0.32[3]	0.10	0.10	0.10	0.10
HDPE	0.09	0.11	NR	NR	NR	NR	0.09	0.08	0.09	0.08
Molybdenum-filled or silicon-filled nylon	0.24	0.25	0.29	0.30	0.14	0.13	0.13	0.15	0.13	0.15
Cold-rolled finish stainless or carbon steel	0.26	0.26	0.31	0.31	0.14	0.15	0.18	0.19	0.18	0.19

Table 3. **(F_p) Coefficient of Running Friction Between Container & Belt**

Container material	Standard Materials[4,5]							
	Polypropylene		Polyethylene[6]		Acetal		HSEC Acetal	
	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Glass	0.18	0.19	0.08	0.09	0.13	0.14	0.13	0.14
Steel	0.26	0.32	0.10	0.13	0.13	0.13	0.19	0.20
Plastic	0.11	0.17	0.08	0.08	0.13	0.16	0.13	0.16
Cardboard	—	0.21	—	0.15	—	0.18	—	0.18
Aluminum	0.40	0.40	0.20	0.24	0.33	0.27	0.33	0.27
Note: Belts operating dry on a backed-up conveyor may, depending on speed and weight, wear a rough surface on the belt. The rough surface can substantially increase the coefficient of friction.								

Table 4. **Belt Strength in lb/ft (kg/m)**

Series	Style	Standard Materials			Special Applications Materials
		Polypropylene	Polyethylene	Acetal & HSEC Acetal	
This information is incorporated into the charts for each series and belt style.					

SECTION 4

[1] For special applications materials, see appropriate data pages.

[2] Based on Intralox tests.

[3] Increased wear can occur at belt speeds above 50 feet per minute (15 meter/min).

[4] Friction factor values are highly dependent on environmental conditions. The low value of the friction factor range is an experimentally derived friction factor for new belting on new wearstrip. Only use this value in the cleanest environments or where water or other lubricating agents are present. Most applications require adjustment, based on the environmental conditions surrounding the conveyor.

[5] For special applications materials, see appropriate data pages.

[6] Polyethylene generally not recommended for container handling.

Table 5. **Sprocket and Support Quantity Reference**

Nominal Width[1]		Minimum Number of Sprockets per Shaft[2]				Minimum Number of Supports			
						Series 100, 900, 1000, 1100, 1400, 1500, 1600, 1650		Series 200, 400, 800, 850, 1200, 1800, 1900, 2200, 2400	
in	mm	Series 200	Series 1700	Series 100, 400, 800, 850, 1200, 1400, 1800, 1900	Series 900, 1100, 1500, 1600, 2200	Carryway	Returnway	Carryway	Returnway
2	(51)	1	N/A	1	1	2	2	2	2
4	(102)	1	N/A	1	1	2	2	2	2
6	(152)	2	2	2	2	2	2	2	2
7	(178)	2	2	2	2	3	2	2	2
8	(203)	2	2	2	2	3	2	2	2
10	(254)	2	3	2	3	3	2	3	2
12	(305)	3	3	3	3	3	2	3	2
14	(356)	3	3	3	5	4	3	3	3
15	(381)	3	3	3	5	4	3	3	3
16	(406)	3	4	3	5	4	3	3	3
18	(457)	3	4	3	5	4	3	3	3
20	(508)	3	4	5	5	5	3	4	3
24	(610)	5	5	5	7	5	3	4	3
30	(762)	5	6	5	9	6	4	5	4
32	(813)	5	7	7	9	7	4	5	4
36	(914)	5	8	7	9	7	4	5	4
42	(1067)	7	9	7	11	8	5	6	5
48	(1219)	7	10	9	13	9	5	7	5
54	(1372)	9	11	9	15	10	6	7	6
60	(1524)	9	12	11	15	11	6	8	6
72	(1829)	11	15	13	19	13	7	9	7
84	(2134)	13	17	15	21	15	8	11	8
96	(2438)	13	20	17	25	17	9	12	9
120	(3048)	17	24	21	31	21	11	15	11
144	(3658)	21	29	25	37	25	13	17	13
For Other Widths		Use odd number of sprockets at a maximum 7.5 in (191 mm) spacing	Use odd number of sprockets at a maximum 5 in (127 mm) spacing	Use odd number of sprockets at a maximum 6 in (152 mm) spacing	Use odd number of sprockets at a maximum 4 in (102 mm) spacing	Maximum 6 in (152 mm) spacing	Maximum 12 in (305 mm) spacing	Maximum 9 in (229 mm) spacing	Maximum 12 in (305 mm) spacing
Notes									
If carryways extend into sprocket area, ensure sprockets do not interfere with carryways.									
These sprocket numbers are the minimums. Additional sprockets can be required. See the series and style data pages for specific applications.									
Additional quantities can be found in the sprocket and Support Quantity Reference Tables for Series 1200, Series 1500, Series 1700, Series 2400, and Series 2600.									

Table 6. **(SF) Service Factor**

Starts under no load, with load applied gradually		1.0
Frequent starts under load (more than once per hour)	add 0.2	______
At speeds greater than 100 FPM (feet per minute) (30 meters/min)	add 0.2	______
Elevating conveyors	add 0.4	______
Pusher conveyors	add 0.2	______
	total	______

Note: At speeds greater than 50 fpm (15 m/min) on conveyors that are started with backed-up lines, consider soft-start motors.

SECTION 4

[1] Actual belt widths vary from nominal. If actual width is critical, contact Intralox Customer Service.

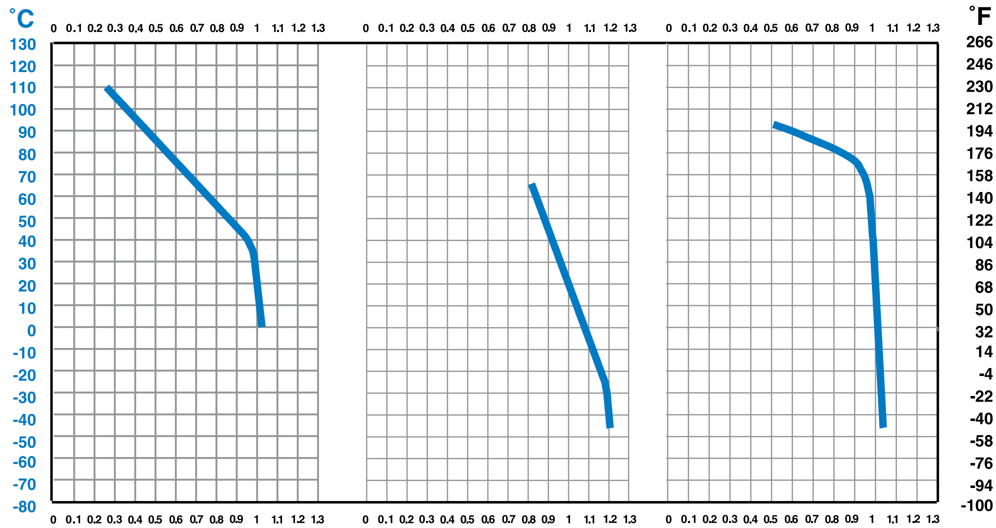
[2] Fix the center sprocket only. (With two sprockets on shaft, fix the right-hand sprocket only.)

Table 7. **(T) Temperature Factor**

Standard Materials

Polypropylene	Polyethylene	Acetal and HSEC acetal

Belt Temperature at Drive End of Conveyor, in Degrees Celsius



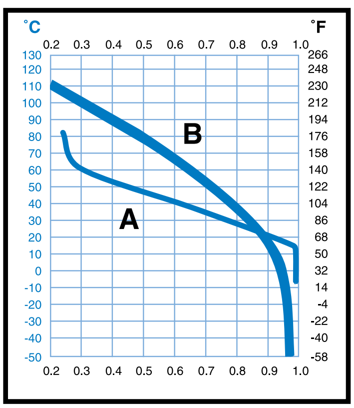
Degrees Fahrenheit

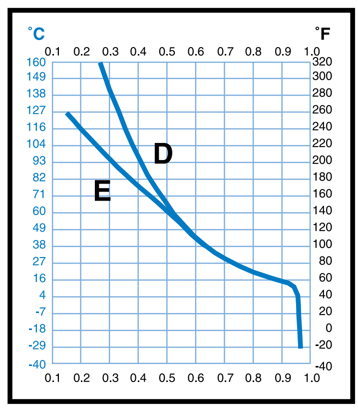
Intermittent exposure above 220°F (104°C) avoid high impact below 45°F (7°C)

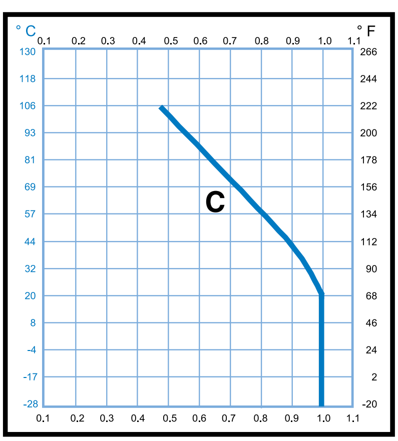
Intermittent exposure above 200°F (93°C)

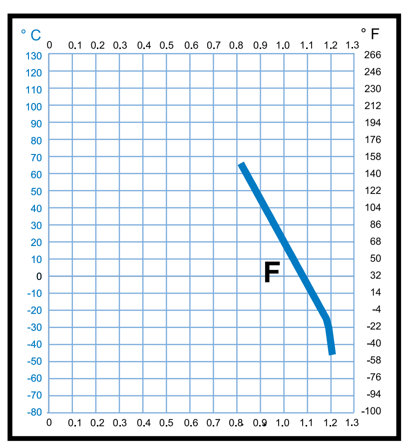
(T) Factor **(T) Factor** **(T) Factor**

Special Application Materials









A - Flame retardant
B - Nylon, SELM, LMAR
C - Polypropylene composite
D - HHR nylon
E - HR nylon
F - Detectable polypropylene

Intermittent exposure above 220°F (104°C). Avoid high impact below 45°F (7°C)

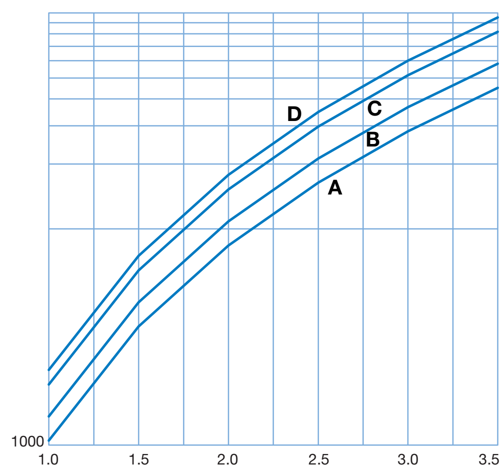
SECTION 4

Table 8. **Shaft Data**

B-Shaft Data	(Q) Shaft Weight, lb/ft (kg/m)		(I) Moment of Inertia, in^4 (mm)^4
SIZE	Carbon Steel	Stainless Steel	
5/8 in square	1.33[1]	1.33[1]	0.013
1 in square	3.40[1]	3.40[1]	0.083
1.5 in square	7.65[1]	7.65[1]	0.42
2.5 in square	21.25[1]	21.25[1]	3.25
3.5 in square	41.60[1]	41.60	12.50
25 mm square	(4.920)[2]	(4.920)[2]	(32.550)
40 mm square	(12.55)[2]	(12.55)[2]	(213,300)
60 mm square	(29.11)[2]	(29.11)[2]	(1,080,000)
65 mm square	(34.16)[2]	(34.16)[2]	(1,487,600)
(E) Modulus of elasticity lb/In² (kg/mm²)	30,000,000 (21,100)	28,000,000 (19,700)	

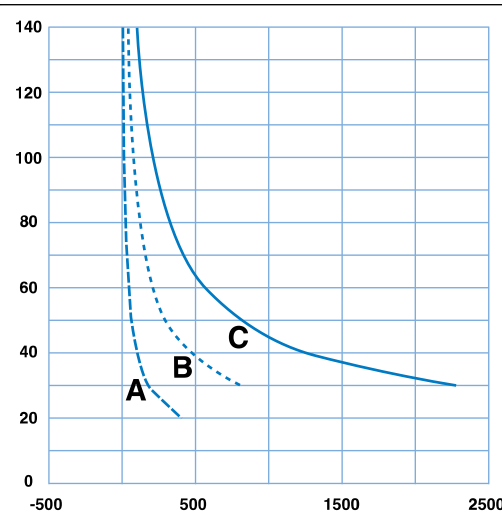
Table 9. **Maximum Recommended Torque on Drive Shaft**

Torque limits with one keyway, 1 in to 3.5 in diameter



A 303/304/316 stainless steel
B 1018 carbon steel (cold-rolled)
C 2205 duplex stainless steel (cold-rolled)
D 4140 alloy steel (cold-rolled)

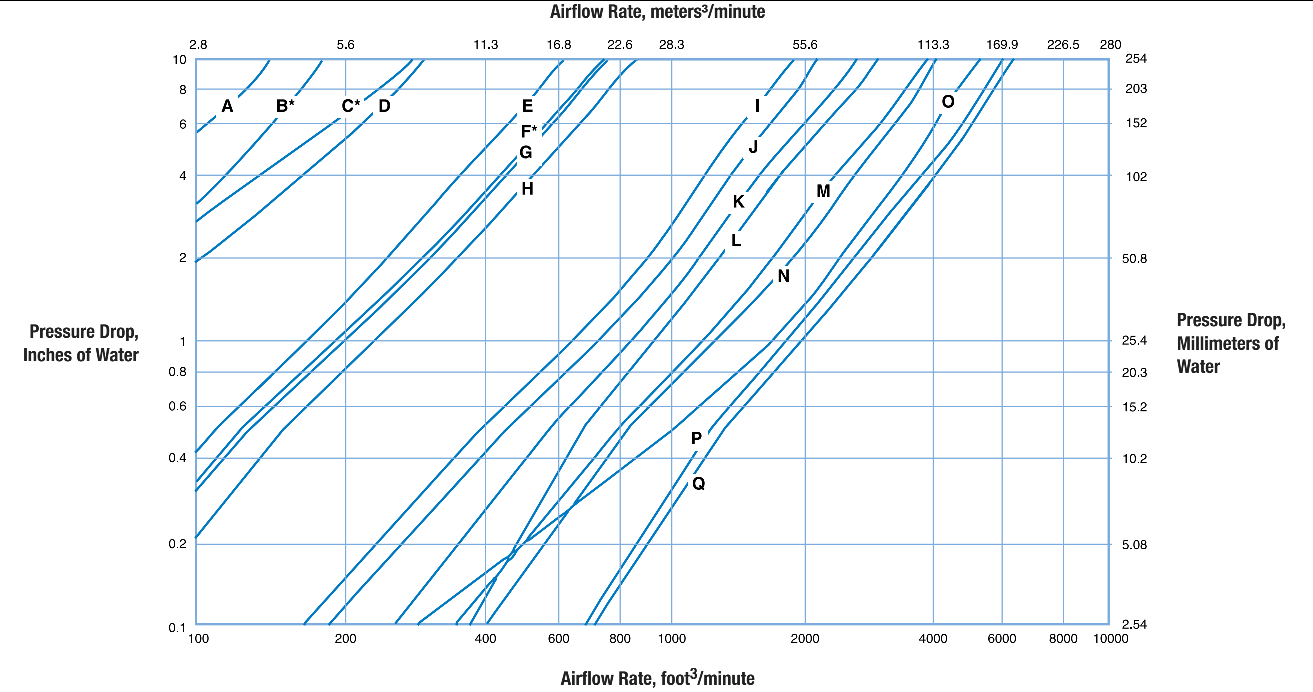
Table 10. **Belt Pull Limits vs. Shaft Span for Retainer Ring Grooves**



A 1.5 in square shafts
B 2.5 in square shafts
C 3.5 in square shafts

[1] Intralox USA can supply square shafts machined to specifications in these sizes in carbon steel (C-1018), stainless steel (303/304 and 316), and aluminum (6061-T6).
[2] Intralox Europe offers square shafting in these sizes in carbon steel (KG-37) and stainless steel (304).

Table 11. **Airflow Rate Through Belt, per Square Foot of Belt Area**

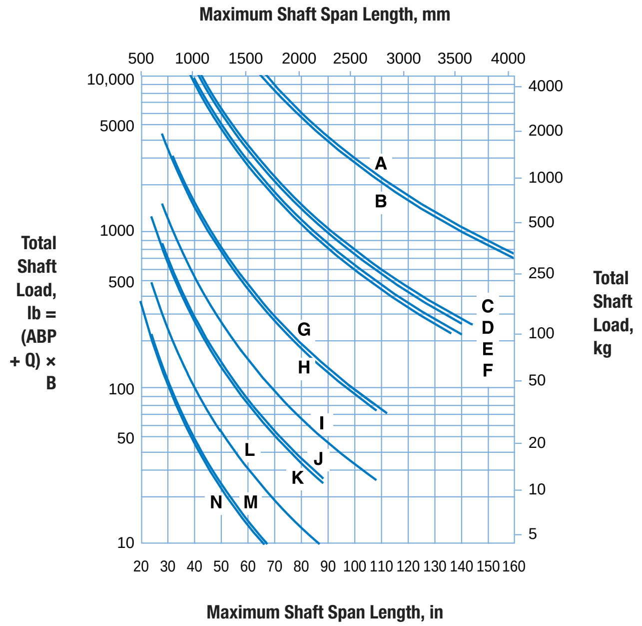


A - S400 Flat Top
B - S1100 Edge Loss
C - S1100 Flat Top
D - S900 Flat Top
E - S900 Perforated Flat Top Ø 1/8 in
F - S1100 Perforated Flat Top Ø 5/32 in
G - S900 Perforated Flat Top Ø 5/32 in
H - S900 Perforated Flat Top Ø 3/16 in
I - S400 Flush Grid
J - S800 PFT, S800 PFT Ø 5/32 in, S2000
K - S100 Flush Grid
L - S100 and S400 Raised Rib
M - S200 Flush Grid, S200 Open Hinge
N - S1100 Flush Grid
O - S900 Flush Grid and Raised Rib
P - S200 Open Hinge
Q - S2200

Table 12. **Maximum Drive Shaft Span Length**

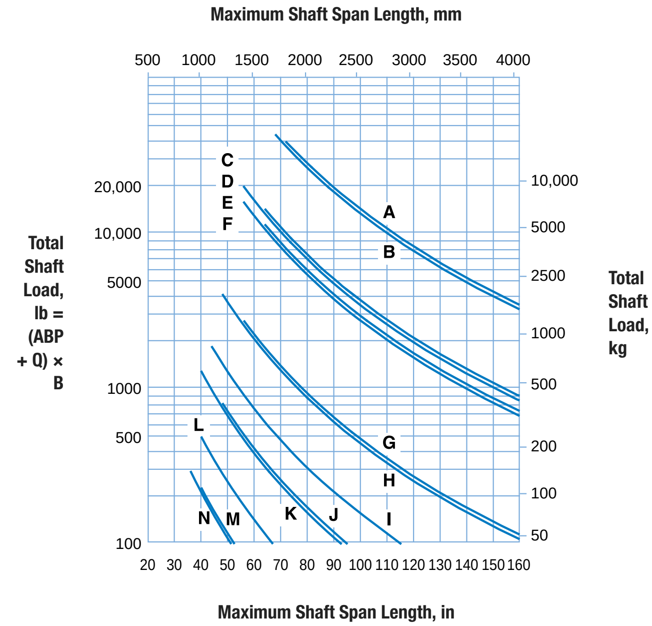
12A **With Only 2 Bearings**

Maximum allowed deflection = 0.10 in (2.5 mm)



12B **With 3 or More Bearings, Equally Spaced**

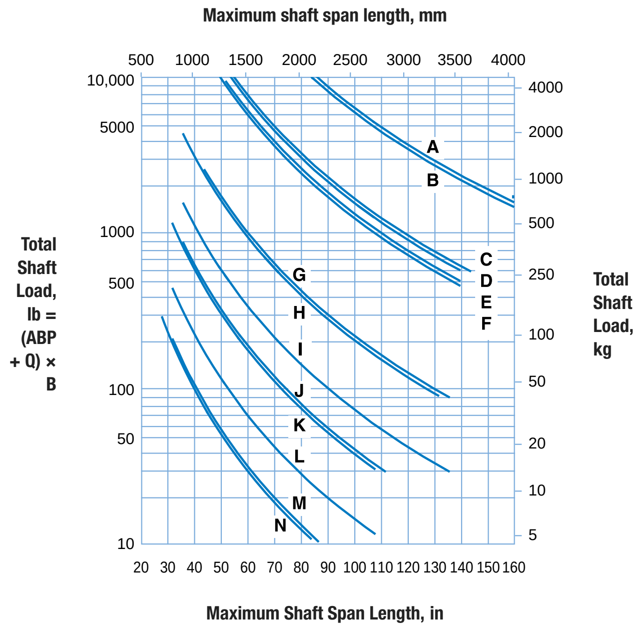
Maximum allowed deflection = 0.10 in (2.5 mm)



Maximum Drive & Idler Shaft Span Length (Bi-Directional & Pusher Conveyors)

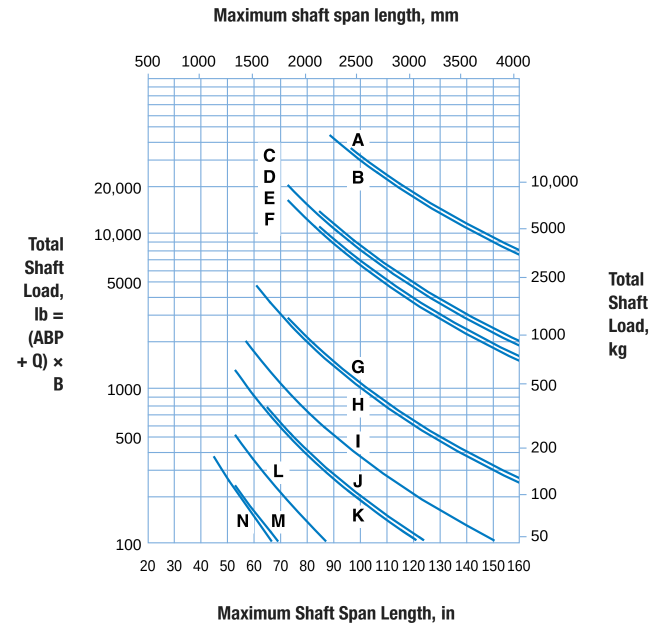
12C **With Only 2 Bearings**

Maximum allowed deflection = 0.22 in (5.6 mm)



12D **With 3 or More Bearings, Equally Spaced**

Maximum allowed deflection = 0.22 in (5.6 mm)



A 3.5 in and 90-mm square carbon steel
B 3.5 in and 90-mm square stainless steel
C 2.5 in and 65-mm square carbon steel
D 2.5 in and 65-mm square stainless steel
E 60-mm square carbon steel
F 60-mm square stainless steel
G 1.5 in and 40-mm square carbon steel
H 1.5 in and 40-mm square stainless steel
I 1.5 in square aluminum
J 1.0 in and 25.4-mm square carbon steel
K 1.0 in and 25.4-mm square stainless steel
L 1.0 in square aluminum
M 5/8 in square carbon steel
N 5/8 in square stainless steel

Measurement Conversion Factors

U.S. Unit	Multiply By →	Metric (SI) Unit	Multiply By →	U.S. Unit
Length				
Inch (in)	25.40	Millimeter (mm)	0.03937	Inch (in)
Inch (in)	0.0254	Meter (m)	39.37	Inch (in)
Foot (ft)	304.8	Millimeter (mm)	0.0033	Foot (ft)
Foot (ft)	0.3048	Meter (m)	3.281	Foot (ft)
Area				
Inch^2 (in^2)	645.2	Millimeter^2 (mm^2)	0.00155	Inch^2 (in^2)
Inch^2 (in^2)	0.000645	Meter^2 (m^2)	1550.0	Inch^2 (in^2)
Foot^2 (ft^2)	92,903	Millimeter^2 (mm^2)	0.00001	Foot^2 (ft^2)
Foot^2 (ft^2)	0.0929	Meter^2 (m^2)	10.764	Foot^2 (ft^2)
Volume				
Foot^3 (ft^3)	0.0283	Meter^3 (m^3)	35.31	Foot^3 (ft^3)
Foot^3 (ft^3)	28.32	Liter (l)	0.0353	Foot^3 (ft^3)
Velocity and Speed				
Foot/second (ft/s)	18.29	Meter/min (m/min)	0.0547	Foot/second (ft/s)
Foot/minute (ft/min)	0.3048	Meter/min (m/min)	3.281	Foot/minute (ft/min)
Mass and Density				
Pound-avdp. (lb)	0.4536	Kilogram (kg)	2.205	Pound-avdp. (lb)
Pound/foot^3 (lb/ft^3)	16.02	Kilogram/meter3 (kg/m3)	0.0624	Pound/foot^3 (lb/ft^3)
Force and Force/Length				
Pound-force (lb)	0.4536	Kilogram-force (kg)	2.205	Pound-force (lb)
Pound-force (lb)	4.448	Newton (N)	0.225	Pound-force (lb)
Kilogram-force (kg)	9.807	Newton (N)	0.102	Kilogram-force (kg)
Pound/foot (lb/ft)	1.488	Kilogram/meter (kg/m)	0.672	Pound/foot (lb/ft)
Pound/foot (lb/ft)	14.59	Newton/meter (N/m)	0.0685	Pound/foot (lb/ft)
Kilogram/meter (kg/m)	9.807	Newton/meter (N/m)	0.102	Kilogram/meter (kg/m)
Torque				
Inch-pound (in-lb)	11.52	Kilogram-millimeter (kg-mm)	0.0868	Inch-pound (in-lb)
inch-pound (in-lb)	0.113	Newton-meter (N-m)	8.85	Inch-pound (in-lb)
Kilogram-millimeter (kg-mm)	9.81	Newton/millimeter (N-mm)	0.102	Kilogram-millimeter (kg-mm)
Moment of Inertia				
Inch^4 (in^4)	416,231	Millimeter^4 (mm^4)	0.0000024	Inch^4 (in^4)
Inch^4 (in^4)	41.62	Centimeter^4 (cm^4)	0.024	Inch^4 (in^4)
Pressure and Stress				
Pound/inch^2 (lb/in^2)	0.0007	Kilogram/millimeter^2 (kg/mm^2)	1422	Pound/inch^2 (lb/in^2)
Pound/inch^2 (lb/in^2)	0.0703	Kilogram/centimeter^2 (kg/cm^2)	14.22	Pound/inch^2 (lb/in^2)
Pound/inch^2 (lb/in^2)	0.00689	Newton/millimeter^2 (N/mm^2)	145.0	Pound/inch^2 (lb/in^2)
pound/inch^2 (lb/in^2)	0.689	Newton/centimeter^2 (N/cm^2)	1.450	Pound/inch^2 (lb/in^2)
Pound/foot^2 (lb/ft^2)	4.882	Kilogram/meter^2 (kg/m^2)	0.205	Pound/foot^2 (lb/ft^2)
Pound/foot^2 (lb/ft^2)	47.88	Newton/meter^2 (N/m^2)	0.0209	Pound/foot^2 (lb/ft^2)
Power				
Horsepower (hp)	745.7	Watt	0.00134	Horsepower (hp)
Foot-pound/minute (ft-lb/min)	0.0226	Watt	44.25	Foot-pound/minute (ft-lb/min)
Temperature				
To Convert From		**To**	**Use Formula**	
Temperature Fahrenheit, °F		Temperature Celsius, °C	°C = (°F - 32) ÷ 1.8	
Temperature Celsius, °C		Temperature Fahrenheit, °F	°F = (1.8 x °C) + 32	

Chemical Resistance Guide

The chemical resistance data is based on information from polymer manufacturers and Intralox field experience. The data is indicative only for the conditions under which it was collected and should be considered as a recommendation only, not as a guarantee. This data pertains to chemical resistance only, and the temperatures listed are generally the chemical application temperatures. Other design and personal safety concerns were not considered in making recommendations. Materials and products should be tested under exact intended service conditions to determine their suitability for a particular purpose.

Chemicals listed without a concentration are for the undiluted chemical. Chemicals listed with a concentration are in solution with water. Descriptions in parentheses are the active ingredient. In general, as the chemical application temperature, chemical concentration, and exposure time rises, the chemical resistance of a material decreases. Additional information about chemicals and materials of construction not listed may be obtained by contacting the Technical Support Group (TSG) at Intralox.

Thermoplastics Elastomers (TPE) are a growing class of polymers that offer a unique combination of plastic and elastomeric properties. The most obvious of these properties is the ability to be injection molded onto a substrate for achieving a performance criteria. The fact that a rubber (elastomeric) component is present means that exposure to various chemicals in the application must be considered. Sources of chemicals include the product to be conveyed, materials used to clean and maintain the equipment and belt, and any other potential sources in the area. Intralox suggests doing appropriate testing and consulting with our staff of experts early on to establish fitness for use in a particular application. In general, TPEs are compatible with both weak acids, most alkalis, and alcohols. Contact with strong acids poses a problem. Due to a rubber component, oils and fats will have a swelling effect over time. Organic solvents and various hydrocarbons are also expected to cause problems. Generally speaking, fuels of any type will cause problems over time. In food handling applications, ensure that the ingredients present in the food are considered. Also, in food handling, the higher the applied chemical temperature, chemical concentration, and exposure time, the more rapid the reaction between the chemical and the TPE will be.

MATERIAL SUITABILITY CODE

R = Resistant
NR = Not Resistant
LR = Limited Resistance
— = No Available Information

	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
CHEMICAL NAME	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Acetic Acid																
Acetic Acid - 5%	R	R	R	R	R	—	R	—	LR	—	LR	NR	R	—	R	—
Acetic Acid - 10%	R	R	R	R	R	—	R		R	NR	—	—	R	—	—	—
Acetic Acid - 50%	R	R	R	R	NR	NR	NR	NR	NR	NR	—	—	—	—	—	—
Acetone	R	R	R	R	R	R	R	R	R	—	R	R	NR	NR	NR	NR
Alcohol - All Types	R	R	R	R	—	—	—	—	R	R	R	R	R	R	NR	—
Alum - All Types	R	R	R	R	—	—	—	—	LR	—	—	—	—	—	—	—
Almond Oil	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alumimum Alum	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum Compounds	R	R	R	R	—	—	—	—	LR	R	R	R	R	R	LR	—
Aluminum Chloride	R	R	R	R	LR	NR	LR	NR	R	—	—	—	R	—	R	R
Aluminum Flouride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Aluminum Hydroxide	R	R	R	R	R	R	R	R	R	—	—	—	R	—	R	—
Aluminum Nitrate	R	R	—	—	LR	NR	LR	NR	LR	LR	—	—	R	—	R	—
Aluminum Phosphate	R	R	R	R	—	—	—	—	LR	LR	—	—	—	—	—	—
Aluminum Sulfate	R	R	R	R	LR	NR	LR	NR	LR	LR	R	R	R	—	R	—
Ammonia	R	R	R	R	R	R	R	R	LR	LR	R	R	R	NR	R	—
Ammonium Compounds	R	R	R	R	—	—	R	—	LR	R	R	R	R	R	LR	—
Ammonium Acetate	R	—	R	R	R	—	R	—	—	—	R	R	—	—	R	—
Ammonium Carbonate	R	R	R	R	R	R	R	R	—	—	R	R	—	—	R	—
Ammonium Chloride	R	R	R	R	R	LR	R	LR	R	LR	R	R	R	—	R	—
Ammonium Fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—

SECTION 4

CHEMICAL NAME	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Ammonium Hydroxide	R	R	—	—	R	R	R	R	—	—	—	—	LR	NR	LR	—
Ammonium Nitrate	R	R	R	R	R	LR	R	LR	R	LR	R	R	R	—	R	—
Ammonium Phosphate	R	R	R	R	R	—	R	—	R	LR	R	R	—	—	—	—
Ammonium Salts	—	—	R	—	R	—	R	—	R	LR	—	—				
Ammonium Sulphate	R	R	R	R	R	LR	R	LR	R	LR	R	R	R	—	R	—
Amyl Acetate	NR	NR	R	R	R	—	R	—	R	NR	NR	NR	R	NR	NR	NR
Amyl Chloride	NR	NR	LR	NR	—	—	—	—	—	—	—	—	—	—	NR	NR
Aniline	R	LR	R	R	—	LR	—	LR	LR	—	—	—	LR	—	NR	NR
Anitfreeze	R	R	R	T	—	—	—	—	—	—	R	R	R	R	—	—
Aqua Regia	LR	NR	NR	NR	LR	—	LR	—	NR	NR	NR	NR	NR	NR	NR	NR
Apple Juice	R	R	—	—	—	—	—	—	—	—	R	R	—	—	—	—
Arsenic Acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Asphalt	—	—	R	LR	—	—	—	—	—	—	R	R	—	—	—	—
Barium Compounds	R	R	R	R	—	—	—	—	R	R	R	R	R	R	—	—
Barium Carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Barium Chloride	R	R	R	R	R	—	R	—	LR	—	—	—	R	—	—	—
Barium Hydroxide	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Barium Soap Grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Barium Sulphate	R	R	R	R	R	—	R	—	LR	—	—	—	R	—	—	—
Battery Acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Beer	R	R	R	R	—	—	—	—	—	—	R	R	—	—	R	—
Benzene	LR	NR	LR	NR	R	R	R	R	R	R	R	R	R	NR	R	—
Benzenesulfonic Acid - 10%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	NR
Benzoic Acid	R	R	R	R	LR	—	LR	—	LR	LR	—	—	R	—	NR	NR
Bone Oil	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Borax	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Boric Acid	R	R	R	R	LR	—	LR	—	LR	—	R	R	R	—	R	—
Brake Fluid	R	R	R	R	R	R	R	R	R	—	R	R	R	LR	LR	—
Brine Acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Brine Saturated	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Brine Water	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bromic Acid	NR	NR	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—
Bromine - Liquid or Fumes	NR	NR	NR	NR	—	—	—	—	NR	NR	NR	NR	NR	NR	—	—
Bromine Water	NR	NR	R	—	LR	—	LR	—	NR	NR	NR	NR	NR	NR	—	—
Butter	R	R	R	R	R	—	R	—	LR	—	R	R	R	—	—	—
Butyl Acetate	NR	NR	R	LR	—	—	—	—	R	—	R	R	R	R	NR	NR
Butyl Acrylate	NR	NR	R	LR	—	—	—	—	R	—	—	—	LR	LR	—	—
Butyl Glycol	—	—	R	R	R	LR	R	LR	R	—	—	—	R	R	—	—
Butyric Acid	R	R	R	LR	—	—	—	—	LR	—	—	—	R	—	NR	NR
Calcium Compounds	R	R	R	R	—	—	—	—	LR	—	—	—	R	R	R	—
Calcium Carbonate	R	R	R	R	R	—	R	—	—	—	—	—	—	—	R	—
Calcium Chloride	R	R	R	R	R	—	R	—	R	LR	R	LR	R	—	R	—
Calcium Hydroxide	R	R	R	R	R	—	R	—	R	—	—	—	R	—	NR	NR
Calcium Hypochlorite	R	R	R	R	NR	—	NR	—	NR	NR	—	—	LR	—	R	—
Calcium Nitrate	R	R	R	R	R	—	R	—	—	—	R	R	—	—	R	—
Calcium Phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Calcium Soap Grease	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Calcium Sulphate	R	R	R	R	R	—	R	—	—	—	—	—	—	—	R	—
Calgonite - 0.3%	R	R	—	—	R	R	R	R	—	—	—	—	—	—	R	—
Carbon Dioxide	R	R	R	R	R	R	R	R	—	—	—	—	R	R	R	—
Carbon Disulfide	LR	NR	LR	NR	R	—	R	—	R	NR	R	—	R	—	NR	NR
Carbon Tetrachloride	LR	NR	NR	NR	R	LR	R	LR	R	R	R	R	R	LR	LR	—
Castor Oil	R	R	R	R	R	—	R	—	—	—	—	—	—	—	R	—
Cellosolve - TM	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	NR
Chloracetic Acid 0-10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine - Gas	NR	NR	—	—	NR	NR	NR	NR	—	NR	NR	NR	NR	NR	LR	—
Chlorine - Liquid	NR	NR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorine Water (0.4% Cl)	R	LR	R	LR	NR	NR	NR	NR	—	NR	NR	NR	—	—	NR	—
Chlorobenzene	NR	NR	LR	NR	R	R	R	R	R	R	LR	LR	NR	NR	NR	NR
Chloroform	NR	NR	NR	NR	LR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Chlorosulfonic Acid	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

CHEMICAL NAME	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Chromic Acid - 10%	R	R	LR	LR	NR	NR	NR	NR	NR	NR	NR	—	LR	—	NR	NR
Citric Acid	R	R	R	R	—	—	—	—	—	R	R	—	R	R	R	—
Citric Acid - 10%	R	LR	R	R	LR	NR	LR	NR	LR	—	R	—	R	LR	R	—
Citrus Juices	R	R	R	R	R	—	R	—	—	—	—	—	R	—	—	—
Clorox - TM	R	R	—	—	—	—	—	—	—	NR	NR	NR	—	—	NR	—
Coconut Oil	R	R	R	R	—	—	—	—	—	—	R	R	—	—	R	—
Coffee	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Copper Compounds	R	R	R	R	—	—	—	—	LR	—	LR	—	R	R	R	—
Copper Chloride	R	R	R	R	R	—	R	—	LR	—	—	—	R	—	R	—
Copper Fluoride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Copper Nitrate	R	R	R	R	R	—	R	—	LR	—	—	—	R	—	R	—
Copper Salts	R	R	R	R	R	—	R	—	LR	—	—	—	R	—	R	—
Copper Sulphate	R	R	R	R	R	R	R	R	LR	—	R	—	R	—	R	—
Corn Oil	R	R	R	LR	—	—	—	—	—	—	R	—	R	—	—	—
Cottonseed Oil	R	R	R	R	—	—	—	—	—	—	—	—	R	—	R	—
Cresol	R	R	R	LR	—	—	—	—	NR	NR	NR	NR	—	—	NR	NR
Crude Oil	—	—	R	LR	R	—	R	—	—	—	—	—	R	NR	—	—
Cyclohexane	R	NR	R	R	R	—	R	—	R	—	R	—	R	—	R	—
Cyclohexanol	R	LR	R	R	R	—	R	—	R	—	—	—	R	—	—	—
Cyclohexanone	R	NR	R	LR	R	—	R	—	R	—	—	—	R	—	N	—
Detergents	R	R	R	R	R	R	R	R	—	—	—	—	R	R	—	—
Dextrin	R	R	R	R	R	—	R	—	—	—	—	—	—	—	—	—
Dibutyl Phthalate	R	LR	R	LR	—	—	—	—	R	R	—	—	R	LR	NR	NR
Diesel Fuel	R	LR	R	LR	R	R	R	R	R	R	R	R	LR	NR	R	—
Diethyl Ether	R	NR	LR	LR	R	R	R	R	R	—	R	—	R	—	NR	NR
Diethylamine	R	R	R	R	—	—	—	—	R	—	—	—	—	—	R	—
Diethylene	R	R	—	—	—	—	—	—	—	—	—	—				
Diglycolic Acid - 30%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Diisooctyl Phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethyl Phthalate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dimethylamine	R	R	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Dioctyl Phthalate	R	LR	—	—	—	—	—	—	R	—	—	—	—	—	—	—
Ethyl Acetate	R	LR	R	LR	R	NR	R	NR	R	—	—	—	LR	LR	NR	NR
Ethyl Alcohol (Ethanol)	R	R	R	R	R	R	R	R	R	—	R	—			LR	LR
Ethyl Ether	LR	LR	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—
Ethylamine	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene Chloride	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ethylene Glycol	R	R	R	R	R	LR	R	LR	R	LR	—	—	R	—	LR	—
Ferric / Ferrous Compounds	R	R	R	R	—	—	—	—	LR	—	—	—	—	—	LR	—
Ferric Chloride	R	R	R	R	R	R	LR	—	LR	—	LR	—	—	—	R	—
Ferrous Chloride	R	R	R	R	R	R	—	—			—	—	—	—	R	—
Ferric Nitrate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Ferrous Nitrate	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferric/Ferrous Sulphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Fertilizers	R	R	R	R	—	—	—	—	—	—	—	—	R	—	—	—
Formaldehyde - 30%	R	R	R	R	R	R	R	R	R	—	R	NR	R	—	NR	NR
Formic Acid - 10%	R	—	R	R	LR	LR	LR	LR	NR	NR	LR	NR	R	LR	NR	NR
Formic Acid - 85%	R	LR	R	R	NR	NR	NR	NR	NR	NR	—	—	LR	NR	NR	NR
Freon	R	LR	R	R	R	R	R	R	R	—	—	—	R	R	—	—
Fuel Oils	R	LR	R	LR	R	—	R	—	R	—	R	R	R	—	R	—
Furfural	—	NR	R	R	R	—	R	—	R	—	—	—	R	—	—	—
Gasoline	R	NR	R	LR	R	R	R	R	R	—	R	R	R	LR	LR	—
Glucose	R	R	R	R	R	—	R	—	—	—	R	R	—	—	R	—
Glycerin	R	R	R	R	R	R	R	R	R	LR	R	R	R	LR	R	—
Glycerol	R	R	—	—	R	LR	R	LR	—	—	R	R	—	—	—	—
n-Heptane	LR	NR	R	LR	R	—	R	—	R	—	R	R	R	R	R	—
Hexane	R	NR	R	LR	R	R	R	R	R	—	R	R	R	R	R	—
Hydrobromic Acid - 10%	R	R	R	R	LR	—	LR	—	NR	NR	—	—	LR	—	NR	NR
Hydrochloric Acid	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	LR	LR	NR	—
Hydrochloric Acid - 2%	—	—	R	R	LR	NR	LR	NR	NR	NR	NR	NR	R	—	R	—
Hydrochloric Acid - 10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	R	—	—	—

CHEMICAL NAME	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Hydrochloric Acid - 38%	R	LR	R	R	NR	NR	NR	NR	NR	NR	NR	NR	—	—	—	—
Hydrofluoric Acid - 10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	LR	NR	NR	NR
Hydrofluoric Acid - 35%	R	R	R	R	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrofluoric Acid - 50%	R	LR	R	LR	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Hydrogen Peroxide - 3%	R	R	R	R	R	R	R	R	NR	NR	R	R	R	LR	R	—
Hydrogen Peroxide - 30%	R	LR	LR	NR	NR	NR	NR	NR	NR	NR	LR	NR	R	LR	LR	—
Hydrogen Peroxide - 90%	LR	LR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—	—	NR	NR
Hydrogen Sulfide	R	R	R	R	LR	—	LR	—	LR	—	R	R	R	—	R	—
Hydroiodic Acid	NR	NR	—	—	—	—	—	—	—	—	—	—	—	—	NR	—
Igepal	R	R	—	—	—	—	—	—	—	—	—	—	R	—	—	—
Iodine	R	R	R	R	NR	NR	NR	NR	NR	NR	—	—	—	—	R	—
Isobutyl Alcohol	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	NR
Isopropyl Alcohol	R	R	R	R	R	R	R	R	R	R	R	R	R	—	R	—
Isooctane	NR	NR	R	—	—	—	—	—	R	R	R	R	—	—	NR	—
Jet Fuel	LR	NR	—	—	R	R	R	R	—	—	—	—	R	—	R	—
Kerosene	R	NR	R	LR	R	R	R	R	—	—	—	—	R	R	R	—
Lactic Acid - 10%	—	—	R	R	R	LR	R	LR	R	NR	R	R	R	—	LR	—
Lactic Acid - 80%	R	R	R	R	R	NR	R	NR	NR	NR	NR	NR	—	—	NR	—
Lactose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Lanolin	R	LR	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Lard	—	—	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Lauric Acid	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lead Acetate	R	R	R	R	—	—	—	—	R	—	—	—	R	—	R	—
Lemon Oil	LR	NR	R	R	—	—	—	—	—	—	R	—	—	—	R	—
Ligroin	LR	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lime Sulfur	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Linseed Oil	R	R	R	R	R	R	R	R	R	—	R	R	—	—	R	—
Lubricating Oil	R	LR	R	LR	R	—	R	—	R	LR	R	R	R	R	R	—
Magnesium Compounds	R	R	R	R	—	—	—	—	LR	—	R	—	—	—	NR	—
Magnesium Carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Magnesium Chloride	R	R	R	R	R	—	R	—	R	—	R	—	R	—	R	—
Magnesium Hydroxide	R	R	R	R	R	—	R	—	LR	—	—	—	—	—	R	—
Magnesium Nitrate	R	R	R	R	R	—	R	—	R	—	—	—	R	—	R	—
Magnesium Sulphate	R	R	R	R	R	—	R	—	R	—	—	—	R	—	R	—
Malic Acid	R	LR	R	R	NR	NR	NR	NR	—	—	NR	NR	R	—	R	—
Maple Syrup	R	—	—	—							—	—	—	—	—	—
Manganese Sulfate	R	LR	R	R	—	R	—	R	R	—	R	—	R	—	—	—
Margarine	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Meat Juices/Sauces	R	R	—	—					—	—	—	—	—	—	—	—
Mercuric Compounds	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	—
Mercuric Chloride	R	R	R	R	—	—	—	—	NR	NR	R	—	—	—	R	—
Mercury	R	R	R	R	R	—	R	—	R	—	R	R	R	—	R	—
Methyl Alcohol	R	R	R	R	R	R	R	R	LR	—	R	R	NR	NR	LR	
Methyl Cellosolve	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methyl Chloride	NR	NR	LR	—	R	—	R	—	R	—	—	—	—	—	—	—
Methyl Ethyl Ketone	R	R	R	NR	LR	LR	LR	LR	R	—	R	R	NR	NR	LR	—
Methyl Isobutyl Ketone	R	R	R	NR	—	—	—	—	—	—	R	R	—	—	NR	NR
Methylene Chloride	LR	NR	LR	LR	NR	NR	NR	NR	LR	—	NR	NR	NR	NR	NR	NR
Methylsulfuric Acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Milk	R	R	R	R	R	—	R	—	LR	—	R	R	R	—	R	—
Mineral Oil	R	LR	R	LR	R	R	R	R	—	—	R	R	R	R	R	—
Mineral Spirits	R	R	R	—	—	—	—	—	—	—	—	—	—	—	R	—
Molasses	R	R	R	R	—	—	—	—	—	—	—	—	R	—	R	—
Motor Oil	R	NR	R	LR	R	R	R	R	R	—	R	R	R	LR	R	—
Naphtha	R	LR	R	LR	R	—	R	—	R	—	R	R	R	—	R	—
Nickel Compounds	R	R	R	R	—	—	—	—	LR	—	LR	—	—	—	—	—

SECTION 4

CHEMICAL NAME	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Nickel Chloride	R	R	R	R	R	—	R	—	R	—	—	—	R	—	R	—
Nickel Nitrate	R	R	R	R	—	—	—	—	R	—	R	R	R	—	R	—
Nickel Sulfate	R	R	R	R	R	—	R	—	R	—	R	R	R	—	R	—
Nitric Acid - 10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	R	LR	NR	NR
Nitric Acid - 30%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitric Acid - 50%	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Nitric Acid - Fuming	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Nitrobenzene	R	LR	NR	LR	LR	—	LR	—	LR	NR	LR	LR	R	—	NR	NR
Nitrous Acid	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nut Oil	LR	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nutmeg	NR	NR	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Nitrous Oxide	R	—	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Oleic Acid	R	LR	R	LR	R	—	R	—	R	R	R	NR	R	R	R	—
Olive Oil	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Orange Oil	R	—	—	—							R	R	—	—	—	—
Oxalic Acid - 10%	R	R	R	R	NR	NR	NR	NR	LR	NR	R	LR	R	R	—	—
Oxalic Acid - 50%	R	R	R	R	NR	NR	NR	NR	—	—	—	—	—	—	NR	—
Oxygen (Atmoshperic Pressure)	R	R	R	R	R	—	R	—	R	R	R	R	R	—	R	—
Ozone	LR	NR	LR	NR	NR	NR	NR	NR	NR	NR	R	—	LR	NR	R	—
Palm Nut Oil	R	—	R	—	—	—	—	—	—	—	R	R	—	—	—	—
Palmitic Acid	R	R	R	R	—	—	—	—	R	—	R	—	R	R	R	—
Peanut Oil	R	LR	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Peppermint Oil	R	NR	R	R	—	—	—	—	—	—	R	—	—	—	—	—
Perchloric Acid - 20%	R	R	R	R	NR	NR	NR	NR	—	—	NR	NR	—	—	NR	NR
Perchlorothylene	NR	NR	NR	NR	—	—	—	—	LR	NR	LR	NR	—	—	—	—
Peroxyacetic Acid	R	R	—	—	NR	NR	NR	NR	NR	NR	LR	NR	—	—	R	—
Phathalic Acid - 50%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Phenol	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	—
Phenol - 5%	R	R	R	LR	NR	NR	NR	NR	LR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid - 10%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid - 30%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid - 50%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Phosphoric Acid - 85%	R	R	R	LR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Photographic Solutions	R	R	LR	LR	R	—	R	—	—	—	R	R	R	R	R	—
Pineapple Juice	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Plating Solutions	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	NR
Potassium Compounds	R	R	R	R	—	—	—	—	R	—	—	—	R	R	NR	—
Potassium Carbonate	R	R	R	R	R	—	R	—	—	—	R	R	—	—	R	—
Potassium Chlorate	R	R	R	R	—	—	—	—	—	—	R	LR	—	—	—	—
Potassium Chloride	R	R	R	R	R	R	R	R	R	R	R	R	R	LR	R	—
Potassium Hydroxide	R	R	R	R	LR	—	LR	—	R	—	R	R	R	R	R	—
Potassium Iodine	R	—	R	R					—	—	R	R	—	—	R	—
Potassium Iodide (3% Iodine)	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	—
Potassium Permanganate	R	R	R	R	R	—	R	—	NR	NR	NR	NR	R	LR	NR	NR
Potassium Sulfate	R	R	R	R	R	R	R	R	—	—	R	R	—	—	R	—
Silicone	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Silicone Oil	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	—
Silver Cyanide	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silver Nitrate	R	R	R	R	—	—	—	—	R	—	—	—	—	—	R	—
Sodium Compounds	R	R	R	R	—	—	R	R	LR	—	—	—	R	R	R	—
Sodium Acetate	R	R	R	R	R	R	R	R	—	—	R	R	—	—	R	—
Sodium Bicarbonate	R	R	R	R	R	R	R	R	—	—	R	R	—	LR	R	—
Sodium Bisulfate	R	R	R	R	R	—	R	—	—	—	R	—	R	—	R	—
Sodium Bisulflte	R	R	R	R	NR	NR	NR	NR	—	—	R	LR	R	LR	—	—
Sodium Borate	R	—	R	R	R	—	R	—	—	—	R	R	—	—	R	—
Sodium Bromide	R	R	R	R	—	—	—	—	LR	—	—	—	—	—	—	—
Sodium Carbonate	R	R	R	R	R	R	R	R	R	—	R	R	R	LR	R	—
Sodium Chlorate	R	R	R	R	R	R	R	R	R	—	R	LR	—	—	R	—

SECTION 4

CHEMICAL NAME	STANDARD MATERIALS								SPECIAL APPLICATIONS MATERIALS							
	Polypropylene		Polyethylene		Acetal		HSEC Acetal		Heat Resistant Nylon		Nylon SELM		Flame Retardant Material		Hi-Impact	
	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)	70 °F (21 °C)	140 °F (60 °C)
	Material Suitability Codes: R = Resistant NR = Not Resistant LR = Limited Resistant — = No Available Information															
Sodium Chloride	R	R	R	R	—	—	—	—	R	—	R	LR	R	—	R	—
Sodium Cyanide	R	R	R	R	R	—	R	—	R	—	—	—	—	—	NR	NR
Sodium Fluoride	R	R	R	R					—	—	—	—	—	—	R	—
Sodium Hydroxide	R	R	R	R	—	—	R	R	R	NR	NR	NR	LR	LR	LR	—
Sodium Hydroxide - 10%	R	R	R	R	R	R	R	R	LR	NR	R	R	R	—	R	—
Sodium Hydroxide - 50%	R	R	R	R	LR	—	LR	—	NR	NR	R	R	—	—	NR	—
Sodium Hypochlorite - (5% Cl)	R	LR	R	—	NR	NR	NR	NR	LR	NR	R	NR	LR	NR	R	—
Sodium Hypochlorite - (12.5% Cl)	R	LR	LR	NR	NR	NR	NR	NR	NR	NR	—	NR	LR	NR	—	—
Sodium Nitrate	R	R	R	R	R	R	R	R	R	—	R	R	R	—	R	—
Sodium Phosphate	R	—	R	R	R	—	R	—	—	—	R	R	—	—	—	—
Sodium Chlorite	R	LR	R	R	—	—	R	R	LR	NR	NR	NR	R	R	LR	—
Sodium Hydroxide	R	R	R	R	—	—	R	R	R	NR	NR	NR	LR	LR	LR	—
Sodium Hydroxide - 60%	R	R	R	R	R	R	R	R	R	NR	NR	NR	LR	LR	LR	—
Sodium Hypochlorite	R	LR	—	—	NR	NR	NR	NR	NR	—	LR	—	R	R	NR	—
Stannic Chloride	R	R	R	R	—	—	—	—	—	—	—	—	—	—	LR	—
Stannous Chloride	R	R	R	R	—	—	—	—	—	—	R	R	—	—	R	—
Starch	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Starch Syrup	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Stearic Acid	R	—	R	LR	R	—	R	—	R	—	R	NR	R—	—	R	—
Succinic Acid	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Sucrose	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Sugar	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Sulfamic Acid - 20%	R	NR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfate Liquors	R	R	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sulfur	R	R	R	R	R	—	R	—	R	—	R	—	—	—	—	—
Sulfur Chloride	R	—	—	—	—	—	—	—	—	—	—	—	—	—	NR	NR
Sulfur Dioxide	R	R	R	R	NR	—	NR	—	R	LR	R	R	R	—	LR	—
Sulfuric Acid - 3%	R	R	R	R	LR	—	LR	—	NR	NR	NR	NR	R	R	R	—
Sulfuric Acid - 50%	R	R	R	R	NR	NR	NR	NR	NR	NR	NR	NR	R	—	—	—
Sulfuric Acid - 70%	R	LR	R	LR	NR	NR	NR	NR	NR	NR	NR	NR	—	—	—	—
Sulfuric Acid - Fuming	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	LR	LR	—	—
Sulfurous Acid	R	LR	R	R	—	—	—	—	LR	—	—	—	R	—	R	—
Tallow	R	R	R	R	R	—	R	—	—	—	—	—	R	—	—	—
Tannic Acid - 10%	R	R	R	R	—	—	—	—	—	—	—	—	—	—	NR	NR
Tartaric Acid	R	R	R	R	R	—	R	—	R	LR	R	LR	R	—	R	—
Tetrahydrofuran	R	LR	NR	NR	LR	—	LR	—	R	—	R	NR	LR	NR	NR	NR
Toluene	R	NR	LR	NR	R	R	R	R	R	R	R	R	R	R	NR	NR
Tomato Juice	R	R	R	R	—	—	—	—	—	—	R	R	—	—	—	—
Transformer Oil	R	NR	R	LR	—	—	—	—	R	—	R	R	R	R	—	—
Tributyl Phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	R	—
Trichloroacetic Acid	R	R	R	R	NR	NR	NR	NR	NR	NR	—	—	NR	NR	NR	NR
Trichloroethylene	R	NR	—	—	NR	NR	NR	NR	—	—	—	—	—	—	—	—
Tricresyl Phosphate	R	LR	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trisodium Phosphate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	R	—
Turpentine Oil	R	NR	LR	NR	R	—	R	—	R	—	R	LR	R	—	—	—
Urea	R	R	R	R	R	—	R	—	R	—	R	R	R	—	R	—
Varnish	R	—	R	R					—	—	—	—	—	—	—	—
Vaseline	R	R	LR	LR	R	—	R	—	R	—	R	R	R	—	—	—
Vegetable Oil			R	LR	R	—	R	—	—	—	—	—	R	R	—	—
Vinegar	R	R	R	R	R	—	R	—	—	—	R	LR	—	—	R	—
Wine	R	R	R	—	R	—	R	—	—	—	R	LR	R	—	—	—
Xylene	NR	NR	LR	NR	R	R	R	R	R	R	R	R	LR	NR	NR	NR
Zinc Compounds	R	R	R	R	—	—	—	—	LR	—	LR	—	R	R	LR	—
Zinc Carbonate	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Zinc Chloride	R	R	R	R	R	—	R	—	NR	NR	R	R	R	—	R	—
Zinc Oxide	R	R	R	R	—	—	—	—	—	—	—	—	—	—	—	—
Zinc Sulfate	R	R	R	R	—	—	—	—	LR	—	R	R	R	—	R	—

Glossary

A

Accumulation tables
Conveyors that absorb temporary product overflow caused by fluctuations in downstream operations. Conveyors can be uni-directional or bi-directional.

Acetal
A thermoplastic that is strong, has a good balance of mechanical and chemical properties, and has good fatigue endurance and resilience. It has a low coefficient of friction. Temperature range is from-50°F (-45°C) to +200°F (93°C). THe specific gravity of acetal is approximately 1.40.

Adjusted belt pull
The belt pull adjusted for Service Factors.

Allowable belt strength
The rated belt strength adjusted for temperature and strength factors.

B

Barn door
Barn door is a flexible, angled, rod-retention feature molded into a module, directly behind the outermost module link. It bends when a rod is inserted, then blocks the rod hole opening in the module link to prevent the rod from backing out of the belt. The barn door is normally used with unheaded rods.

Belt pitch
center distance between hinge rods in an assembled belt.

Belt pull
The tensile load on a belt after the product loading, belt weight, conveyor length, total friction factor and elevation change is applied.

Bricklayed
Belt construction where plastic modules are staggered with those in adjacent rows.

C

Catenary sag
A belt or chain hanging under the influence of gravity between two (2) supports will assume the shape of a curve called a catenary.

Center-driven belts
Belts driven by the sprocket at a point midway between the hinge rods.

Chevron carryways
Support rails which are placed in an overlapping “V” pattern. This array supports the conveyor belt across the full width while distributing the wear more evenly. This pattern is very effective when moderate abrasion is present, providing a self cleaning method.

Chordal action
The pivoting action of the belt’s modules about their hinge rods as the modules engage and disengage the sprocket. This results in a pulsation in the belt’s speed, and a rise and fall in the belt’s surface.

Coefficients of friction
A ratio of frictional force to contact force, which is determined experimentally. Coefficients of friction are usually stated for both dry and lubricated surfaces, and for start-up and running conditions.

D

Dead plate gap
Gap or clearance between the surface of a conveyor belt and any other surface onto which conveyed objects are to be transferred.

Deflection
Displacement or deformation due to loading.

E

Elevating conveyors
These conveyors have several types of variations and are employed when product elevation is necessary. Elevators almost always employ flights and sideguards, which present special consideration in the design.

Extra-wide sprockets
Available only in a Series 200, hinge-driven, diameter sprocket. Provides an extra-wide (double) driving area.

F

F.D.A.
Food and Drug Administration. Federal agency which regulates materials that may come in contact with food products.

Finger transfer plates
Comb-like plates that are employed with Intralox Raised Rib belts to minimize problems with product transfer and tipping.

Flat plate carryways
These are continuous sheets, usually of metal, over which the belt slides.

Flat top style
Modular plastic belt with a smooth, closed surface.

Flights
A vertical surface across the width of the belt. An integral part of the Intralox belt, employed when elevation of product is required (For example, on incline conveyors, elevator conveyors).

Fluid couplings
Fluid couplings allow a driven conveyor to accelerate gradually to operating speeds. Fluid couplings are recommended when frequent, high-speed starts and stops are necessary, or when conveyors are heavily loaded. They also serve as an overload safety.

Flush grid style
Modular plastic belt with an open, smooth grid.

Friction
The force which acts between two bodies at the surface of contact, so as to resist sliding on each other (see *Coefficients of friction*).

G

Gravity take-up
A gravity take-up usually consists of a roller resting on the belt in the returnway, with its weight providing the tension required to maintain proper sprocket engagement. A gravity take-up is most effective when placed near the drive shaft end of the returnway.

H

H.D.P.E.
High-density polyethylene resin used in the manufacture of wearstrip. Employed, where abrasion is not a problem, to reduce friction between belt and the carryway surface.

Headed
Rod type with a larger diameter, rounded top; designed to fit securely behind a rod retention feature and prevent the rod from backing out of the belt. Headed rods are normally used with a snap-lock rod-retention feature.

Hinge rods
Plastic rods used in the assembly of modular plastic belts. They also serve as the hinges around which the belt modules rotate.

Hinge-driven belts
Belts driven at the hinges by the sprocket.

Horsepower
U.S. Units — The power delivered by a machine doing work at 550 foot pounds per second (ft-lb/sec), or 33,000 foot pounds per minute (ft-lb/min). The watt and kilowatt (kW) are power units used in rating electrical equipment. One kilowatt is equal to 1000 watts. One horsepower (HP) equals 746 watts or 0.746 kilowatts. One kilowatt is equal to 1.341 horsepower.

Metric Units — The power delivered by a machine doing work of 75 kilogram-meters per second (kg-m/sec), or 4500 kilogram-meters per minute (kg-m/min). One kilowatt is equal to 1.359 metric horsepower. One metric horsepower equals 736 watts or 0.736 kilowatts and closely approximates one U.S. horsepower, 746 watts.

Where calculations in this manual are done in metric units, power calculations are computed in watts. Wherever horsepower (HP) is used, it refers to the U.S. value.

I

Idler rollers
Steel or plastic pipes supported by stub shafts used in place of idle shafts and sprockets. These pipe rollers can be considerably stiffer than a length of solid square shaft of comparable weight.

Inertia
The tendency of a body to remain at rest or to stay in motion, unless acted upon by an outside force.

Intermediate bearings
One or more additional bearings located near the center of a shaft to reduce shaft deflection to an acceptable level.

K

Knuckle chain
Narrow chain with relatively high strength that is commonly used in multiple strand applications. Knuckle chain typically handles boxes, totes, pans or other large products.

Knurled pin
Metal rod with a knurled end; designed to dig into and grip the module link; used with press fit rod-retention methods

L

Load-bearing rollers
Steel or plastic pipes supported by stub shafts which provide stiffness. Employed on center-drive accumulation conveyors on either side of the drive shaft.

M

Modular construction
Injection molded plastic modules assembled into an interlocked unit and joined by hinge rods.

Module pitch
The distance between the rod hole centerlines on a module.

Modules
Injection molded plastic parts used in the assembly of an Intralox belt.

Molybdenum-filled nylon (Nylatron)
A type of wearstrip plastic.

Moment of Inertia
A characteristic of the shape of an object which describes its resistance to bending or twisting.

N

Nylatron
(see Molybdenum-Filled Nylon).

O

Occluded edge
The occluded edge rod-retention feature is molded into a module directly behind the outermost module link. It is a rigid obstruction that a rod must flex around during rod insertion, as opposed to barn door rod retention, which moves aside to allow rod insertion. After rod insertion, the occluded edge retains the rod. Occluded edge is normally used with unheaded rods.

ONEPIECE live transfer belt
Modular plastic belt with an integral transfer edge for smooth, self-clearing, right angle transfers onto takeaway belts.

Open area
The percentage of area in the plane of the plastic belt that is unobstructed by plastic.

Open grid style
Modular plastic belt with low profile, transverse ribs.

Open hinge style
Modular plastic belt with exposed hinge rods and a flush surface.

Outside diameter
The distance from the top of a sprocket tooth to the top of the opposite tooth, measured through the centerline of the sprocket.

P

Parallel carryways
Metal or plastic belt support rails, placed on the conveyor frame parallel to the belt travel.

Perforated flat top style
Modular plastic belt with a smooth, perforated top.

Pitch
(see Belt Pitch or Module Pitch).

Pitch diameter
Diameter of a circle, which passes through the centerlines of hinge rods when the belt is wrapped around a sprocket.

Polyacetal
(see Acetal).

Polyethylene
A lightweight thermoplastic, buoyant in water, with a specific gravity of 0.95. It is characterized by superior fatigue resistance, flexibility and high-impact strength. Exhibits excellent performance at low temperatures, -100 °F (-73 °C). Upper continuous temperature limit is +150 °F (+66 °C).

Polypropylene
A thermoplastic material that provides good chemical resistance characteristics. Polypropylene is buoyant in water, with a specific gravity of approximately 0.90. It is suitable for continuous service in temperatures from +34 °F (+1 °C) to +220 °F (+104 °C).

Press fit
Rod-retention method used with knurled pins; force is used to push a knurled pin into a module link opening; friction between the module and the knurled portion of the pin holds the pin in place

Pull-pull bi-directional conveyors
There are three common variations of the Pull-pull type of reversing (bi-directional) conveyors: the center-Drive method, the Two-Motor drive method, and the Single-Motor/Slave-Drive method.

Pusher bars
A device used on bi-directional accumulation tables (i.e., in the bottling and canning industries) which allows the table to be filled to its capacity and assists in an orderly and complete discharge from the table back onto the conveying line.

Push-pull bi-directional conveyors
A conveyor employing one motor that will be reversing (bi-directional). The belt is being pulled in one direction and in the reversing direction the belt is being pushed.

R

Raised rib style
Modular plastic belt with a high profile, longitudinally ribbed surface.

Retainer rings
A shaft and sprocket accessory which restricts the lateral movement of the sprocket with respect to the shaft.

Returnways
The path the belt follows toward the idler shaft and sprockets.

Rods
See *Hinge rods*.

Roller carryways
Carryway surface that does not provide a continuous running surface. As the modules pass over the rollers, the chordal action can cause problems when product tipping is critical.

S

Screw take-up
These types of take-ups shift the position of one of the shafts, usually the idler, by using adjustable machine screws.

Scroll
Device used in place of the idle shaft and sprockets to prevent debris from accumulating on the inside of the conveyor belt. Scrolls are fabricated by welding steel left-hand pitch and right-hand pitch helical ribs to a common round shaft.

Second headed
Rod type where a "second" head is manually formed on the other end of a headed rod, after the rod is inserted through module links to form a belt hinge; the manually formed head prevents the rod from backing out of the belt

Service factors
Intralox classifies driven machines and power sources by severity factors. Severity factors reflect the type of service placed upon the power transmission components. High service factors are assigned to more severe applications, to ensure calculation of sufficient component strength to render an acceptable life expectancy for that component. Additional service factors can be required for continuous service applications requiring braking (for example, starts and stops) or reversing action (for example, bi-directional accumulation tables). Service factors help to ensure optimal service life of the components.

Shuttleplug
Spring-loaded rod-retention feature inserted behind an outermost module link. The Shuttleplug™ slides out of the way when a rod is inserted in the module link, then block the module link opening to prevent the rod from backing out. A Shuttleplug is normally used with unheaded rods.

Sideguards
Intralox belt accessory which forms a vertical wall near the belt edge and is an integral part of the belt.

Single-motor slave-drive
Employing one motor (reversible) using a roller chain, alternately driving either of two chain sprockets on the conveyor shaft. This drive system is usually limited to short conveyors because of the length of roller chain involved.

Slidelox
The Slidelox rod-retention feature is inserted behind an outermost module link, then manually opened to allow rod insertion in the link opening. Once inserted, the Slidelox is manually closed to prevent the rod from backing out of the belt. Slidelox is normally used with unheaded rods.

Snap-lock
Rod-retention feature consisting of a rim on the module edge that retains the head of a headed rod to prevent the rod from backing out of the belt

Soft starting motors
When rapid starts and stops of high speed and loaded conveyors occur, these devices are recommended. They allow the driven conveyor to accelerate gradually to operating speeds, which is beneficial for all conveyor components.

Specific gravity
A dimensionless ratio of the density of a substance to the density of water.

Static eletricity
An electrical charge build-up on a surface as a result of rolling or sliding contact with another surface.

T

Take-up units
See *Gravity take-up* or *Screw take-up*.

Thermal expansion/contractions
With few exceptions, the dimensions of all substances increase as their temperature is increased and contract as their temperature is decreased. Plastics expand and contract rather significantly.

Torque
The capability or tendency of a force for producing torsion or rotation about an axis. For example, the twisting action on a turning shaft.

Two-motor drive design
In this design, the belt is alternately pulled in either direction (for example, bi-directional accumulation tables). Returnway belt tension is relatively low, requires rather expensive additional hardware (for example, an additional motor), slip clutches and electrical control components.

U

U.H.M.W.

Ultra High Molecular Weight, polyethylene resin used in the manufacture of wear-strip. It has very good wear characteristics, impact resistance and has an excellent combination of physical and mechanical.

Unheaded

Rod type that lacks a head on either end of the rod; normally used with barn door, Slidelox, and occluded edge rod-retention methods

U.S.D.A.-F.S.I.S.

United States Department of Agriculture. Federal agency which regulates equipment that may be employed in Meat, Dairy and Poultry facilities.

W

Wearstrips

Plastic strips that are added to a conveyor frame to increase the useful life of the frame and the conveyor belting. Also helpful in reducing sliding friction forces.

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