Habasit – Solutions in motion



Bakery Industry Conveyor and Processing Belts



Media 2005 EN

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Innovation is a key word at Habasit

Habasit has developed an extensive variety of solutions that allow customers to choose the best product for their application. Special focus of all developments is on the increasing hygiene standards within the food industry. Habasit offers products that comply with all relevant direct food contact regulations and guarantee trouble-free and safe food production. Beyond this, Habasit has introduced unique products for the bakery industry, for example **Habasit Cleanline**® food belts coated

with a modified polyolefin and HySAN®, high oil and fat resistant PVC coated belts. The new Habasit Cleanline® Generation II features a further improved polyolefin coating with better wear resistance allowing increased service life and belt performance. Special features offer the TPU non-fray and frayless belts, which minimize the risk of fiber contamination due to their specific

fabric construction.

The new **Habasit rotary molder** belts represent another dedicated solution for the bakery industry.

The extruded positive driven **Habasit Cleandrive™** belts enable performance and hygiene upgrades.

Additional products like **HabasitLINK**[®] plastic modular belts, **HabaCHAIN**[®] plastic chains, **HabaSYNC**[®] timing belts, Silicone coated belts, and accessories like cleats, edge-sealing profiles and side-walls complete the range. Habasit is the only belt supplier to manufacture and offer the full package of fabric-based and plastic modular belts.

More than 60 years of experience

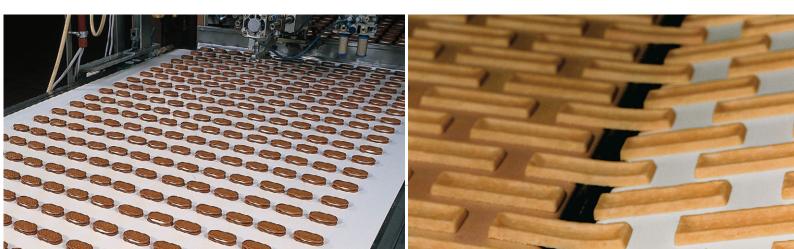
With a comprehensive global network, Habasit is able to respond to any request that you may have with nothing less than an outstanding belting solution of highest quality, tailored to your specific needs.

Focus on bakery and biscuit processing

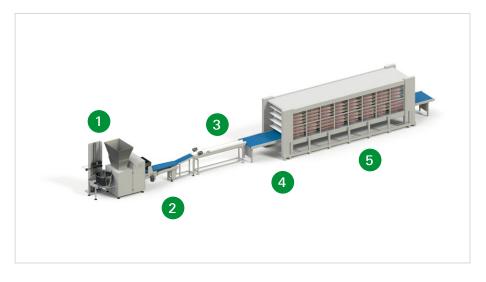
Whether handling dough, cooling baked products, molding, cutting or packaging, Habasit offers a complete product range for the bakery, biscuit and snack processing industry.

This includes all kinds of fabric belts and modular belts with different surface finish.

Habasit is able to provide dedicated spiral belts for proofing, cooling and freezing. This includes belts for new systems as well as retrofits.

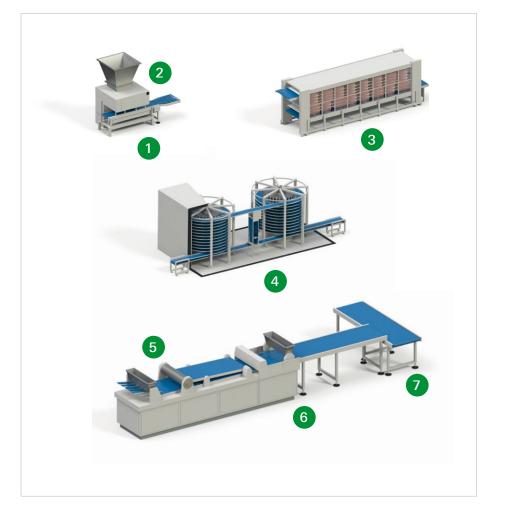


Hearth bread processing



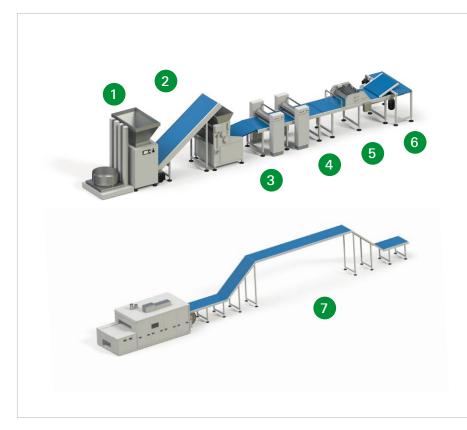


Bread and bun processing



1	Dough divider/ rounder
2	Spreader conveyor belt
3	Linear proofer
4	Spiral proofer
5	Forming station
6	Molder station
7	Transfer conveyor belt

Biscuits and crackers manufacturing

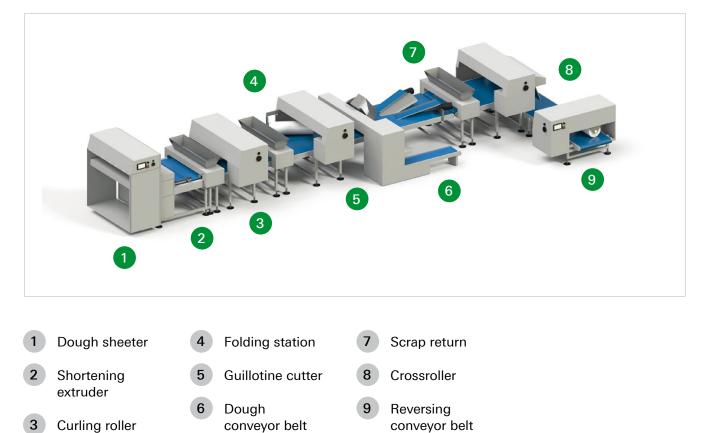


Dough feeder/ hopper Dough sheeter Gauge roll Functional belt Rotary cutter Scrap return Cooling belt

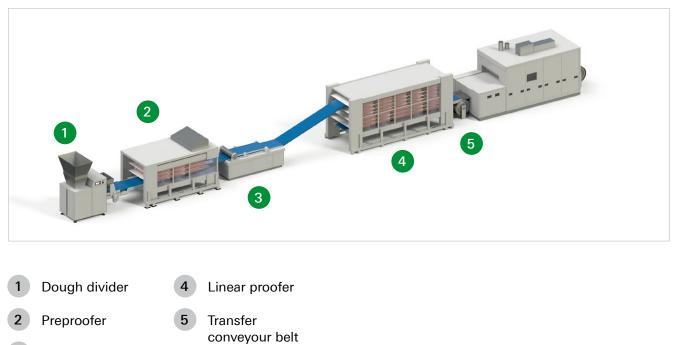
Rotary molder



Puff pastry dough processing



Flatbread line



3 Cutter

The right belt for every application

Habasit's conveyor belt selection includes hundreds of different belts to satisfy application requirements that range from straight-inclined or declined operations, to accumulation and diverters, to swan neck (Z) conveyors, and numerous others. We offer a wide variety of fabrics and cover materials, as well as structural conveying- and running-side patterns to optimize your system's performance.

Belt materials

The materials and designs are selected to cope with a broad range of application requirements, including resistance to wear or chemical agents, excellent release of sticky goods, and to high or low temperatures.

Belt design

Habasit HabaFLOW[®] conveyor and processing belts are generally made of different layers, with tensile strength provided by synthetic fabric plies. These fabrics are connected by layers of thermoplastic materials. The material, thickness and texture of the conveying side depend on the function of the belt.

Cover coatings are mainly made of thermoplastic materials like TPU, TPO, PVC, Silicone, and elastomers – or feature a fabric surface. The running side is usually a fabric, often impregnated with a thermoplastic material, or with special wear-resistant PUR that provides a low and constant coefficient of friction. There are also pulley-side fabrics characterized by special low-noise running capabilities.

Many accessories

Guides, cleats and side walls, as well as egde sealing are common fabrication measures applied to conveyor and processing belts. While V-shaped profiles are mostly attached to the running side as guides, various cleat designs can be welded or bonded to the conveying side to ensure proper horizontal or inclined transport. Side walls positioned close to the edges of the belt stop loose goods falling off. Edge sealing is a measure to improve the hygienic design of a coated food conveyor belt.

Surface structure

A well-designed belt surface supports both the secure transport of the goods conveyed as well as the process where the belt is employed. Careful selection is essential in order to find the right belt for each conveying or processing application. The belt surface plays a key role in meeting each specific process step or function.

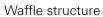
Selection of surface structures

Blank, smooth white

Blank, smooth blue

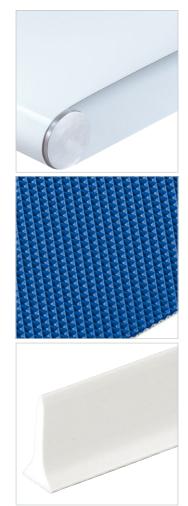
Fabric surface





Quadrillé (quadrangular) pattern/structure

Saw tooth profile structure



Fabric-based belts

	Key features	Your benefits
	• Wide range of surface types, structures, belt strengths and special features available	• Selection of the most suitable belt for specific applications like feeding, accumulation, releasing, metal detection, check weighing, etc.
and the second	• Full compliance with food regulations such as FDA and USDA (US), EU Directive (Europe), etc.	 Comply with food safety regulations, especially for processing and packaging of sensitive goods
	• Excellent adoptability of special fabrications such as profiles, side walls, marking, tracking guide, edge sealing, etc.	 Meet the technical requirements for applications like pick and place Proper belt tracking No stringing prevents contamination

TPU coated belts

	Key features	Your benefits
	Abrasion and temperature resistant coatings	 Reliable performance Long belt service life Able to handle elevated temperatures (100° C)
	Good chemical resistance	 Ability to clean with common food contact surface detergents
and the second sec	Homogeneous surfaces due to calander-coating technology	Improved hygiene conditionsGood release of goods

TPO coated belts

Key features	Your benefits
Non-polar surface	Excellent release of sticky productsReduced waste in productionYield increase
Excellent chemical resistance	Increased lifetime in applications that require frequent cleaning
• Unique belt carcass made of spun and knitted fabric	• Reduced mechanical shrinkage – long and reliable service life
	 Wear resistant edges – reduced fraying tendency

PVC coated belts

	Key features	Your benefits
	 Wide range of surface types, structures and belt strengths available 	• Selection of the most suitable belt for specific applications like feeding, accumulation, general conveying, etc.
and the second	• Stable modulus of elasticity after running-in	 No re-tensioning required and reduced downtime possible, leading to easy maintenance
1 million and the second	Permanently antistatic belts available	No interference with electronic devicesLess dust and dirt attraction
		Process reliability

Silicone coated belts

Key features	Your benefits
• Easy release property of silicone- coated conveying side of the belt	• Easy release of delicate products and contaminated sticky residues from the belt, such as hot melt adhesive for flap sealing and labelling of cartons
• Excellent high- and low- temperature resistance	• Suitable for high-temperature film packing applications such as over- wrapping, shrink packaging, hot melt adhesive applications, etc.
 Full compliance with food regulations for the selected belts 	 Maintains the food safety required, especially for food packaging

applications when necessary

such as FDA and USDA (US), EU

Directive (Europe), etc.

9

The HRM (Habasit rotary molder) belts are in use at a wide array of biscuit manufacturers, featuring any kind of dough – from dry speculaas over Danish butter cookies and Scottish shortbread to Mediterranean Frollini.



Rotary molding is a key process in shaping biscuits

Engraved rollers are used to shape biscuits from dough. The rotary molder belt (also called the extraction web or brayband) extracts the raw biscuits from this roller supported by the forces of the extraction roller driving the belt.

Tight transfer to the next processing belt ensures biscuit shape integrity. A seamless belt is preferred over products with a join in order to achieve uniform extraction and continuous biscuit molding quality.

Common weave patterns

Seamless belts used in rotary molding are offered in three common weave patterns:

- Plain Weave the versatile solution for most biscuits
- Herringbone Weave the ultimate solution for most short and heavy doughs with demanding extraction needs
- Cross Twill Weave an enlarged surface to handle larger biscuits or dough with a higher fat or moisture content

Natural fibers such as cotton are standard materials due to their excellent extraction behavior, based on the absorption of fat and moisture from the biscuit dough.

To improve service life Habasit rotary molder belts are made not only using cotton, but also with polyamide and linen fibers to add wear resistance and lateral stability to the extraction and release properties of cotton.

Key advantages of Habasit rotary molder belts

- Precise dense weaving provides uniform extraction over the entire surface
- The endless woven design with selvage belt edges delivers excellent tracking and strong protection against belt edge wear without compromising the extraction behavior of the belt edge

Rotary molder belts



Key features	Your benefits
Truly endless (mechanical) wovenVarious weaving combinations	Tight fabric surfacesRight belt design for specific doughLong lifetime and reliable extraction
 Selvage edges 	Durable belt designReduced risk of product contamination

Advantageous in numerous applications

The modular belt is an aggregation of individual plastic modules made by highprecision injection molding and connected by lateral rods. Its robust design is optimized for efficient conveying and easy cleaning procedures.

Plastic modular belts eliminate the need for high-tension systems by positively engaging the sprocket with the running belt and maintaining proper belt tracking. They are widely used in many industries, where their specific product features provide numerous benefits to our customers.

Materials

Habasit modular belts are available with a variety of state-of-the-art features, including special materials for: low friction, self-lubrication, chemical resistance, food-approved materials, as well as with antistatic, flame retardant, magnetic, detectable, electrically conductive, submersible, anti-microbial, special-impact, cut-resistant, high-temperature, and super high-temperature properties.

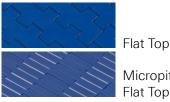
Sprockets and rods

Injection-molded sprockets have a specific open design that allows easy access for cleaning across the width of the conveyor shafts. Wear-resistant materials secure a long lifetime in all applications. The full-width rods ensure belt connection and lateral stiffness. HabasitLINK® modular belts come with two rod solutions, depending on the belt type: Smart Fit and Snap Fit.

Accessories

Habasit offers a wide range of modular belt accessories including cleats, flights, scoops, side guards, finger transfer plates, and hold-down tabs for elevators with back bending (Z-conveyors), as well as HabiPLAST[™] guide rails.

Selection of surface structures



Flat Top Micropitch



Radius Flush Grid

> Micropitch Flush Grid

Flush Grid

Micropitch **Diamont** Top

5444	Key features	Your benefits
	 Assembled in a brick-layered pattern connected with solid plastic rods 	 High flexibility in terms of width and length, with lateral strength Accessories such as flights, scoops and side walls can be placed as required
	 Positive drive and tracking system by engaging the belt with sprockets 	 No need for high tensioning systems; maintains proper belt tracking alignment
	• Various types of materials available	Belts for elevated temperature, proofing, cooling, freezing and for spiral systemsGood release and yield increase
	 Quick installation and easy maintenance 	• Easy belt installation and maintenance with minimum downtime





HabaCHAIN® slat and conveyor chains



Designed, produced, and serviced by the worldwide leader in belting, the HabaCHAIN® range offers top-class innovation and quality combined with excellent reliability and cost-efficiency. HabaCHAIN® products are available in both straight-running and radius/side-flexing versions, and run on most systems and sprockets on the market today. They are fully compatible with industry standards, making them ideal for retrofitting.

The chain elements are high-precision injection-molded single plastic parts linked to each other with pins. These run engaged over sprockets and idlers on profile guides. Selected chain elements are available in stainless steel.



Accessories

The accessories range includes: inserts to increase friction between product and chain, "bakery bends" for smooth lateral product transfer, stainless steel attachments, extended pins or half-round pushers, and much more.



Key features	Your benefits
High tensile strength	Reduces downtime while maximizing conveyor layout
Low-friction material available	 Excellent for high-speed applications on various packaging machines
 Bevel edges and high-friction inserts 	 Product stability over multiple strand conveying, enabling unique product conveying solutions
• Wide range of specialty materials available	 Coverage for all food and packaging application requirements

Habiblue round belts

Habasit round belts are highly flexible, directionally adjustable, and multidirectional for angular gears. They can be used for both conveying and driving applications. As a result of their elasticity, round belts can be installed without a tensioning device. This allows compact machine designs. In addition, the elasticity acts as a security element by reducing shocks in case of brief overloads.

Round belts are highly resilient and their physical and chemical characteristics are exceptional in many areas: their resistance to hydrolysis is significantly superior to that of most existing polyurethane elastomers. As a result, Habasit round belts are resistant to water, oils, grease and benzine.

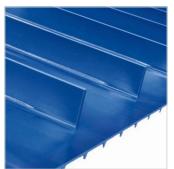








Habasit Cleandrive[™] positive drive belts



While belts play a key role in many production processes, in the food industry, the hygiene properties of the belts used are absolutely crucial. For specific applications in hygiene-sensitive areas, Habasit has developed a brand new belt concept: the Habasit Cleandrive[™] conveyor and processing belt.

Habasit Cleandrive[™] features a totally smooth conveying surface combined with a reverse side structure of lateral drive bars, which provide a positive fit to the sprockets.



High-quality thermoplastic material permits use in aggressive cleaning areas, while the closed surface minimizes the accumulation of waste and debris on the reverse side. Longitudinal reinforcement using high-tech cords ensures a long-term belt stability in the application. The positive engagement of Habasit Cleandrive[™] allows an energy-saving conveyor design, similar to plastic modular belt conveyors.



Key features	Your benefits
High-tech fiber as tensile member	No belt creep at loadConstant belt dimensionsGood tracking behavior
 Homogeneous, closed and smooth surface 	 No traps or hinges to clamp product Very easy and fast cleaning Good product release Increased yield and efficiency
 Good chemical resistance of thermoplastic material 	 Cleaning agents cannot affect belt material Reduced hygiene risks Increased lifetime

The demand for synchronized conveying has grown significantly over the past two decades. As machines moved faster and precision output became a greater engineering challenge, it was obvious that no conveying solutions existed to reliably and cost-effectively meet customers' needs.

Profiles and tracking guides

Profiles, added with thermal-bonding processes or mechanical attachment, allow unique positioning and adjustment. Thermoplastic profiles are made in several ways: extrusion, injection molding or machining. The choice of profile sourcing depends on the shapes, dimensions and quantities required.

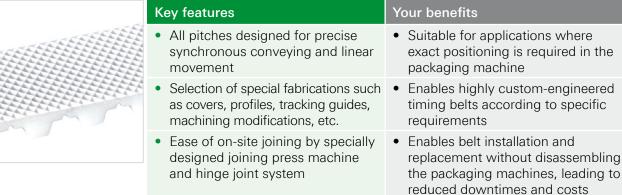
Covers

Habasit offers a broad selection of covers for our HabaSYNC[®] timing belts. Covers provide the friction needed to handle products so that they are correctly indexed and securely and effectively managed. Our covers are designed to cope with a wide variety of requirements and can thus guarantee reliable conveyance in every type of transport function and manufacturing application.

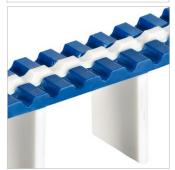
Selection of food approved covers









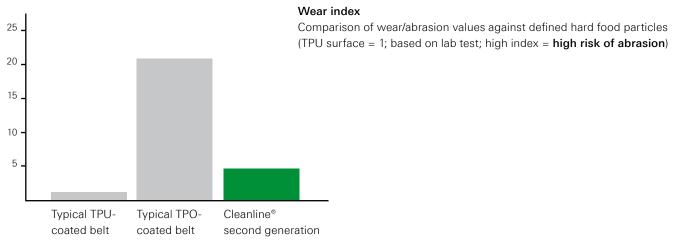




TPO-coated conveyor belts offer excellent release properties, and Habasit Cleanline[®] belts have been known for this since their introduction. The belts also offer very good flexibility, and were the first TPO-coated food belts with nosebar suitability. However, it became clear that over time, the belt surface quality suffered due to abrasion caused by hard particles or mechanical cleaning processes.

To address this issue, Habasit has modified the coating material used on Habasit Cleanline[®] Generation II belts, which now feature substantially improved wear resistance properties.

Wear resistance test



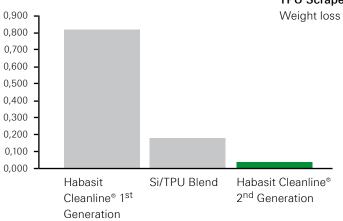
The new surface quality keeps the release properties unchanged for a longer period of use, thus reducing the need for harsh cleaning methods. This is important because cleaning contributes greatly to premature wear of the belt surface – the key reason for losing release properties, requiring as a result more intense cleaning.

As the test above is only indicative, Habasit extended it to a test of cleaning the belt surface with scrapers, cleaning very abrasive material from the belt surface.

The test confirms:

- Substantial improvement compared to Habasit Cleanline[®] first generation and other TPO coated belts
- Surface wear resistance exceeding the durability of products with TPU / silicone blend as used also for good release and good surface wear
- Testing against a silicone surface was not possible due to short wear resistance of silicone in the environment

Scraper test



TPU Scraper (Shore A 92)

Weight loss from the belt after 100 hours scraping salt (%)

Test description:

Salted goods can be particularly aggressive on the surface of conveyor belts. In order to observe the improvement of the Habasit Cleanline[®] Generation II the original Habasit Cleanline[®] formulation and the 2nd generation was tested for over 100 hours continuous operation running using a TPU scraper with rock salt on the surface of the belts.

After 100 hours significant damage to the CNB-6EB original Habasit Cleanline[®] material was visible, whereas no damage to the Habasit Cleanline[®] Generation II was observed after the same period. After continuing the test for a further 60 hours no evidence of damage by the scraper or salt on the belt was observed.

As a result of these tests it can be recommended that if the use of a scraper is desired then a TPU scraper can be considered.

The use of steel scrapers with a Habasit Cleanline[®] belt is not recommended – wear resistance is not performing enough.

Key features	Your benefits
Improved abrasion resistance	Suitable for hard or abrasive goods
Outstanding release properties	 Ideal for very sticky goods No residues from transported products
Excellent surface quality	Comparable to food industry stainless steel surfaces
Superb chemical resistance	Withstands chlorine for disinfectionResists acidic and alkaline cleaning agents
Exceptionally easy to clean	Resistant to 90 °C hot waterExcellent dirt release
Wide operating temperature range	• Wide application range from -40 up to 80 °C
Hydrolysis resistance	Suitable for warm and damp environments
Nosebar suitable	Permits smooth transfer of small products
Wear-resistant belt edges	Reduces fraying risk of fibres
Tight-knitted bottom fabric	 Reduces risk of particle ingress and mechanical shrinkage of belt, leading to longer belt life
Edge sealable	 Prevents swelling of tensile layer and belt delamination

Customers first

Your success is our goal. That is why we don't just offer products; we provide solutions. As committed partners to our customers, we are dedicated to sharing our knowledge and providing full support.

Since our founding in 1946, Habasit has been finding ways to meet customer's specific needs in every application. This is what differentiates us as the #1 worldwide belting provider in the industry today.





Comprehensive consulting and technical support

Profit from the best consulting and technical support in the lightweight belting industry. Local experts are always available to assist you in your belting needs. The Habasit team is proud to provide the highest level of support, together with top-quality products that lead the global market for decades.

Belt Selection and Calculation Assistance

We are always glad to help you select the most suitable belt for any application for your convenience. We now also provide the free online tool 'SeleCalc' which allows you to easily make selections and calculations yourself. Simply register online at selecalc.habasit.com.

Fabrication, assembly and local installation services

As a full-service belting provider, we offer joining and assembly services either at our own locations or directly on your equipment.

Habasit has over 30 affiliates worldwide, each with its own inventory, fabrication, assembly and service facilities.

Together with representative offices and numerous qualified distributors, we can react quickly and efficiently to meet all your needs.

Customer training programs

To ensure the optimal performance and maximum lifespan of all our products, we offer training programs and various support tools. This includes proper procedures for fabrication, installation, assembly, maintenance and belt repair, all of which take place at a Habasit site or at your location.

Belt monitoring, inspections, analyses and process optimization proposals

We organize and handle belt maintenance, inspections, analyses and surveys at customer's sites. Upon request, we are ready to develop optimization proposals to ensure you're getting maximum value from your machinery and process output.



Design assistance for customized solutions

Habasit believes in building partnerships with our customers. Our engineering team will work closely with your engineers on joint design developments from initial design to final implementation. This expert service can be invaluable for projects involving new technologies or large-scale modifications and adaptations.





Committed to innovation

Because our customers' belting challenges and needs are always changing, we consistently invest a substantial amount of labor and resources into the research and development of new products and solutions.

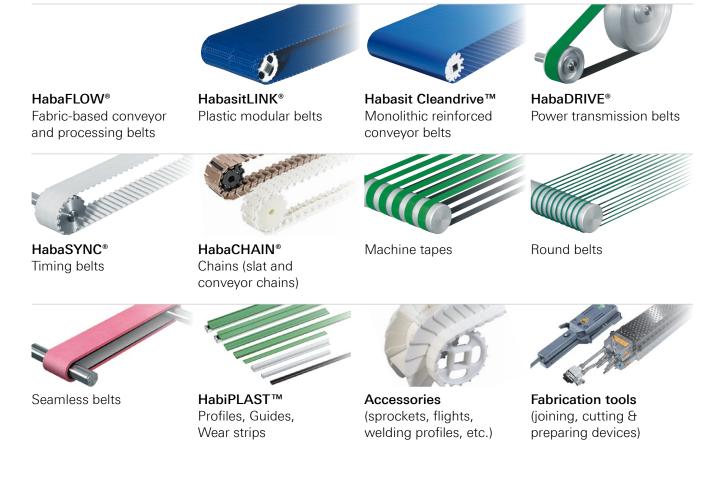
Certified for quality

We deliver the highest quality standards not only in our products and solutions, but also in our employees' daily work processes. Habasit AG is certified according to ISO 9001:2008.



Worldwide leading product range

Habasit offers the largest selection of belting, conveying, processing and complementary products in the industry. Our response to any request is nothing less than a specific, tailor-made solution.



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