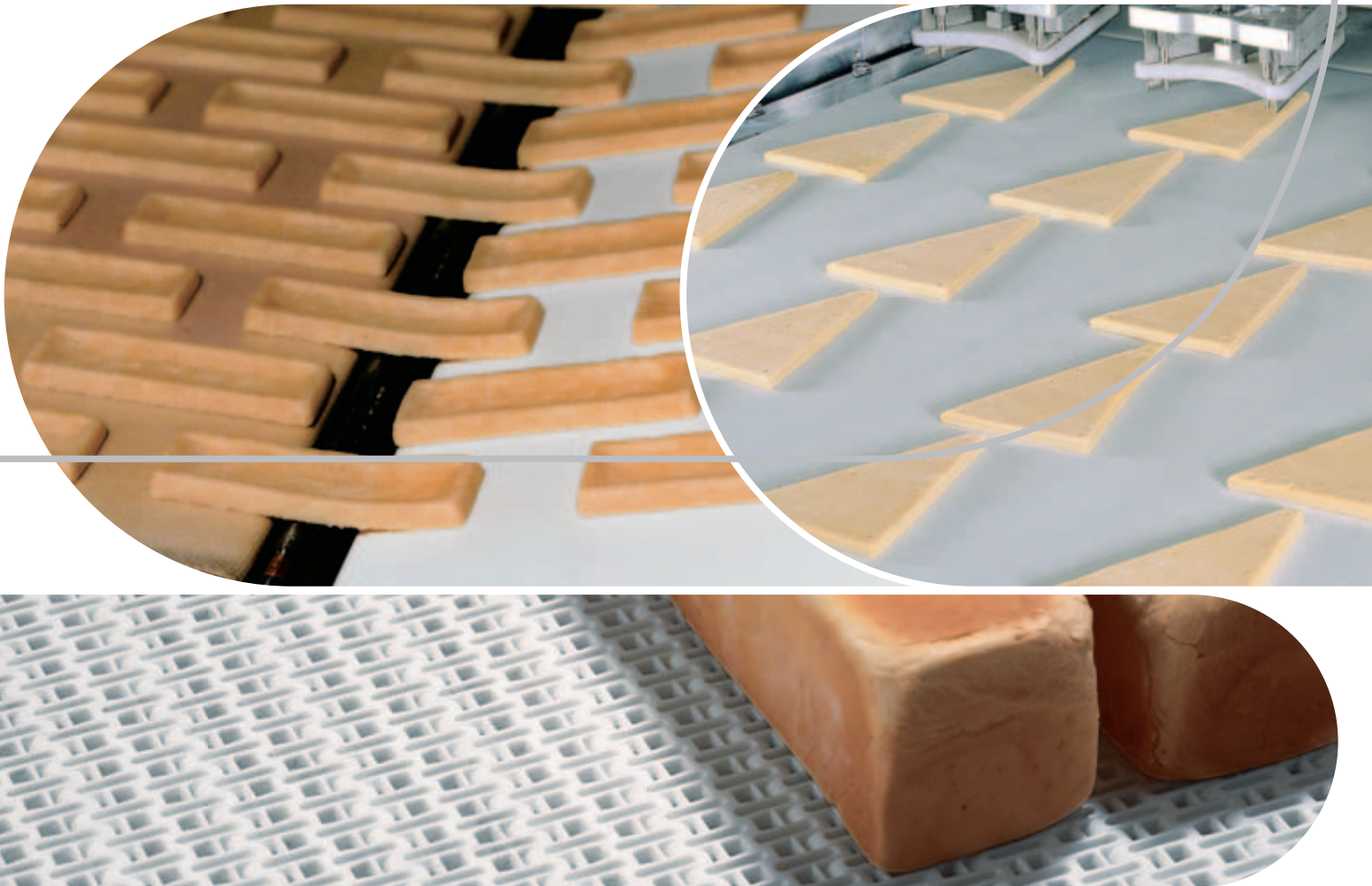


Bakery, Biscuit and Snacks Conveyor and Processing Belts for the Bakery Industry

Habasit – Solutions in motion



Innovation is a key word at Habasit

Industrial food processing requires a wide range of conveyor and processing belts. 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's food conveyor and processing belts feature outstanding surface quality due to the calender coating.

Industry know-how, a complete product range, the introduction of new coating materials and unique product construction enable Habasit to offer products that comply with HACCP principles and guarantee trouble-free and safe food production. Beyond this, to provide additional safety, Habasit has

recently introduced unique products such as

HyGUARD® and **HabaGUARD®** conveyor belts containing antimicrobial additives and **Cleanline®**

food belts coated with a modified polyolefine.

Special features offer the **TPU non-fray and frayless belts**, which minimizes fibre contamination due to their specific fabric construction.

A Habasit speciality are the seamless produced **Grabber® Vertical-Form-Fill-Seal belt and folder-gluer belts** for reliable friction-feed applications.

Additional products like **HabasitLINK®** plastic modular belts, **HabaCHAIN®** plastic chains 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.

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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 kind of fabric belts and modular belts, either raw or impregnated fabrics as well as different surface coatings.

The products consist of polyester, cotton, polyamide or mixed yarns and every product has special features. Habasit applies several coatings in order to achieve a defined surface finish.

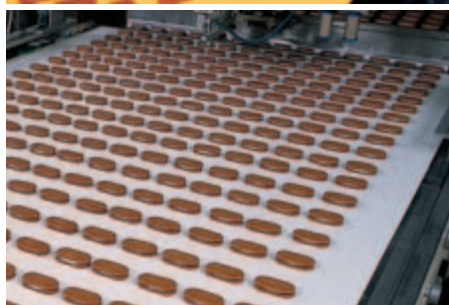
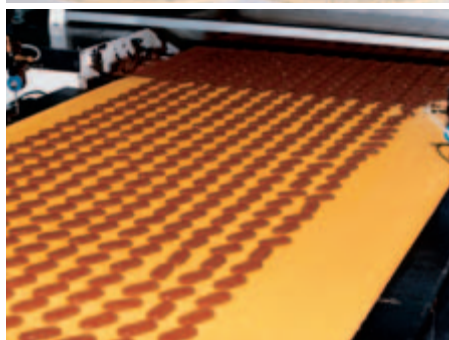
Customers can choose well known high quality TPU or cost efficient PVC belts or most modern materials, such as Habilene®, a modified polyolefine coating from the new Cleanline® range.

Your manufacturing processes

See the multiple uses of Habasit food conveyor and processing belts on:

- **Hearth bread processing**
- **Bread and bun processing**
- **Flatbread processing**
- **Puff pastry dough processing**
- **Biscuit manufacturing**
- **Baked, salty and direct expanded snacks**

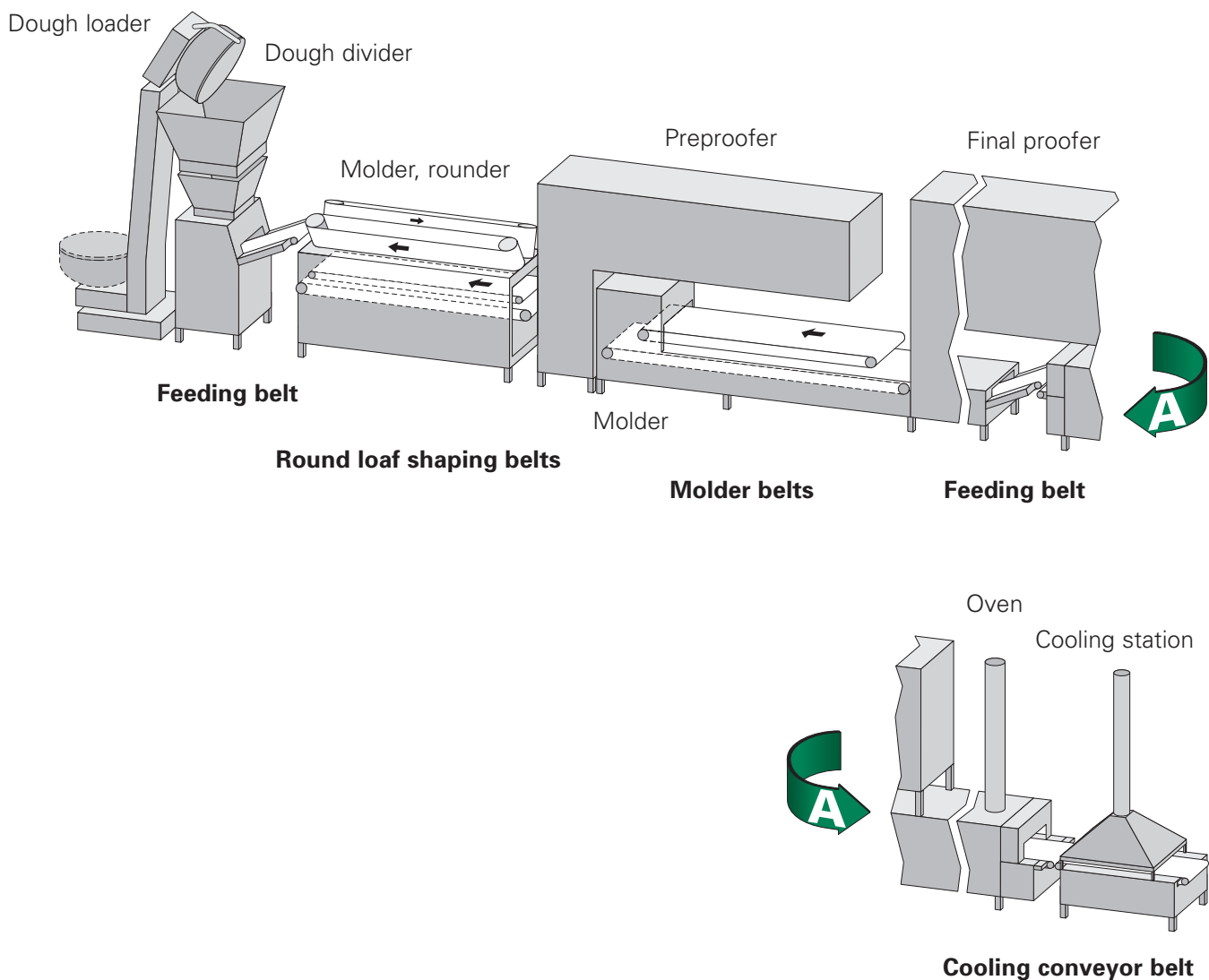
These processes are just samples – Habasit belts can be used in all kinds of baked goods manufacturing.



Process / application overview (schematic)

Hearth bread processing

4

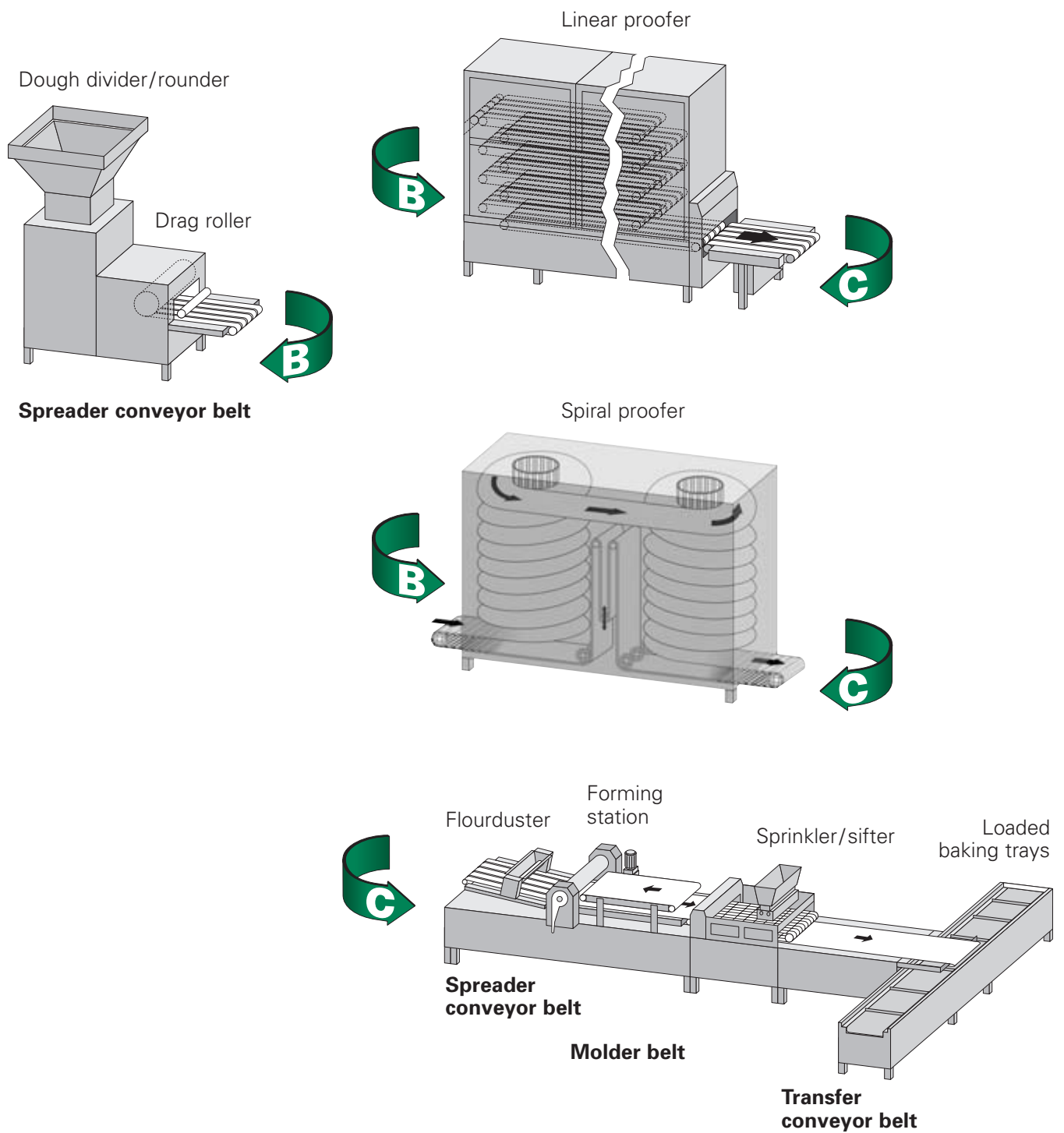


Remark: The drawings show schematic examples of selected applications / processes. The drawings don't lay claim to completeness. The belt recommendations (use / application / layout) should be considered as a general example only. Due to the complexity of the various processes and technical requirements as well as other external influences (e.g. nature or property of transported goods, process speed, steps of treatment / handling, environment or process temperature, humidity, chemicals, additives, ingredients, recipes, etc.) there is a large variety of solutions.

Process / application overview (schematic)

Bread and bun processing

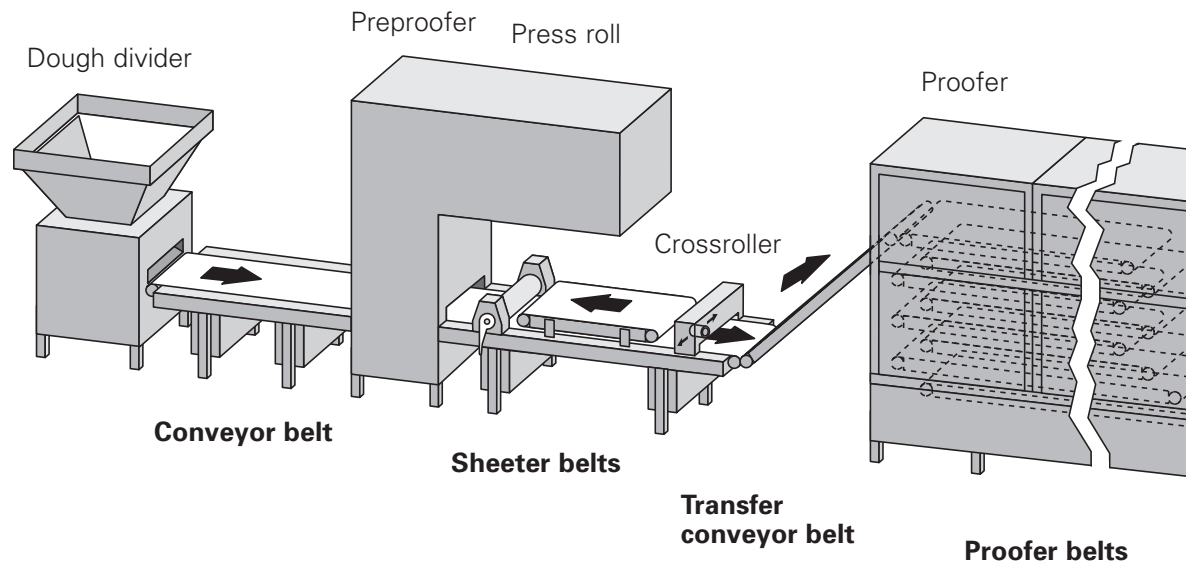
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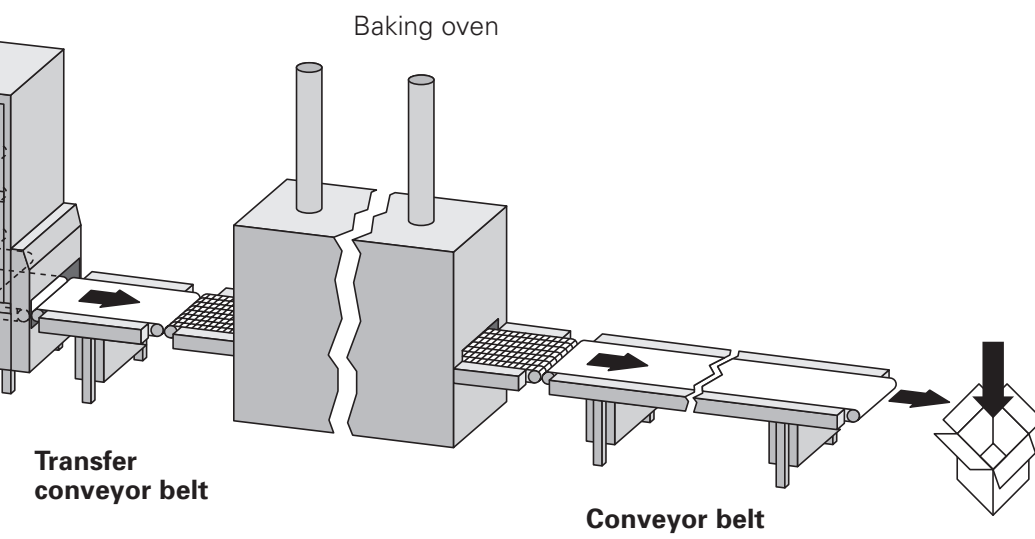
Process / application overview (schematic)

Flatbread line

6



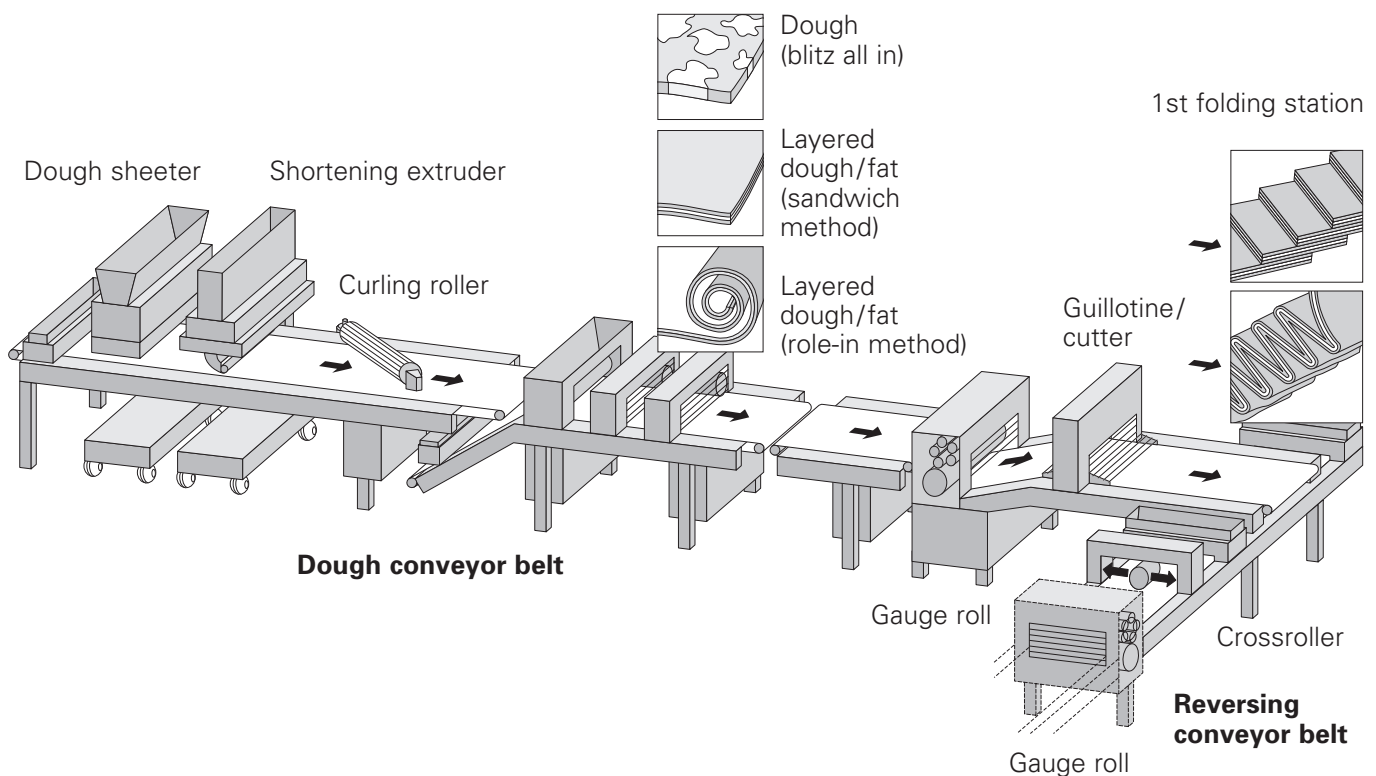
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Process / application overview (schematic)

Puff pastry dough processing

8



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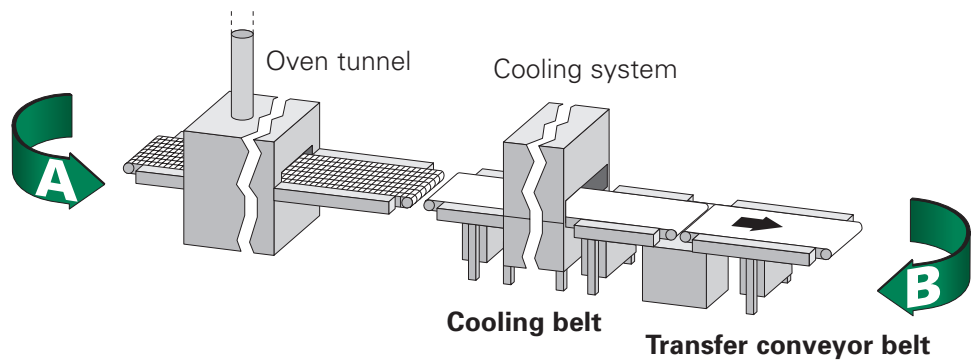
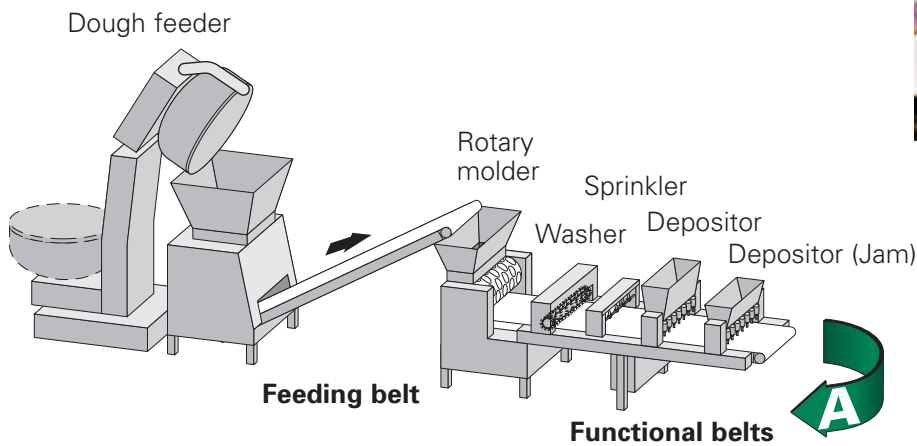
Process / application overview (schematic)

Biscuit manufacturing

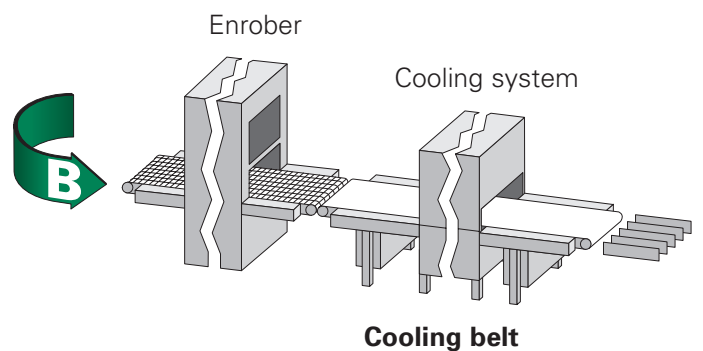
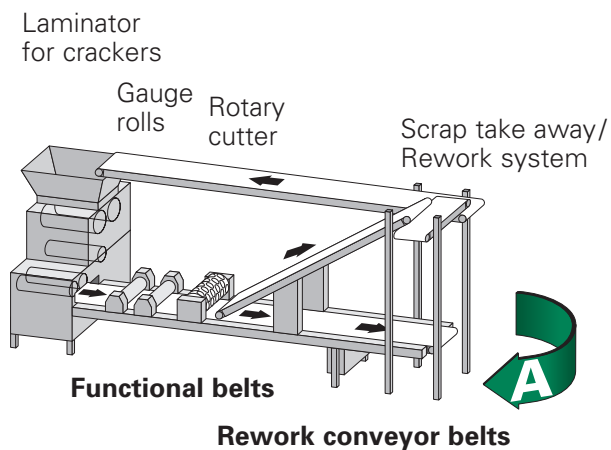
9



Biscuits



Crackers



Process / application overview (schematic)

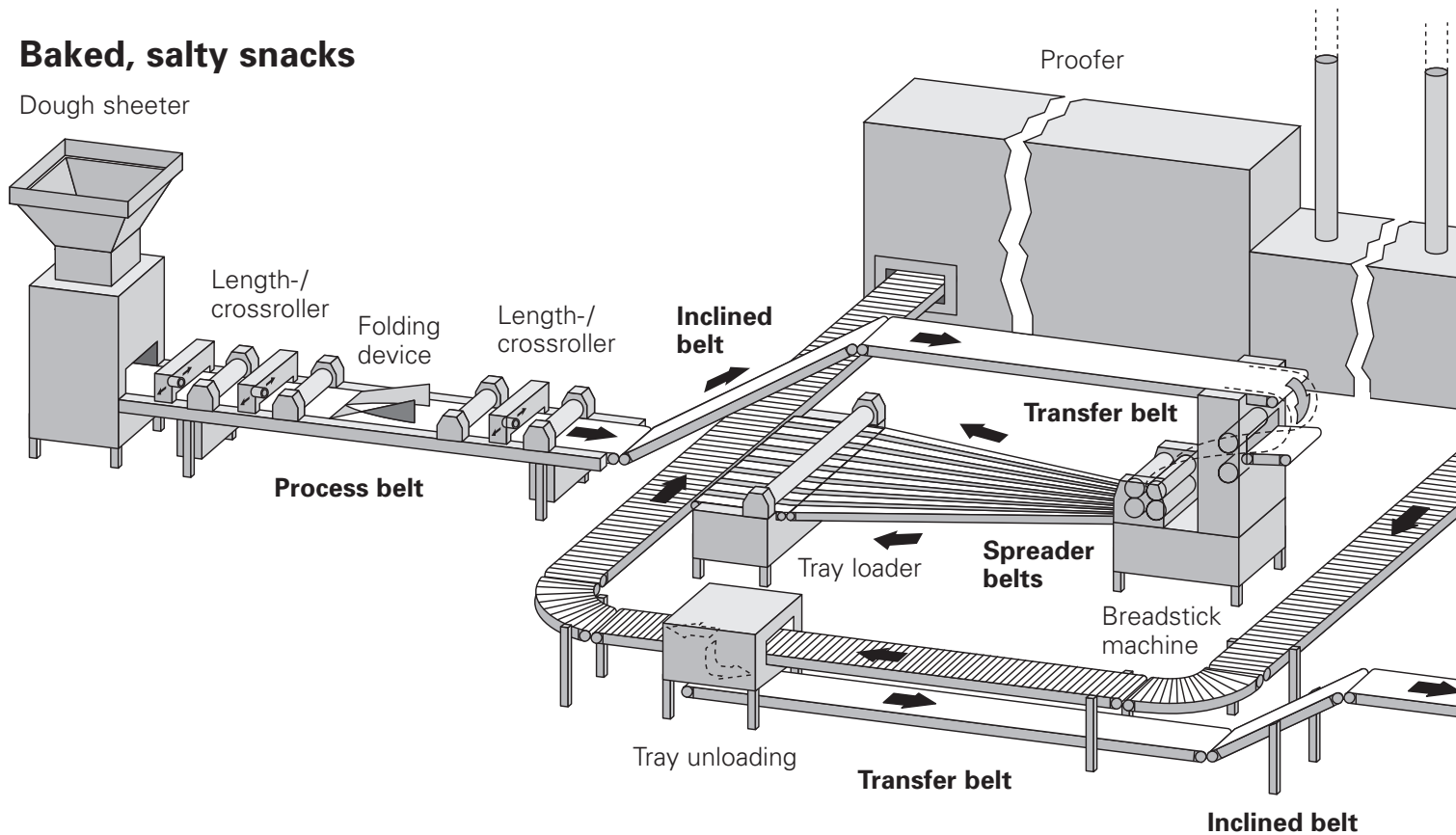
Baked, salty snacks / Direct expanded snacks

10

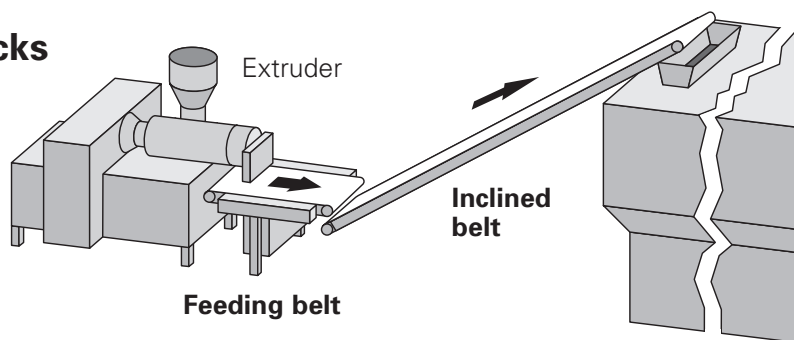


Baked, salty snacks

Dough sheeter



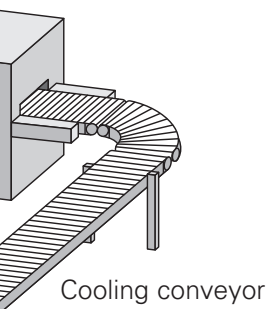
Direct expanded snacks



Remark: The drawings show schematic examples of selected applications / processes. The drawings don't lay claim to completeness. The belt recommendations (use / application / layout) should be considered as a general example only. Due to the complexity of the various processes and technical requirements as well as other external influences (e.g. nature or property of transported goods, process speed, steps of treatment / handling, environment or process temperature, humidity, chemicals, additives, ingredients, recipes, etc.) there is a large variety of solutions.

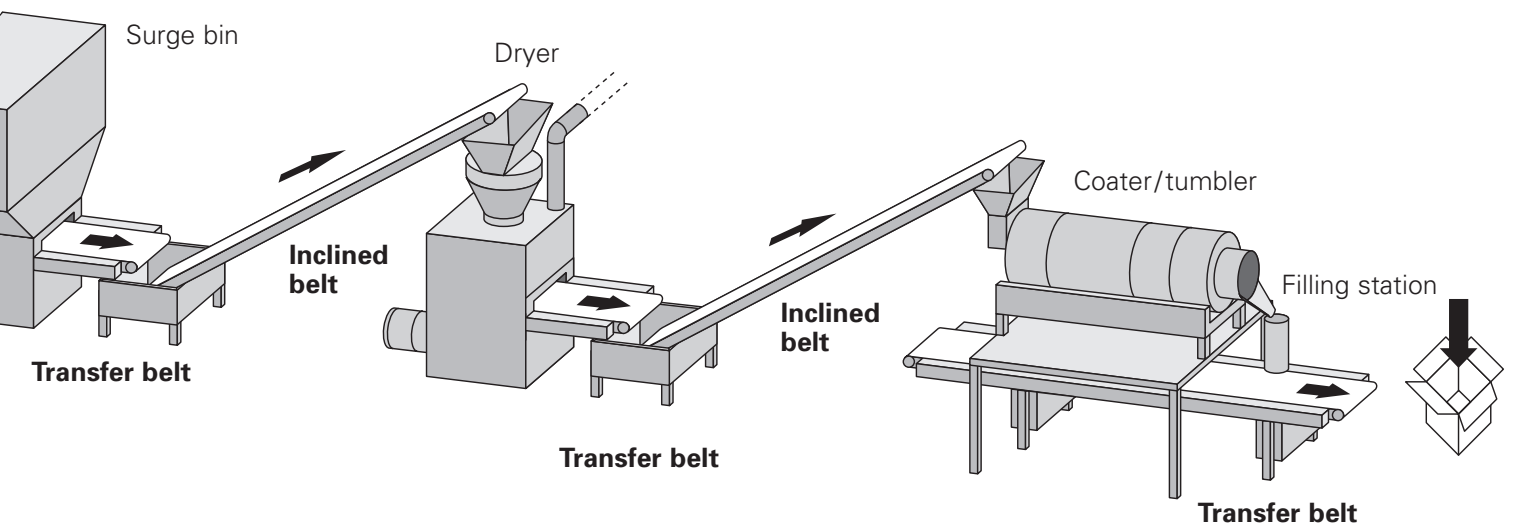
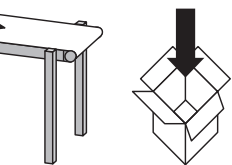


Oven



Cooling conveyor

Transfer belt



Surge bin

Dryer

Inclined
belt

Inclined
belt

Coater/tumbler

Filling station

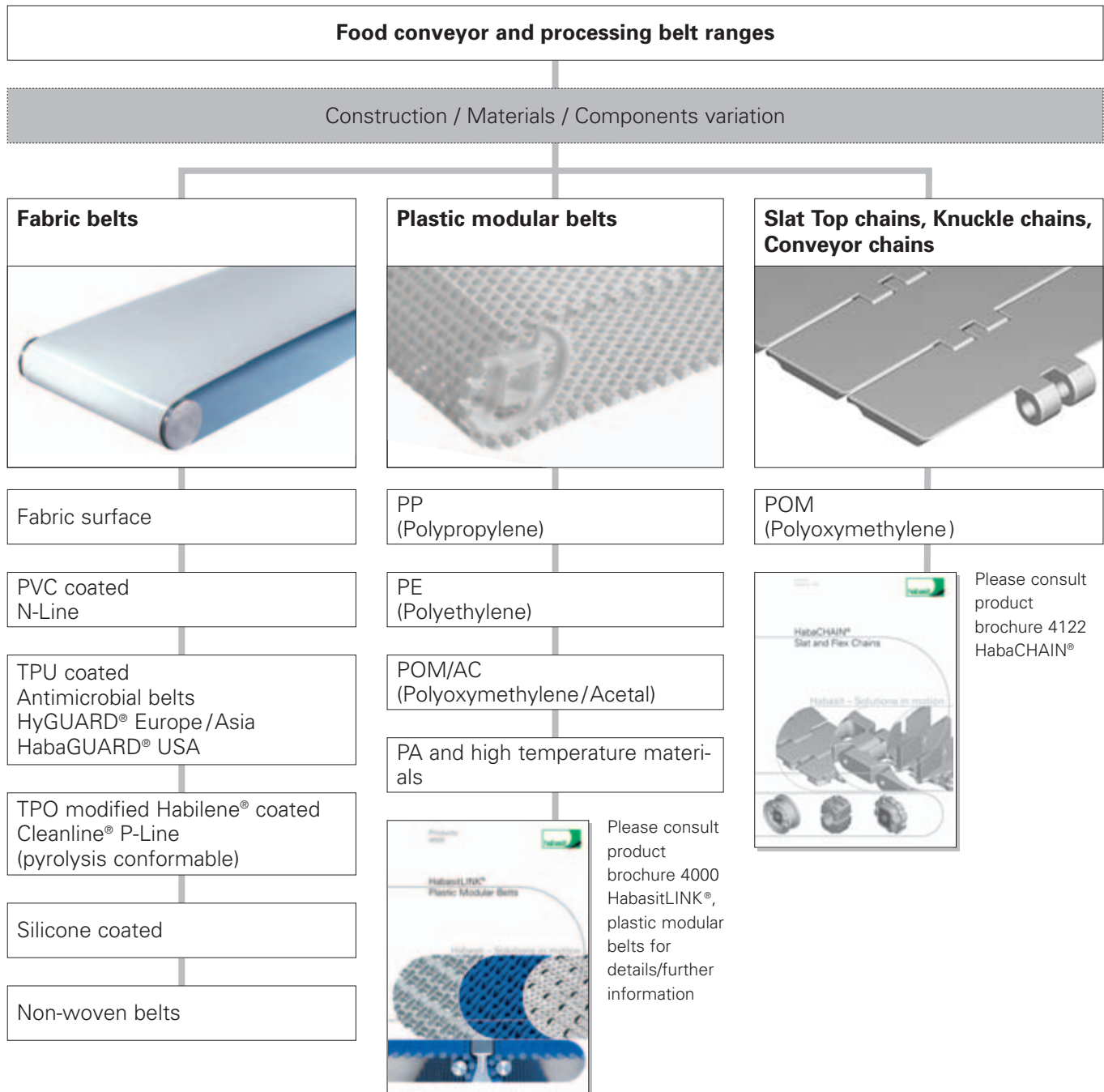
Transfer belt

Transfer belt

Transfer belt

The right choice

Habasit has developed an extensive variety of solutions that allow customers to choose the best product for their specific application. Habasit is the only belt supplier to manufacture and offer the full package of fabric based and plastic modular belts.



Detailed characteristics, belt features and customer benefits you will find after the belt application overview.

Food conveyor belt surfaces

To fulfill a specific process step or a defined function the belt surface plays a key role. Based on surface structure and material inherent properties a multitude of function possibilities are given. See below some examples of the large variety of surface structures and properties.

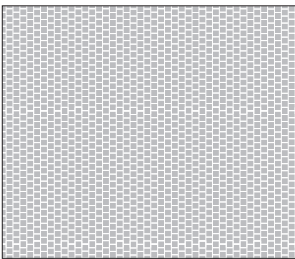
Illustrations: Product view from top (running direction from left to right).

Fabric based belts

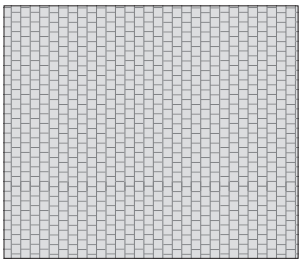


Blank surface
(absolutely smooth)

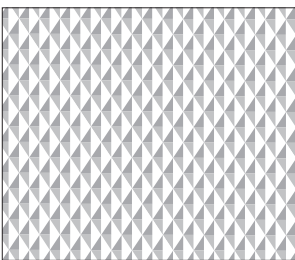
- Available belt surface properties
- **Super adhesive**
 - **Adhesive**
 - **Medium adhesive**
 - **Non adhesive**



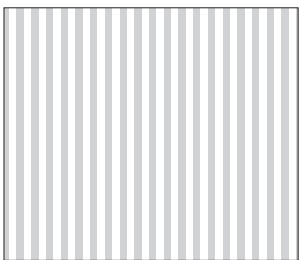
Fabric surface
(fine structure)



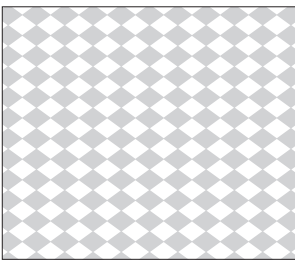
Fabric surface
(rough structure)



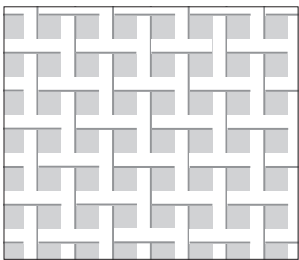
Waffle structure



Saw tooth profile
structure

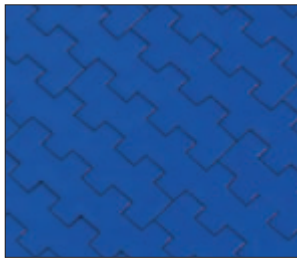


Diagonal
rhomboid positive
pattern / structure



Quadrillé (quadrangular)
pattern / structure

Plastic modular belts



Flat Top 0.5"



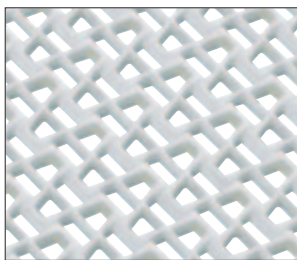
Flush Grid 0.5"



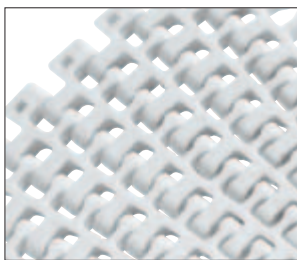
Flat Top 1"



Diamond Top 1"



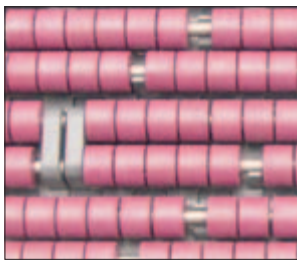
Flush Grid 1"



Radius Flush Grid 1"

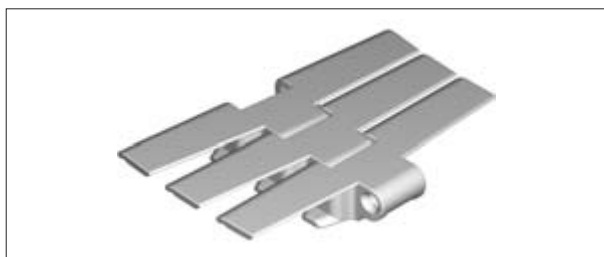


Grip Top 1"

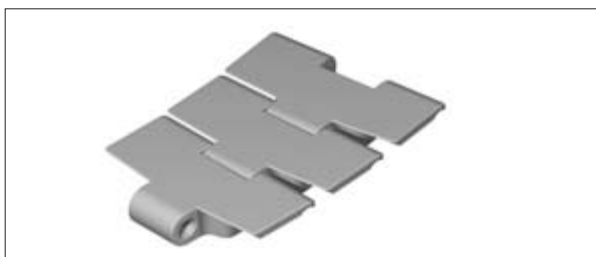


Roller Top 1"

Plastic chains



Slat Top (straight)



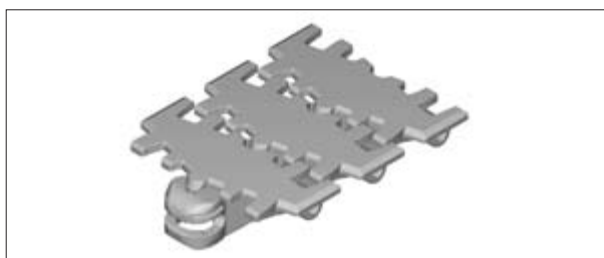
Slat Top Tab (radius)



Knuckle Chain (straight)



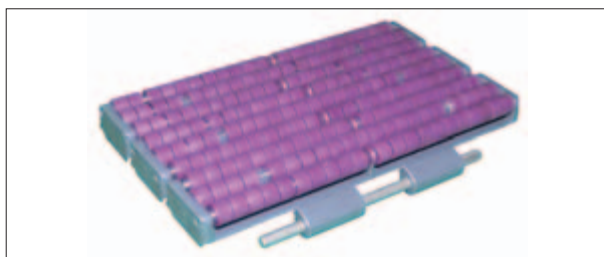
Knuckle Chain (radius)



Conveyor Chain



Conveyor Chains (Grip Top)



Straight Low Backline Pressure Chain

Bakery application and possible belt types (selected types only)

[illegible]

Plastic modular belts HabasitLINK®					
M233 Flush Grid	M2510 Flat Top	M2516 Diamond Top	M2520 Flat Top	M2533 Flush Grid	M2540 Radius Flush Grid
•					
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		•	•	•	•
		•	•	•	•
•	•	•	•	•	•
		•	•	•	•
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This application / belt matrix does not apply to be complete and shall serve as indication of potential solutions. For detailed material and belt selection please contact your local Habasit partner.

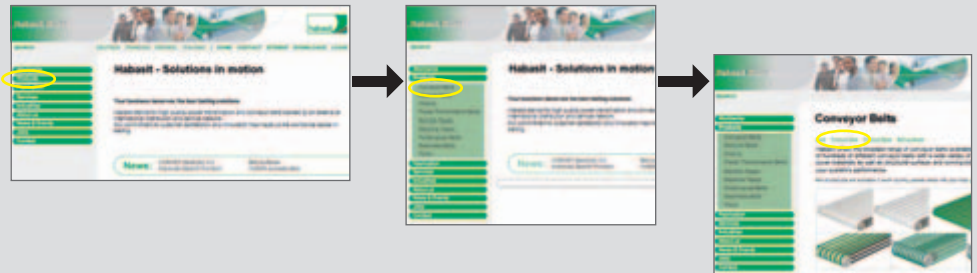
In-depth information The Habasit website

15b

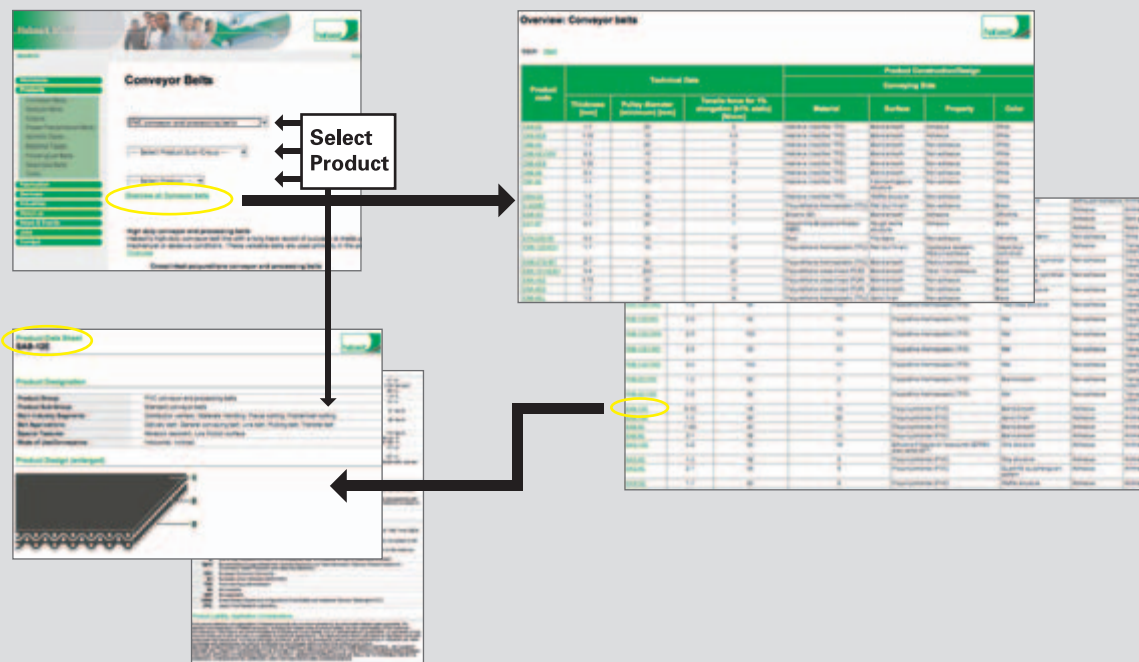
Product / use / application description, key data, detailed technical data,
engineering hints you find on:

www.habasit.com or on **www.habasitLINK.com**

Main page:
Select for
example
**CONVEYOR
BELTS**

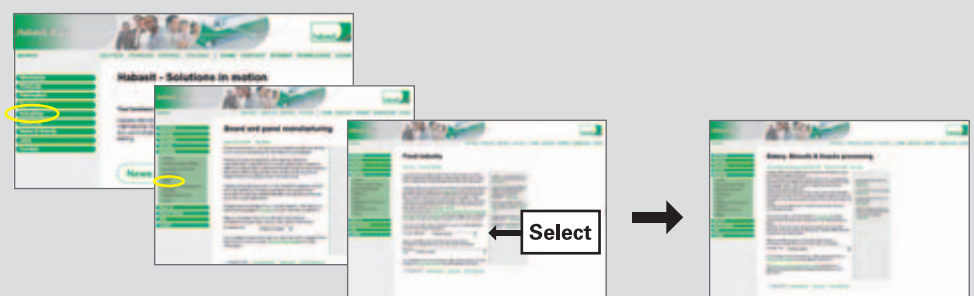


Product
overview /
series



Further Information about the Bakery Industry

Main page:
Select for
example
INDUSTRIES

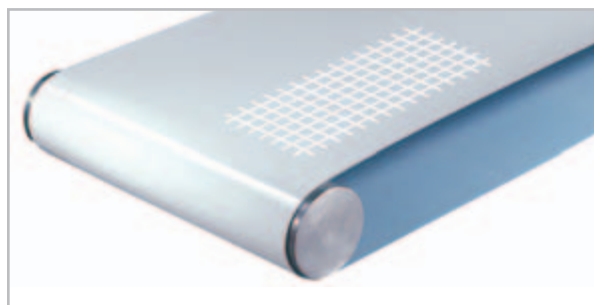


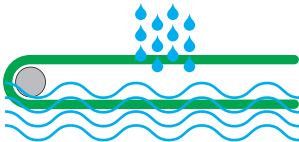
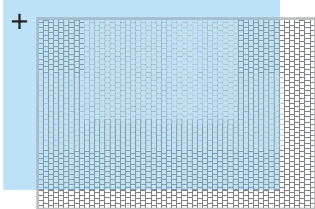
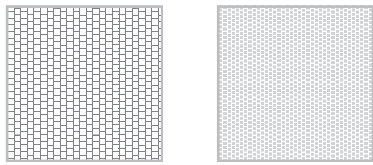
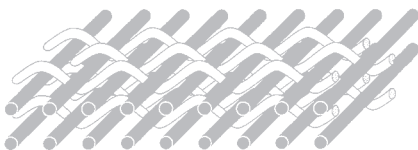
Features and benefits

Fabric based belts

Fabric surface

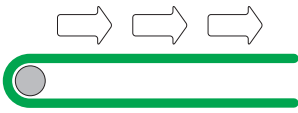
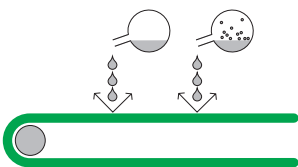
Food conveyor belts with fabric surfaces are often used in bakery applications. However, impregnated fabric belts can be also installed in other machines, for example checkweighers. Depending on the consistency of a respective kind of dough, Habasit is offering different product constructions, including belts made from felt-like Non-Woven material (PET-fibres, needled and buffed construction).



	Features	Benefits
	• High strength	→ Good wear/abrasion resistance → Long service life
	• Dimension stability in water (PET fabrics)	→ Water absorption, no elongation → Excellent tracking
	• Impregnated fabric	→ Less soiling → Reduced cleaning time/cost → Hygiene support
	• Rough or fine surface structure	→ Good release of raw dough
	• Mixed yarns	→ Different solutions available depending on consistency of dough (oil, fat, moisture)

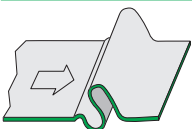
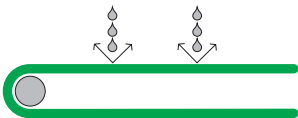
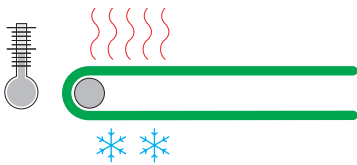
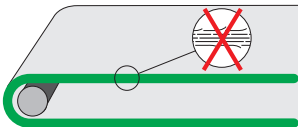
PVC coating

PVC is widely used in food applications and is often a cost saving solution.

	Features	Benefits
	• General conveying	→ Products for a wide variety of applications available → Cost saving solution
	• Chemical resistance	→ Cleaning with chlorine containing detergents possible
	• HySAN® oil and fat resistant PVC	→ Less extraction of plastizizers → Long service life → Improved abrasion resistance

TPU coating

TPU food conveyor belts combine many features that are supporting reliable and hygienic production processes. Habasit offers TPU belts in different constructions, different colors and different surface finishes.

	Features	Benefits
	• Longitudinal flexibility	→ Smallest pulley diameters → Smooth and trouble free product transfer
	• Calendered coating	→ Closed, most homogeneous surfaces → Reduced soiling of conveyor belts → Good release properties → Increased hygiene
	• Oil and fat resistance	→ Reliable transport → Long service life
	• Temperature resistance	→ Usable in low temperature environment and warm conditions without changing its features → High temperature belts product up to 100 °C available
	• Non-fray fabrics	→ Reduced risk of product contamination → Increased service life

Features and benefits

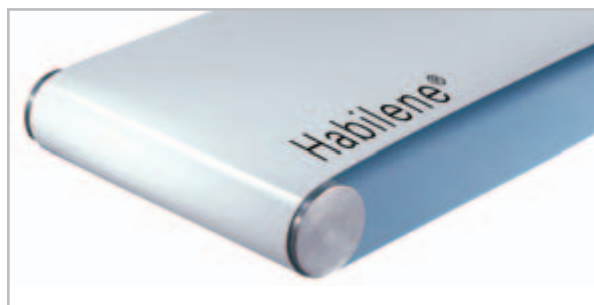
Fabric based belts

18

Habilene® coating

(Thermoplastic polyolefine = Habilene®)

Habilene® (a Habasit modified Polyolefine) is the newest development of Habasit which provides unique features among food conveyor belts.



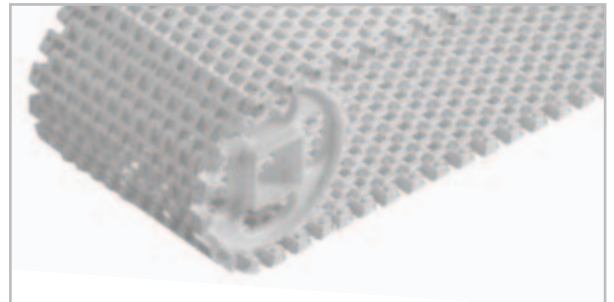
	Features	Benefits
	• Excellent release properties	→ Excellent release of sticky products → Less soiling → Increased hygiene and product quality → Reduction of waste
	• Very good chemical resistance	→ Cleaning with aggressive chemicals, such as chlorine, possible → No surface damage due to cleaning agents → Longer service life
	• Environmental friendly product construction	→ Belts contain no glues or toxic chemicals → HACCP support, reduced risk of contamination → Lower belt disposal costs

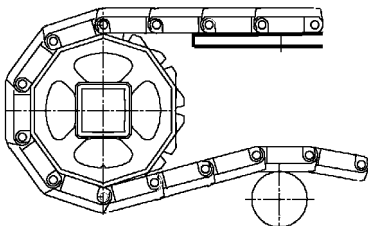
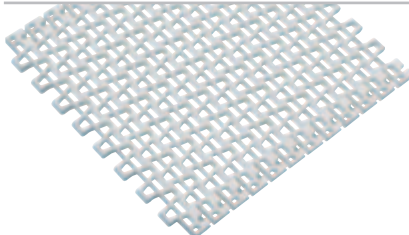
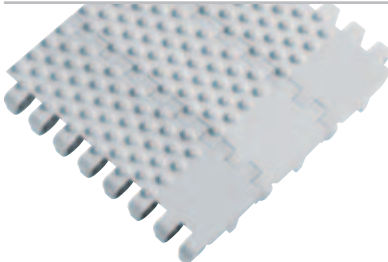
Features and benefits

Modular belts

Plastic modular belts

Based on our comprehensive experience and our leadership position in fabric belting, Habasit has developed the HabasitLINK® modular belts range. Completely ejector mark free surfaces, rounded edges, smooth designs stand for state-of-the-art hygienic modular belting. Where downtime needs to be reduced to a minimum or where repairs are difficult to access modular belts are becoming the preferred solution.



	Features	Benefits
	• Positive drive and tracking by positively engaged belt • Guided belt alignment	→ No need of tensioning devices → Reliable tracking → Elimination of belt edge damage → Simple system design
	• Various open area belt styles • Smooth rounded design	→ Uniform and fast cooling → Air and water permeability → Easy release of sticky goods → Support of cleaning and sanitation measures → Higher productivity/throughput
	• Radius and straight transport • Strong design	→ Longer runs without transfers → Less disorientation → Less product damage
PP = Polypropylene PE = Polyethylene POM/AC = Polyoxymethylene/Acetal PA = Polyamide HT and ST = special Materials	• Large variety of plastic materials available • High temperature materials available up to 240 ° C	→ Adaptation to process/application → Large temperature range suitable (pre oven, past oven applications) → PE = easy release → PE, PP = excellent chemical resistance
	• Rough and rugged application suitable (frozen food)	→ Heavy duty rod and belt material available → High lateral stiffness (e.g. for wide elevators)

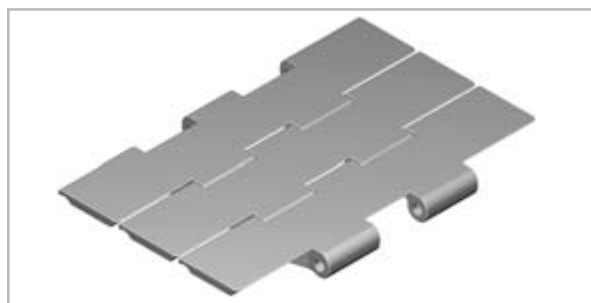
Features and benefits

Plastic Slat and Flex Chains

20

Plastic chains

HabaCHAIN® is a high-quality range of new slat- and flat chain products from Habasit. HabaCHAIN® products are suitable for a wide range of applications in beverage, bakeries, packaging and many other industries.



Features

Benefits



- Positive drive and tracking
- Various belt styles available
- Wear resistance
- Less noise generation
- Precision of molds

→ Suitable for various food products and packages



- Radius and straight transport
- Robust design
- Wear resistance
- Less noise generation
- Precision of molds

→ In general for light-weight transport of goods



- Suitable for linear and curve conveying on aluminum modular structure
- Grip Top types available
- Wear resistance
- Less noise generation
- Precision of molds

→ Retrofit on existing systems possible

Offering a comprehensive range of services is part of Habasit's belting solutions approach. We are committed partners of our customers, and we consider the sharing of knowledge and providing of support as an essential task. And this we offer:



Consulting and technical support

Habasit offers the best consulting and technical support on the belting market for fabric belts and plastic modular belts based on the experience and competence acquired in more than 60 years.



Belt selection and calculation

For our customers we select and calculate the most suitable belt for a specific application. However, customers may do it themselves thanks to the state-of-the-art Habasit selection and calculation programs "SeleCalc". For ordering these programs free of charge simply call the nearest Habasit partner or contact: info@habasit.com

CONVEY-SeleCalc = Fabric conveyor belt selection and calculation

LINK-SeleCalc = Plastic modular belt selection and calculation

POWER-SeleCalc = Power transmission belt selection and calculation



Fabrication or installation

We join fabric belts or install modular belts at our locations or on-site directly on the machine or on the system.



Shortest lead times

Habasit AG owns 33 Affiliated Companies located in North America, Europe, Japan and Asia, each with own inventory, fabrication, assembling and service facilities. Together with our country managers, representative offices and a large number of qualified distributors we are in a position to react quickly, competently and reliably to customers' demands.



Installing service at hand

We are where the customers are, and our committed staff is always available for their specific needs. We offer on-site installation on an international scale.



Testing at customer's site

We are testing process functionality, alternative products, and variations of fabric belts or modular belts at the customer's site.



Legal and conformity check

We are supporting our customers with respect to declaration issues, conformity issues, conformance with national laws/authorities like FDA, USDA, EU, etc.

Process optimization proposals

We analyze processes together with the customer and submit proposals for optimization, e.g. added value for the machinery/process output, output increase.

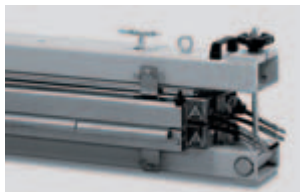


Belt repair

We have developed sophisticated repair methods and equipments with proven effectiveness.

Special belt fabrication

We offer special fabrications, such as longitudinal joining, edge sealing, profile welding, guide profiles welding, hole punching, curve conveyor layout/cutting preparation, etc.

**Joining tools and auxiliary equipment**

Fabric belt joining (fabrication) tools and handling/process auxiliary equipment are available.

Education / Training

Habasit organizes programs and provides supporting tools to ensure optimal selection and use of our products and prolonging their life cycle. Fabrication, installing, assembling, maintenance and belt repair training is carried through at Habasit's or at customer's site.

Specific application knowledge transfer

Habasit provides application specific knowledge transfer for process specific issues to allow for optimal use of our products and to optimize machinery and processes (e.g. cleaning, hygiene/sanitation).

Customized services

**Designing the future "Partner in Design"**

Habasit believes in partnership. For joint design developments our engineering team is looking for strong cooperation with the customer's engineering team, preferably at a very early stage. We offer this cooperation to large customers. Co-design: We work together for success.

**Testing for customer**

We offer our R & D expertise, laboratory and test equipment for the customer's specific process needs like mechanical endurance testing, chemical or thermal testing.

**Belt monitoring / inspection**

A customizing Habasit service that includes maintenance, regular belt monitoring reports, regular review meetings with the responsible for process/production at customer's site.

**Customized service agreements**

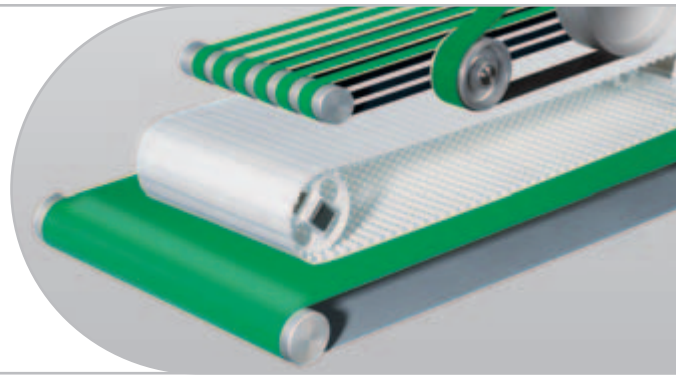
According to the specific needs of our customers we offer customized services like inventory, emergency service, belt exchange services or order/re-order management.

Project management

We are experienced partners for belting project co-ordination on an international scale for globally operating customers.

The Habasit Solution

At Habasit, we are listening to our customers. We innovate and deliver reliable solutions.



Our customers come first

At Habasit we understand that our success depends on the success of our customers. That's why we offer solutions, not just products; partnership, not just sales. Our innovative solutions are tailored exactly to your needs. And we guarantee best value for money for every application. Since our foundation in 1946, Habasit has proved the success of this approach to customer needs. It's why today we're No.1 in the belting industry worldwide.



Extensive product range

Habasit offers the largest selection of fabric-based belts, plastic modular belts and plastic chains in the industry. Our response to any request is nothing less than a specific, tailor-made solution.

Belting

Fabric conveyor & processing belts

Plastic modular belts and chains

Power transmission belts

Machine tapes

Seamless belts

Timing belts

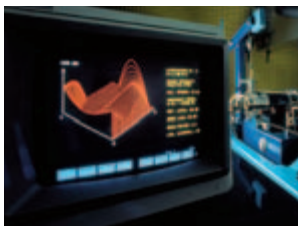
Auxiliaries (e.g. profiles, fabrication tools)

Gears and geared motors



Committed to innovation and R&D

Innovation is not limited to products; it also includes services and processes. Habasit is strongly committed to the continuous development of innovative, value added solutions. Over 3% of our staff are dedicated exclusively to R&D; our annual investment in this area exceeds 5% of turnover.



A global network at your service

Facts & figures

Founded	1946
Turnover 2005	CHF 625 million
Belts sold to market 2005	4.7 million m ²
Employees 2005	3126
Production plants	15
Affiliated companies	33
Representatives	70 countries
Service centers worldwide	250

Worldwide support

Our extensive organization will support you anywhere in the world. Engineering and emergency assistance, or quotes and order status are just a phone call away. We're there for you. Wherever you are. Whenever you need us.



Certified for quality

You'll find the highest quality standards not only in all Habasit products, but also in our employees' daily work processes. We were early adopters of a worldwide TQM approach, and achieved ISO 9001 / EN 29001 certification in 1987. In 1996 Habasit became ISO 9001:1994 certified. Since then we have undergone regular quality audits performed by an independent certification body. In 2002 we achieved certification for revised standard ISO 9001:2000.



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Our Partner

Rossi Motoriduttori is one of Europe's largest industry groups for the production and sales of gear reducers, gearmotors, inverters, standard and brake motors.



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Product liability, application considerations

If the proper selection and application of Habasit products are not recommended by an authorized Habasit sales specialist, the selection and application of Habasit products, including the related area of product safety, are the responsibility of the customer.

All indications/information are recommendations and believed to be reliable, but no representations, guarantees, or warranties of any kind are made as to their accuracy or suitability for particular applications. The data provided herein are based on laboratory work with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experiences can lead to modifications and changes within a short time without prior notice.

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