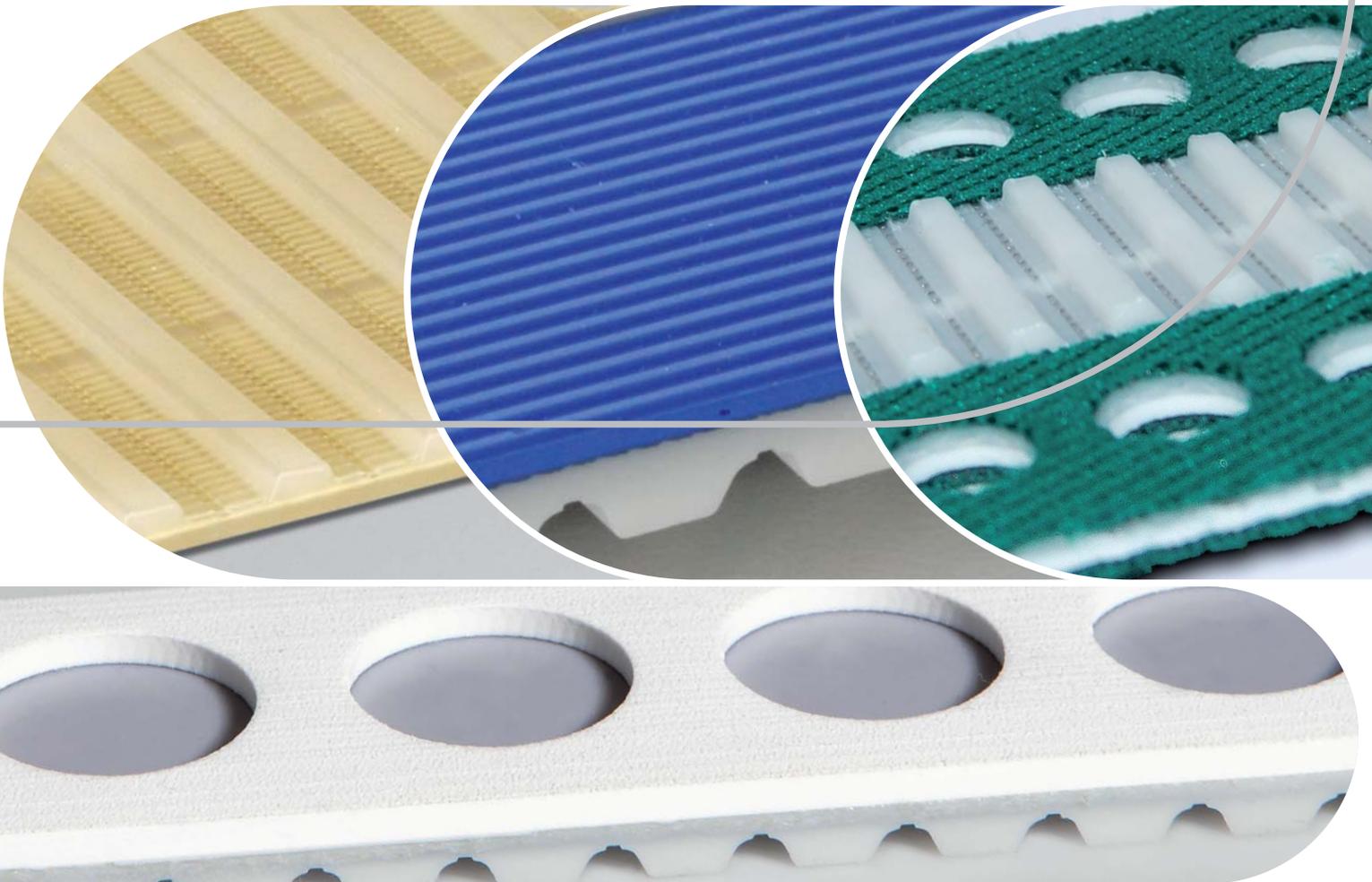


# HabaSYNC® Timing Belts

Habasit – Solutions in motion



Introduction	3
Available options	4
Industries we serve	5
Needs and solutions	6
Covers	7
Belt attachments	8
Modifications	9
Needs and solutions in fabrication	10
Joining options	11
Accessories	12
Services	14
The Habasit solution	15
Contacts	16

This **disclaimer** is made by and on behalf of Habasit and its affiliated companies, directors, employees, agents and contractors (hereinafter collectively "HABASIT") with respect to the products referred to herein (the "Products").

SAFETY WARNINGS SHOULD BE READ CAREFULLY AND ANY RECOMMENDED SAFETY PRECAUTIONS BE FOLLOWED STRICTLY! Please refer to the Safety Warnings herein, in the Habasit catalogue as well as installation and operating manuals.

All indications / information as to the application, use and performance of the Products are recommendations provided with due diligence and care, but no representations or warranties of any kind are made as to their completeness, accuracy or suitability for a particular purpose. The data provided herein are based on laboratory application with small-scale test equipment, running at standard conditions, and do not necessarily match product performance in industrial use. New knowledge and experience may lead to re-assessments and modifications within a short period of time and without prior notice.

EXCEPT AS EXPLICITLY WARRANTED BY HABASIT, WHICH WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, THE PRODUCTS ARE PROVIDED "AS IS". HABASIT DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE, ALL OF WHICH ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. BECAUSE CONDITIONS OF USE IN INDUSTRIAL APPLICATION ARE OUTSIDE OF HABASIT'S CONTROL, HABASIT DOES NOT ASSUME ANY LIABILITY CONCERNING THE SUITABILITY AND PROCESS ABILITY OF THE PRODUCTS, INCLUDING INDICATIONS ON PROCESS RESULTS AND OUTPUT.



## Open-ended and truly endless belts

Design demands for synchronized conveying have grown significantly over the past two decades. As machines move faster and faster and precision output has become an engineer's challenge it became obvious that no conveying belting company existed to fill this void.

Borrowing knowledge and experience from over 60 years as a market-leading conveyor belt manufacturer, Habasit built a new state-of-the-art production plant to manufacture thermoplastic urethane synchronous timing belts for our global customer base. Utilizing our broad global affiliate company network and their fabrication skills we have been able to respond and design solutions for customers worldwide.

Further, borrowing from our strength of materials and textile understanding we continue to invest in new materials to create new products to address customer needs for bidirectional, power transmission and precision tolerance belts. Habasit is working to become your complete supplier for timing belts and accessories.

For even more detailed information about Habasync® timing belts consult our brochures:

- Habasync® Technical data overview (4246)
- Habasync® Covers (4282)
- Habasync® Flex belts (4331)
- Habasync® Engineering guide (6018)
- HabiPLAST® Profiles and guides (4097)

and our website: [www.habasync.com](http://www.habasync.com)



## **Pitch**

HabaSYNC® timing belts are available in imperial and metric pitches.

## **Tooth shapes**

Depending on application type and pitch requirement, HabaSYNC® timing belts are offered in trapezoid, modified trapezoid and curvilinear tooth shapes.

## **Polyurethane**

While our standard product is made with 92 Shore A thermoplastic urethane, alternative urethane types in different hardness is available.

## **Tensile member**

Standard steel (S) and high-performance grade (P) steel is available. Additionally, Aramide (A) is standard. Stainless steel (I) and other special tensile member types are possible. Consult Habasit for these products as minimum run length may be required.

## **Colors**

While white is our standard color for most industrial applications, black in certain pitches is available. Blue and transparent TPU are related to food and green for textile belts. For special-color timing belts please consult your nearest Habasit affiliate with your request.

## **Fabrics**

Polyamide fabric, designed to offer low-friction benefit is available on the tooth side, conveying side or both sides of our timing belts. Additionally, antistatic fabric can be furnished for those applications where static charge buildup must be mitigated.

## **Made-to-length belts**

HabaSYNC® extruded Open End timing belts can be made to your desired finished length at any of our affiliate companies using our heat-press process. If your application will not allow for joined belts to be installed, our patentpending mechanical Hinge Joint may be an option.

## **Flex belts**

HabaSYNC® Flex belts are available for those applications where the timing belts must be endless and the heat-joining method or mechanical joint method do not offer the necessary strength.

## **Custom belts**

Habasit Fabrication Center network in Europe, Asia and America can develop the right belt for your specific application. After defining the features required, our team can then fabricate your belt using covers, profiles and special modification to provide the right solution meeting your needs.

## **Accessories**

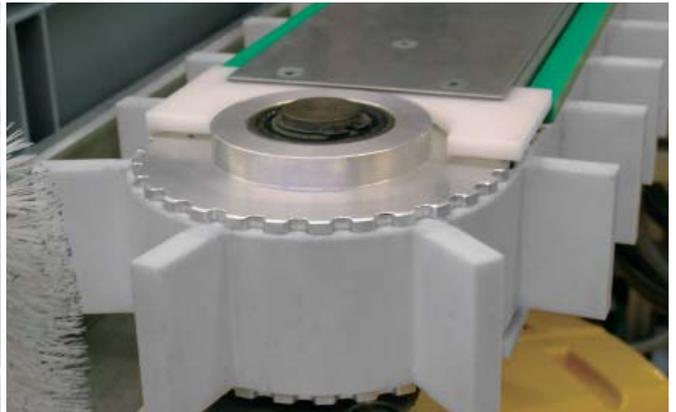
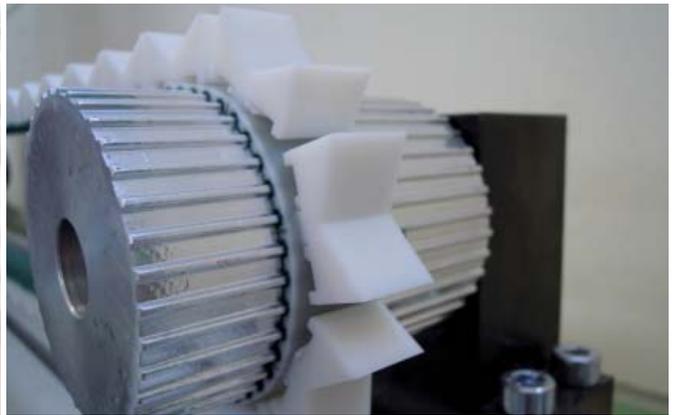
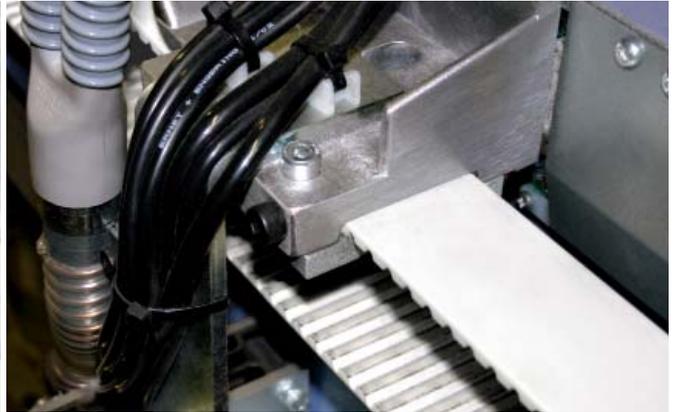
Pulleys and HabiPLAST® Guides. In many cases, a conveying package includes a belt, the pulleys and guide support system. Talk to your Habasit salesperson about providing the total solution for your application.



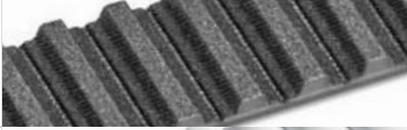
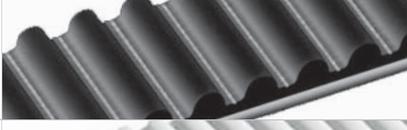
# Industries we serve

HabaSYNC® timing belts can be used in many different applications and industries. They are the perfect choice for situations where traditional belt designs are unable to provide an ideal synchronization.

- Materials Handling
- General conveying
- Food
- Packaging
- Textile
- Automation
- Wood
- Print, paper and postal
- Automotive
- Glass
- Aluminum



Textiles and elastomers are our business. Couple this with our broad manufacturing capabilities and we can build the most appropriate product for your application. Here are a few examples:

Your need	Our solution	
Low friction Low noise in belt drive side	Polyamide on the tooth (PT)	
Slip during accumulation on conveying side	Polyamide on the conveying side (PC)	
Resistance to a static charge buildup	Antistatic fabric (AA)	
Good wear resistance	White 92 Shore A 01 TPU	
Hydrolysis resistance	Blue 90 Shore A 05 TPU Closed flights	
TPU for FDA dry-product handling	Transparent 88 Shore A 02 TPU	
TPU for dirt-masking applications	Black 92 Shore A 06 TPU	
Higher strength No joining	HabaSYNC® Flex belts	

## Belt matrix material

Code	Material	Hardness	Properties	Color	Temperature range	Cords used
01	Polyester urethane	92 Shore A	High abrasion resistance	white	-20 to 80 °C (-4 to 176 °F)	S = Steel A = Aramide P = Performance I = Stainless steel
02	Polyester urethane	88 Shore A	FDA/EU approved for dry applications	transparent	-20 to 70 °C (-4 to 150 °F)	S = Steel A = Aramide I = Stainless steel
03	Polyester urethane	88 Shore A	Good abrasion resistance	green	-20 to 70 °C (-4 to 150 °F)	A = Aramide
04	Carbonate urethane	92 Shore A	Good microbial resistance	white	-20 to 80 °C (-4 to 176 °F)	A = Aramide
05	Polyether urethane	90 Shore A	Good hydrolysis features	cobalt blue	-20 to 80 °C (-4 to 176 °F)	A = Aramide I = Stainless steel
06	Polyester urethane	92 Shore A	High abrasion resistance	black	-20 to 80 °C (-4 to 176 °F)	S = Steel

Covers added to your synchronous belt provide frictional enhancement for product movement. With the choice of several new processes HabaSYNC® can add covers made of polyurethane, rubber, PVC, foams and fabric.

Depending on your application, the product moved and its environment, HabaSYNC® cover options range from industry standard materials to wellknown Habasit proprietary products. Cover options for the following needs exist:

- High friction
- Low friction
- Compression
- Shock absorption
- Ease of release
- Fragile conveying
- Electrostatic discharge
- Abrasion resistance
- Heat resistance (cover only)
- FDA/EU conform

The following overview shows just a selection of our wide cover range. Contact Habasit to discuss your requirements.

## Polyurethane covers



FAC-C cone top (TPU)



FAF fish/herringbone (TPU)



FAS saw tooth (TPU)

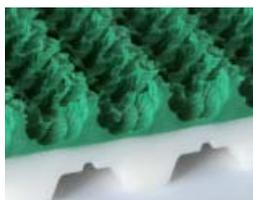


T/NPW pimple top (TPU)



POF-T60 smooth (PU)

## Elastomere covers



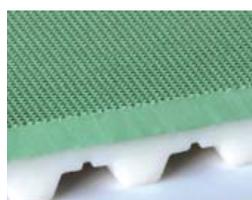
HAG grip structure (NBR)



Linatrilite® smooth (Nitrile)



HAL longitudinal rib (EPDM)



HAT-W textile structure (NBR)



Linatex® (Natural rubber)

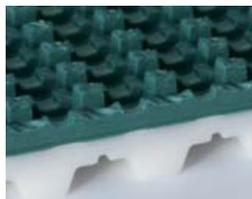
## Polyvinyl chloride covers



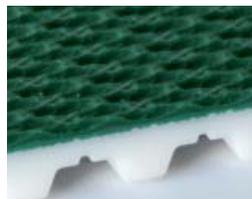
FAB-CV smooth (PVC)



NAB-WV smooth (PVC)



NAG-DV grip structure (NBR)



WAG-G basket weave (PVC)



SAQ quadrangular (PVC)

## Other materials



Artificial leather (PES/TPU)



Heatmate (Aramide)



Chrome leather



Synthetic rubber-closed cell



Felt top non-woven (PES)

Thermoplastic profiles as well as mechanically mounted profiles can be added to HabaSYNC® timing belts to assist in conveying and product placement. Integrated guide belts and weld-on guides are available to assure proper tracking. Guides and profiles in different sizes and materials support your design requirements.

## Profiles

Thermoplastic polyurethane profiles are welded to the conveying side of HabaSYNC® timing belts in order to accommodate special handling needs. Standard- and custom-shape profiles can be added for sorting and separation, feeding and indexing or actuation of products.

Profiles are a common design solution on multiple-belt lines that must feed line content in a perfectly timed, synchronized fashion.

Profiles can be obtained in several manners: extrusion, injection molding or machining. The choice of profile sourcing is dependent on shape, dimensions and quantities required.

We are very interested in creating a specific design unique to the requirement of your application. In order to select the right shape, dimension and process for your application, contact your local Habasit partner to discuss your specific need.

## Mechanically mounted profiles

When the need for interchangeable profile design is required, Habasit can provide a mechanical system for easy attachment. In addition to flexibility being a benefit of this design, the actual profile can be made of TPU or many other material options such as UHMW or aluminum.

Incorporating our fabrication capabilities enables us to machine the tooth to accommodate a replacement tooth that extends through the belt and into the profile.

All mechanical profiles/partial tooth implant systems are made to order.

## Tracking guides

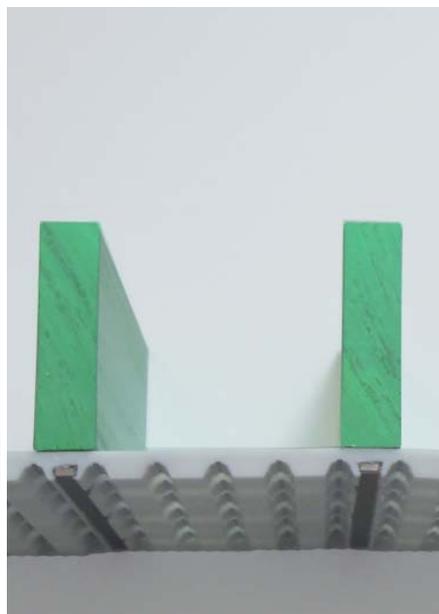
Tracking guides on the belt's tooth side provide true tracking in applications where long narrow belts are used to move products. Tracking guides are also common where products are side loaded, which can place a lateral shift on the belt's direction of travel.

Weld-on guides are offered with a notched design feature. Integral guides are extruded with included notches. Additionally, longitudinally grooved tracking guides can be supplied to provide maximum flexibility around pulleys.. Standard HabaSYNC® tracking guides are 92 Shore A hardness thermoplastic polyurethane.

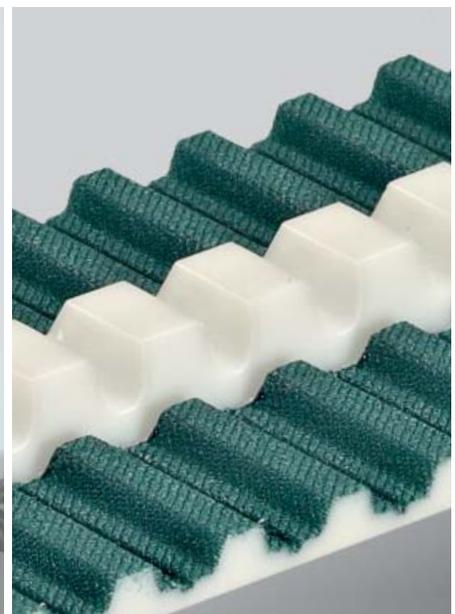
Welded profiles



Mechanically mounted profiles



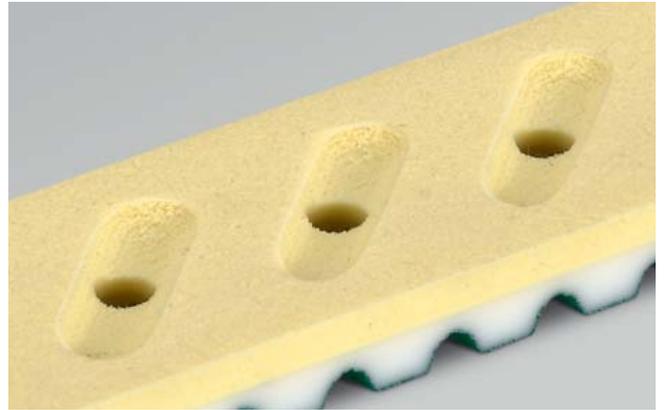
Tracking guide



Modifications to the cover and tooth side of a HabaSYNC® belt can enhance performance for your conveying and linear-positioning applications. Contact your nearest Habasit partner to share your ideas or discuss your application needs.

## Profile grinding

After covers are added, they can be ground to yield special designs to help maintain product control. Designs include slots, contours, V-shapes and round shapes.



## Surface grinding

Grinding of the added cover can provide tight thickness tolerances and, in many cases, deliver more friction from the conveying side of the belt.



## Lateral machining

Profiling across the belt width to create holders or pockets, or to reduce stress concentration on the cover as it flexes around pulleys.



## Hole punching/perforations

Holes can be placed in HabaSYNC® belts to meet the process and functional optimization you desire. In many cases, teeth can be removed in order for belts to be used in vacuum applications on product-feed lines.



Investments in automated equipment allow Habasit Fabrication Centers to develop the right belt for your application. Today, not only are synchronized conveyor belts required to insure accurate positioning, they are called upon to move the product efficiently from point A to point B. Global investments by Habasit in new automation equipment is designed to insure consistent product quality and ultimate performance from any Advanced Fabrication Centers worldwide.

## Flexibility in dimensions

You are flexible in design. HabaSYNC® belts can be made to your specific width and joined to your desired length by using our proprietary joining processes.

## Product-movement needs

High friction, low friction, slip and compressibility – just some of the characteristics where HabaSYNC® covers can assist in your product-movement needs.

From thermoplastics to rubber and foams and other specialty covers, Habasit Fabrication Centers can chose the right process to add the right cover to right base belt.

## Profiles meet custom design

When sortation, separation and actuation are needed to accompany synchronization, Habasit Fabrication Centers can apply profiles using several processes on the conveying side of the preferred belt. In many cases, profiles are designed to meet the custom needs of your application.

## Proper tracking with guides

Tracking guides on the belt's drive side are beneficial in applications where long narrow belts are used. Tracking guides provides for neutral running in a straight line. Additionally, tracking guides are used where products are side loaded onto the belt, assuring minimal lateral belt movement.

## Machined modifications

Additional machining steps are commonly used to enhance the performance of the belt's conveying performance during application. Holes for vacuum draw, pockets for product reading and deposit recognition, slots for handling and lateral grooves for venturing. Habasit investments in automated processes deliver products with consistently tight precision.



## Finger punch and joining

HabaSYNC® TPU open-end timing belts can be made to your desired finished length by using our finger-punch joining process.

The timing belt's ends are punched, interlocked together, then joined using our base-belt joining process.

Our joining process delivers the proper amount of heat and pressure with precision timing to insure a strong joint.



## Clamps

In many linear-positioning and lifting applications where the belt does not rotate completely around the pulley, mechanical clamps are used to secure the belt in place.

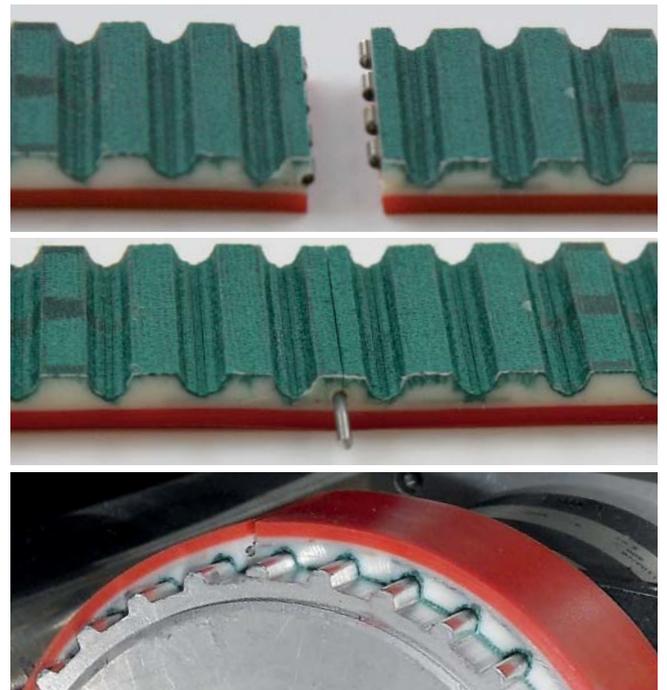


## Hinge Joint

A mechanical alternative for the joining of belts is available for slower-speed applications where loads are minimal.

Habasit's patent-pending Hinge Joint allows easy belt installation and replacement without long downtime and associated high costs. Even timing belts with covers or profiles can be fabricated using the new mechanical fastening design.

Both ends of the stainless steel joint are thoroughly integrated in the belt and connected with a pin. Only a small cut on the tooth and the conveying side is visible. The HabaSYNC® Hinge Joint is perfect for single or multiple side-by-side belts.



Habasit provides the full range of integrated accessories required in the belt operating environment. Timing belt pulleys in metric and imperial pitches are customized to your specific design requirements. We can also offer mechanical clamping plates for linear positioning and vertical lifts.

## **HabiPLAST® support guides**

Our HabiPLAST® timing belt support guides are designed to allow HabaSYNC® timing belts to run smoothly across a low-friction surface. HabiPLAST® thermoplastic offers high chemical and corrosion resistance. It is self-lubricating and designed to yield low noise.

HabiPLAST® guides are offered with or without raised edges and with or without tracking guides machined in the surface to accommodate G6, G10 and G13 tracking guides. HabiPLAST® is available to fit standard HabaSYNC® belt widths and can be supplied with or without metallic inserts.

## **Pulleys**

HabaSYNC® timing belt standard and custom-designed pulleys are made to order in metric or imperial pitches. The standard material is aluminum, but other materials such as stainless steel, plastic and UHMW are available on request. There is a choice of several designs, including bar-stock, no-flanges, single-flange or double-flange design, with or without hubs, and with specially machined finishes for keys and clamping mechanisms.

## **Clamps**

Aluminum timing belt clamping plates are used to join the belt ends in linear-positioning and vertical-lift applications where the belt moves bidirectionally between the pulleys on a horizontal or vertical plane.

Common applications:

- Linear actuators
- Mechanical slides
- Automated storage and retrieval systems





**Comprehensive services are central to Habasit's belting solution approach.**

**As committed partners to our customers, we are dedicated to sharing our knowledge and to providing full support.**



### **Comprehensive consulting and technical support**

Habasit offers the best consulting and technical support on the belting market. Everything revolves around our customers: each affiliate has its own belting experts. The Habasit team is proud to provide the highest levels of support, together with top-quality products that have been leaders on the global market for decades.



### **Assistance with belt selection and calculation**

We will select and calculate the most suitable belt for your specific application. You can also do this yourself with our state-of-the-art Habasit selection and calculation program "SeleCalc". To order this program free of charge, simply call your nearest Habasit partner or contact: [info@habasit.com](mailto:info@habasit.com).



### **Fabrication, assembly and local installation services for quick reaction times**

We make belts endless or assemble modular belts or chains, either at our own locations or on-site directly on your machine or system. Habasit operates over 30 affiliated companies worldwide, each with its own inventory, fabrication, assembly and service facilities. Together with our representative offices and numerous qualified distributors, we can react quickly, competently and reliably to satisfy all your demands.



### **Tools for on-site fabrication**

Because we understand your processes, we can support you with cost-effective, high-quality tools that keep your equipment up and running. In case of emergency our tools will help to minimize breakdown time and support the joining process.



Habasit offers skivers to prepare the belt ends of polyamide power transmission belts and spindle tapes prior to joining. Finger cutting devices to prepare aramide and polyester power transmission belts and TPU spindle tapes are also available. A selection of hot pressing devices to fit your applications and guarantee optimum quality of joining complement the range.

### **Customer training programs**

Habasit offers training programs and provides support tools to ensure optimal use of our products and to prolong their lifetimes. Training on fabrication, installation, assembly, maintenance and belt repair takes place at Habasit sites or at your location.



### **Belt monitoring, inspections, analyses and process optimization proposals**

We organize and handle belt maintenance, inspections, analyses and surveys for your locations. On request we will also work with you to develop optimization proposals, for example, to achieve added value from your machinery or process output.



### **Design assistance for customized solutions**

Habasit believes in partnership. Our engineering team will work closely with your engineers on joint design developments, preferably from a very early stage. We particularly recommend this for projects involving new technologies or large-scale modifications and adaptations.

# The Habasit solution



## Customers first

At Habasit we understand that our success depends on your success. This is why we offer solutions, not just products; partnership, not just sales.

Since our foundation in 1946, Habasit has brought this understanding of customer needs to life every day and for every application. That's why we're the No. 1 in belting today. Worldwide. Learn more on [www.habasit.com](http://www.habasit.com)

## Committed to innovation

Because our customers' belting challenges and needs never cease, we consistently dedicate a substantial percentage of our employees and resources to the research and development of new products and solutions.

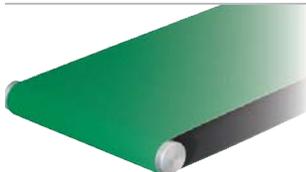
## Certified for quality

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

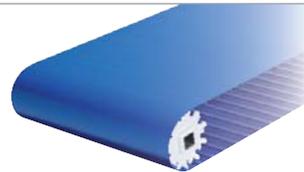
Habasit offers the largest selection of belting, conveying, processing and complementary products in the industry. Our response to any request is nothing less than a specific, tailor-made solution.



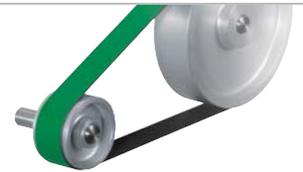
Fabric-based conveyor and processing belts  
**HabaFLOW®**



Plastic modular belts  
**HabasitLINK®**



Positive drive conveyor and processing belts  
**Habasit Cleandrive™**



Power transmission belts  
**HabaDRIVE®**



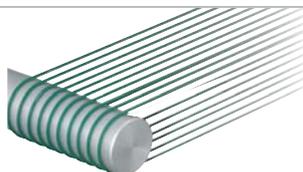
Timing belts  
**HabaSYNC®**



Chains (slat and conveyor chains)  
**HabaCHAIN®**



Machine tapes



Round belts



Seamless belts



Profiles, Guides, Wear strips  
**HabiPLAST®**



Fabrication tools (joining tools)



Gearmotors  
Electric motors  
Motion control