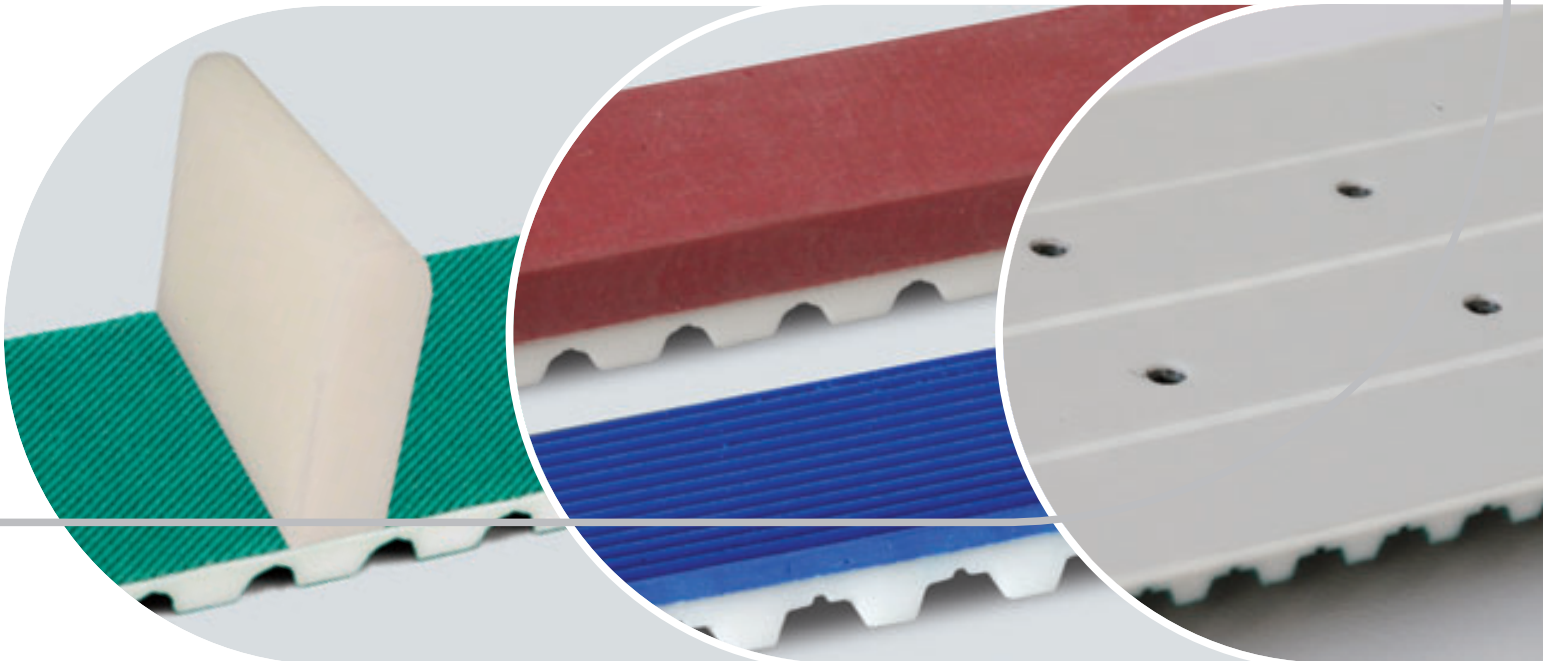


# HabaSYNC® Timing Belts

Habasit—Solutions in motion



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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.

BECAUSE CONDITIONS OF USE ARE OUTSIDE OF HABASIT'S AND ITS AFFILIATED COMPANIES CONTROL, WE CANNOT ASSUME ANY LIABILITY CONCERNING THE SUITABILITY AND PROCESS ABILITY OF THE PRODUCTS MENTIONED HEREIN. THIS ALSO APPLIES TO PROCESS RESULTS / OUTPUT / MANUFACTURING GOODS AS WELL AS TO POSSIBLE DEFECTS, DAMAGES, CONSEQUENTIAL DAMAGES, AND FURTHER-REACHING CONSEQUENCES.



## **Our experience**

For over 60 years Habasit has invented new conveying options by combining leading edge materials, committed research and development, material and textile knowledge, advanced manufacturing processes and state-of-the-art equipment to deliver solutions to a broad range of industries around the world.

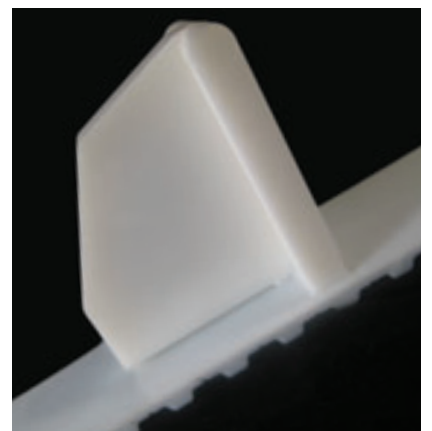
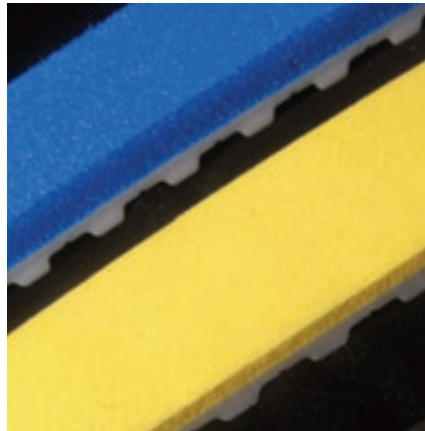
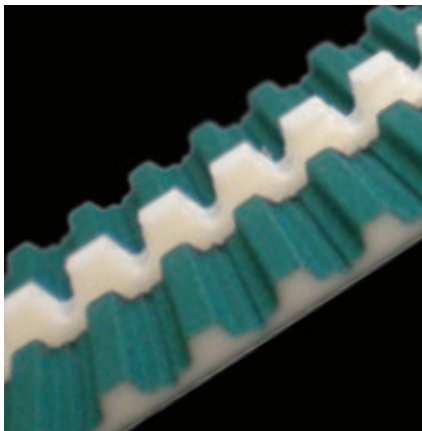
Base HabaSYNC® Timing Belts are produced at a new, state-of-the-art plant where ongoing investments mean new and better products, innovative product designs, and global competitiveness.

Additionally, our broad international coverage means that affiliated companies and their nearby partners can provide special fabrication to customize HabaSYNC® Timing Belts to meet the demanding needs of your applications.

High quality product, competitive worldwide pricing, industry segment specialists and responsive technical and customer service teams provide the needed support that will enable Habasit to become a leading provider of urethane timing belts to global customers.

As we join alongside our well known flat belt and plastic modular belt products, Habasit can now provide customers with the broadest choice of options for conveying and linear positioning applications.

Habasit with HabaSYNC® – solution providers worldwide.



HabaSYNC® Timing Belts are the right choice for applications where traditional belt designs are unable to provide synchronization. The HabaSYNC® Timing Belt can be made to your exact dimensional needs, and complemented with guides, profiles and covers to ensure your product or component is always in the right place at the right time.

## Business machines

- Large format printers
- Engineering plotters
- Tape libraries
- Document storage systems
- Copiers
- Lifts and elevating devices
- X/Y and XYZ devices
- Labeling equipment

## Printing, paper, postal

- Folder-glueurs
- Corrugating lines
- Collators
- Cutting lines
- Napkin folders
- Hygiene product manufacture
- Diaper lines
- Document feed systems
- Inserters
- Tissue and paper towel lines

## Materials handling

- Automatic storage and retrieval systems
- Induction conveyors
- Gantry cranes
- Lifting assemblies / vertical lifts
- Divertors
- Elevators

## Wood

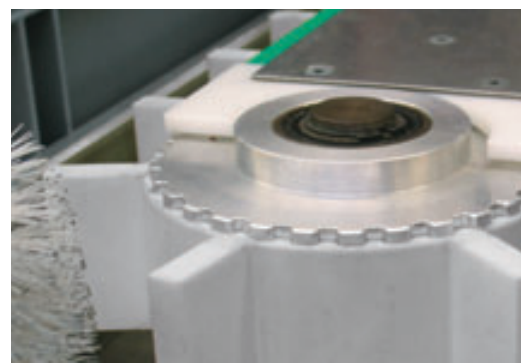
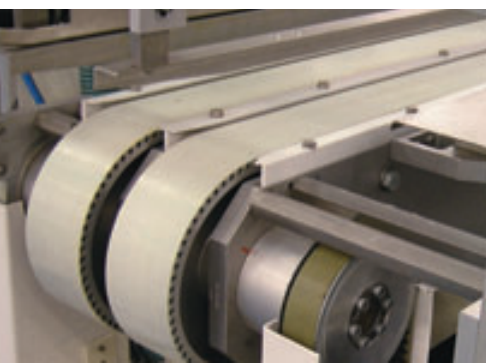
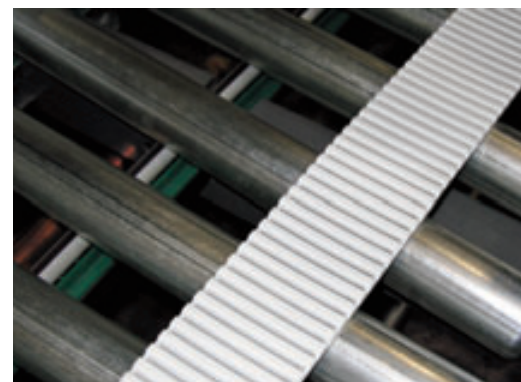
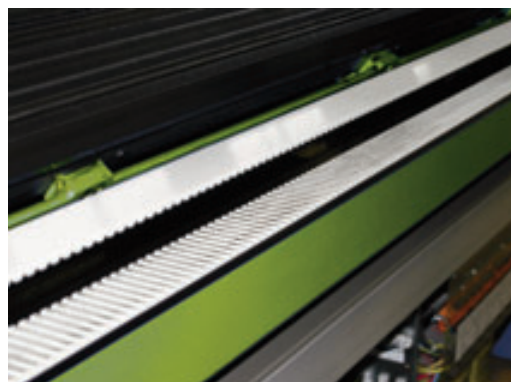
- Veneer conveying
- Window manufacturing
- Wood panel conveying
- Grinding and sanding lines
- Exercise equipment
- Stop gauge measuring equipment
- Diagonal cutting saw lines

## General conveying

- Plastic tote conveying
- Glass handling, cutting, bevelling and printing lines
- Ceramic and other tile handling
- Semiconductor wafers
- Circuit boards
- Solar panels
- Roofing shingle lines

## Packaging

- Case packers
- Horizontal inserters
- Vertical inserters
- Accumulation lines
- Pick and place packing
- Cartoners
- Box making



**Textile**

- X/Y fabric cutters
- Flat knit machines
- Circular knit machines
- Textile screen printing
- Crosslapper lines
- Nonwovens
- Embroidery machines
- Monogram lines

**Food**

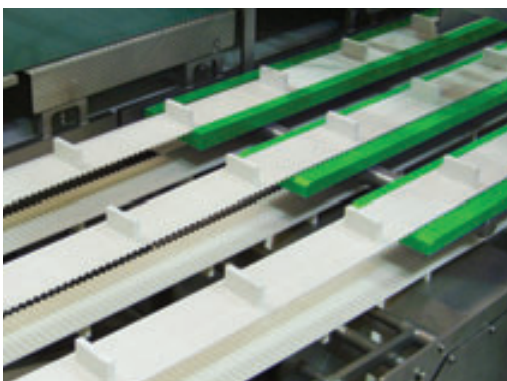
- Tray conveying
- Produce sizing lines
- Produce sorting lines
- Snack lines
- Candy lines
- Filling lines
- Frozen food lines

**Automotive**

- Tire manufacturing lines
- Sheet metal stamping lines
- Car wash X/Y drives

**Automation**

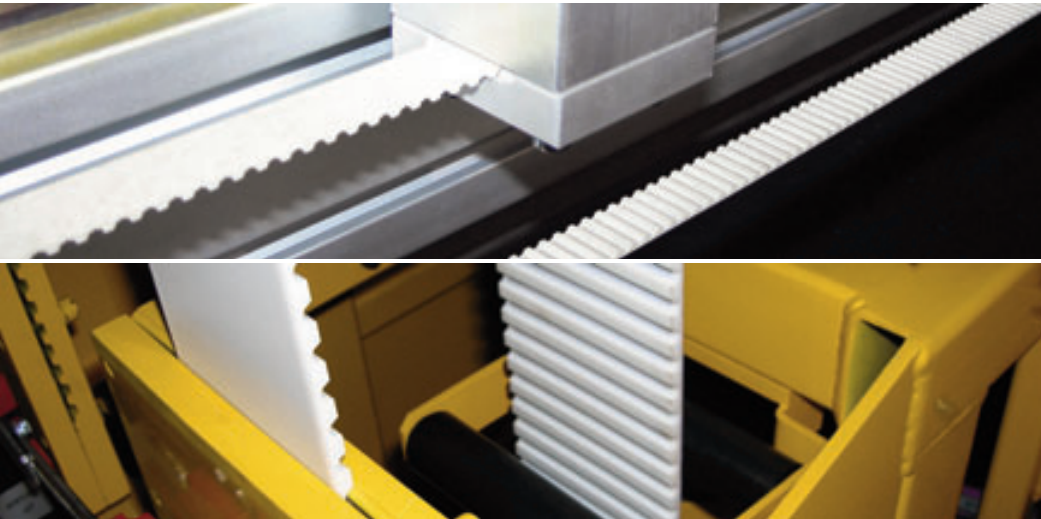
- Door openers
- Garage openers
- Gate openers
- Robotic X/Y movement
- Semiconductor assembly
- Vending machines
- Tenoner lines



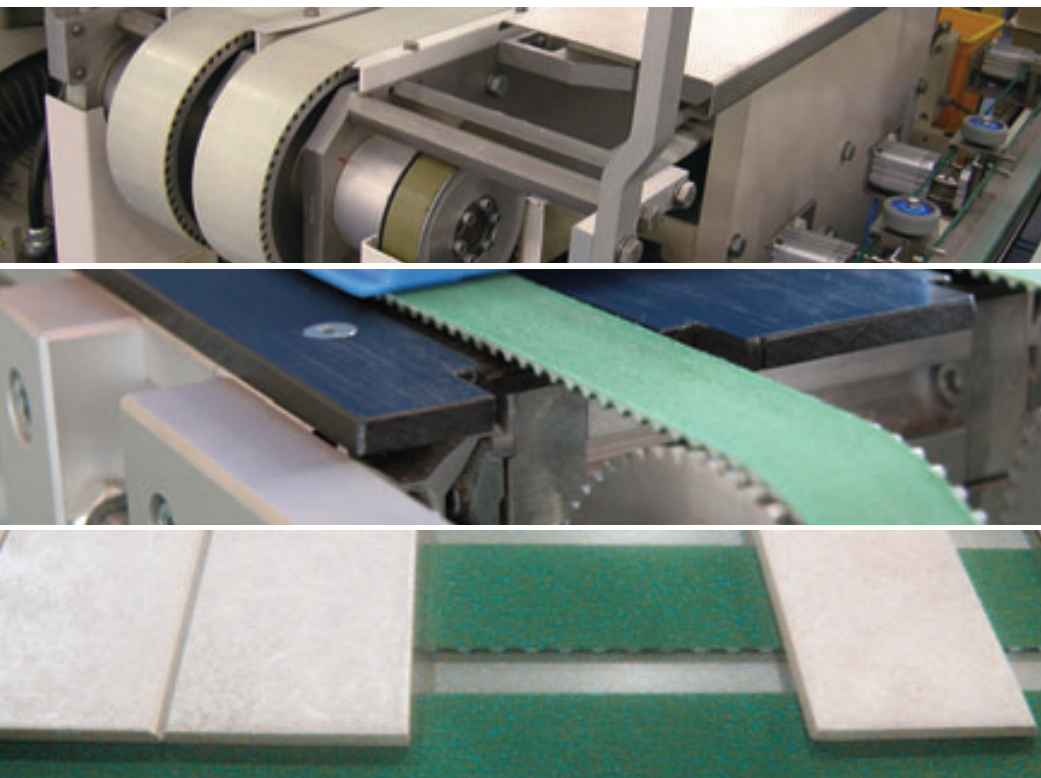
## Unlimited application variety

Timing belts can be found in a variety of applications. Some examples include general or transfer conveying, capstan haul-offs, linear drives, live roller drive elements and thread carriers. Many conveyors also utilize timing belts, such as: accumulation, parallel, synchronous, indexing, tractor/twin, cycling, positioning, assembly, magnetic, vertical and mechanical handling.

Find more information in the HabaSYNC® Engineering Guide at [www.habasync.com](http://www.habasync.com). Habasit application engineers can help you design the optimal belt for your application.



**Linear movement**



## General conveying

- Multi-lane synchronized conveyor
- Parallel conveyors in product accumulation
- Accumulation

HabaSYNC® Timing Belts are the perfect choice for applications requiring precision product or component placement. Perfectly formed teeth and accurate tooth tolerances, along with the strength delivered by steel and aramide cords, assure efficient entrance and exit from the pulley in single or bi-directional drive applications.

HabaSYNC® belts are designed to run quietly and deliver many years of performance. For higher speed applications, we offer polyamide fabric added to the tooth side (PT) for the ultimate in low noise and wear resistance.

Match the benefits of HabaSYNC® synchronized tooth engagement for accurate product placement with the correct profile or cover for conveying assistance, and you have precisely the right belt for your application.

## Structure / material qualities

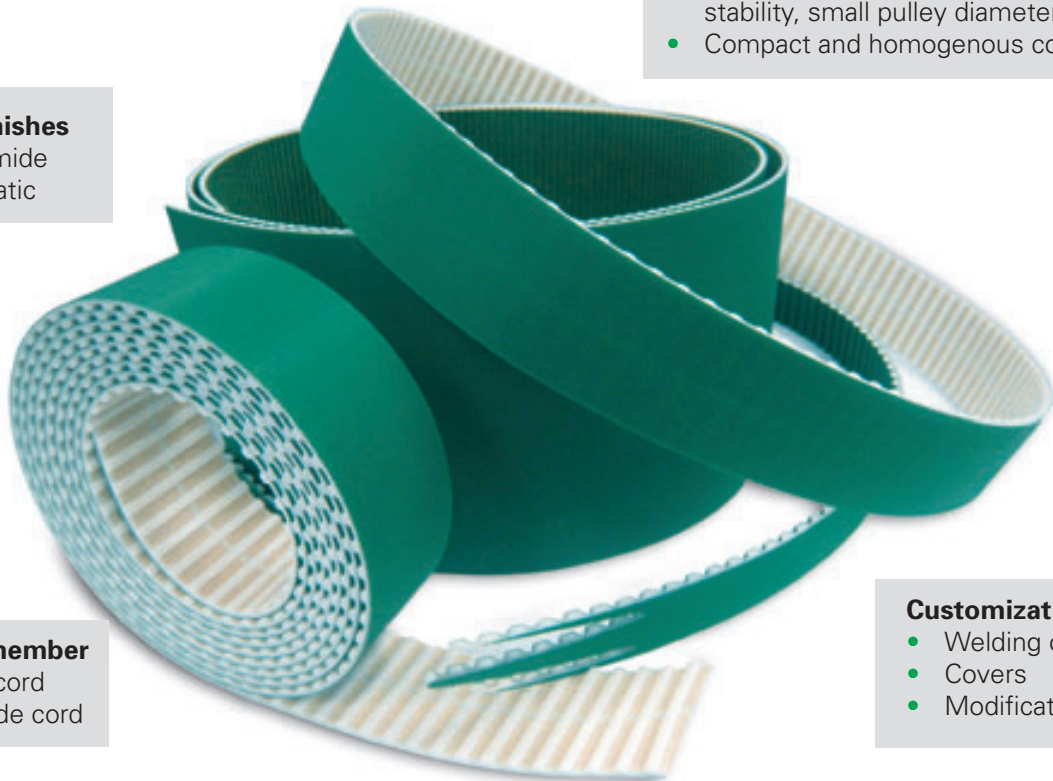
- Highly abrasion resistant thermoplastic polyurethane
- Long life
- Low ageing
- High oil and ozone resistance
- Good chemical resistance

## Design advantages

- Accurate tooth position stability (precision tooth form)
- High indexing accuracy / pitch accuracy
- Low elongation, longitudinal stability
- No slip / self-tracking
- Low bearing load
- High flexibility
- Small return radius, high bending stability, small pulley diameters
- Compact and homogenous construction

## Fabric finishes

- Polyamide
- Antistatic



## Tensile member

- Steel cord
- Aramide cord

## Customization

- Welding of profiles
- Covers
- Modifications

## Running properties

- Quiet running
- High transmission ratio
- High power-to-weight ratio
- High efficiency (98% – 99%)
- Belt speed up to 30 m/s / 5905 ft/min
- Maintenance free

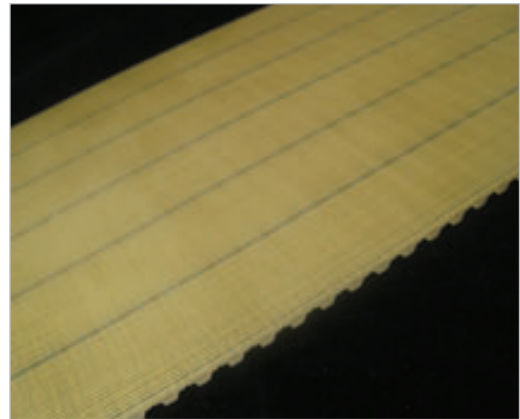
## Availability

- Coil, roll and cut to length dimensions
- Large variety of standard widths available as well as special dimensions on demand
- Belts ready for joining
- Joined endless belts

HabaSYNC® belts made with FDA polyester TPU are available in selected pitches for the direct handling of food products in dry environments. Clear HabaSYNC® in 88 Shore A hardness is reinforced with aramide cord and available in XL, L, H, T5 and T10 pitches.

HabaSYNC® FDA dry conveying belts are designed with dedicated slit lanes, which ensures no cord exposure on belt edges.

In addition to direct dry food handling, HabaSYNC® with profiles and FDA cover materials are popular in food packaging applications to enable product separation and provide enhanced frictional requirements.



## TT5 A belts for circular knitting

HabaSYNC® circular knit belts further expand Habasit's strong position in the textile industry. Habasit, recognized for its outstanding quality and reliability of transmission belts and spindle tapes, produces HabaSYNC® TT5 A with aramide cord reinforcement.

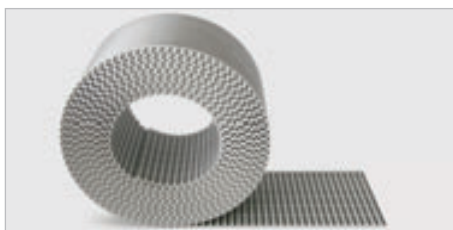
HabaSYNC® TT5 A belt in 10 mm width can be made endless to the desired length of your application.



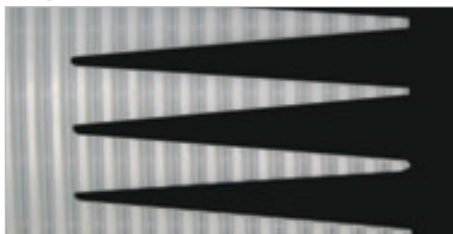
## Availability options

HabaSYNC® Timing Belts are extruded in open end length and can be provided as follows:

### Open end style (O)



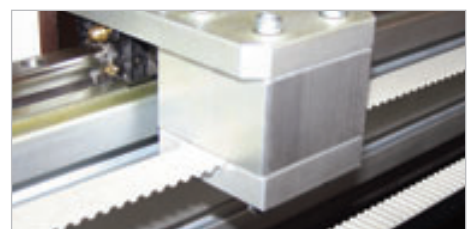
### Prepared ends (P)



### Joined endless (J)



### Mechanical joints

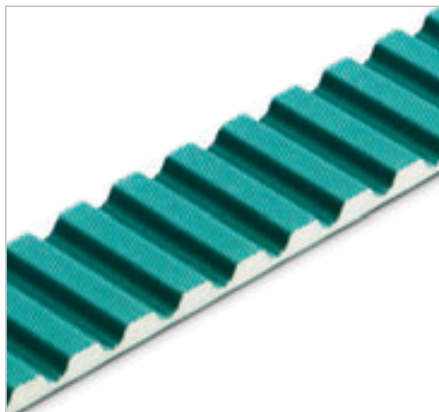




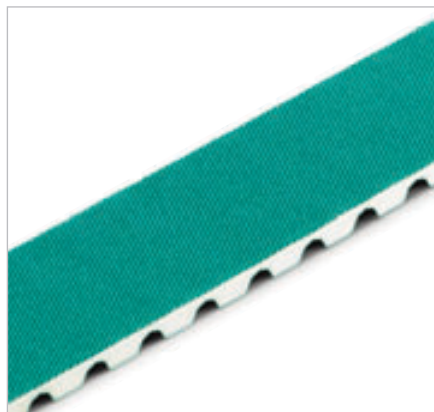
Habasit offers variations of covers to our base steel and aramide timing belts with polyamide fabric.

## Polyamide finishes

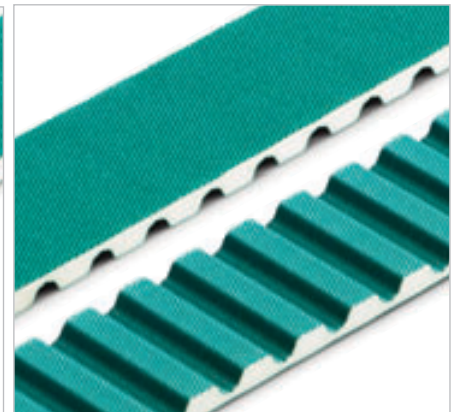
HabaSYNC® belts are available with finishes designed to optimize application performance. Polyamide fabrics provide low friction which reduces coefficient of friction (COF). A polyamide finish can also provide incremental wear resistance and offer lower noise benefits in certain applications.



**Polyamide tooth side (PT)**



**Polyamide conveying side (PC)**



**Polyamide tooth and conveying side (PTC)**

For the coefficient of friction values of polyamide against typical conveyor bed material, please go to [www.habasync.com](http://www.habasync.com) where specific product data sheets can be found under Products.

## Antistatic finishes

In many electronic related conveying applications, paper conveying applications and movement of sensitive parts, the standard TPU elastomer could build-up a static electric charge. For these applications, Habasit has created an antistatic fabric timing belt designed to dissipate the electrical charge which may build-up in the belt during service. HabaSYNC® antistatic belts are available in T5, T10, AT5 and AT10 pitch.



## Support guides

HabiPLAST® guides are designed to reduce the coefficient of friction (COF) between the teeth on a timing belt and the conveyor surface.

The thermoplastic is self-lubricating and is designed to yield low noise. HabiPLAST® also offers high chemical and corrosion resistance.

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. For more details, please see the product brochure (4097) at [www.habasync.com](http://www.habasync.com).

## Other accessories

In addition to support guides, clamping plates and pulleys are common to the conveying and linear positioning environment. Habasit can provide the total solution package with the assistance of outsource partners. For more information on this service, please contact your local Habasit partner.



## Other cords

In many application designs, smaller pulleys will require more flexible cords while heavier lifts and larger masses on bi-directional applications will require a stronger tensile member. For these

requirements, please contact your local Habasit partner to obtain the latest information on available HabaSYNC® cord types.

## Other TPU options

Most HabaSYNC® products presented in this brochure are ester type TPU materials. Ester TPU is used in our standard products because of its outstanding wear and chemical resistant benefits.

Ester type TPU elastomer however, is not considered the best material for applications where wet environments or higher humidity can be found. For these special needs, ether type TPU elastomers

would be a better choice. Some ether TPU is FDA approved. They exhibit excellent hydrolytic stability, although wear resistance is reduced.

Additionally, elastomers that provide good microbe and hydrolysis resistance are available. For these requirements, please contact your local Habasit partner to obtain the latest information on available HabaSYNC® TPU types.

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 are commonly found in the following applications:

- Assembly lines
- Packaging operations
- Inserting and collating
- Pick and place automation
- Divertors
- Filling lines
- Inspection lines

Habasisit uses several varieties of attachment technology to add profiles to the base belt. Consideration of the technology used is typically related to the profile design complexity, profile spacing and the number of belts and profiles required.

Profiles for HabaSYNC® are mainly provided in 92A shore hardness material; the same as the base belt, however other hardness materials are available.

Profiles are obtained in several manners; extrusion, injection or machining. The choice of profile sourcing is dependant on shape, dimensions and quantities required.

Some profiles are considered more standard than others. Shown below are illustrations of shapes considered to be more common in the industries we serve. Of course 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.



## Profile examples



## Tracking guides (longitudinal guides)

Tracking guides are placed on the tooth (drive) side of the belt to provide true belt tracking in applications where side loading of the belt can create a perpendicular or lateral shift of the belt from its direction of travel. Tracking guides are also beneficial on long center distance applications and where flanged pulleys could affect product movement. Tracking guides can be notched or longitudinally grooved to provide maximum flexibility around pulleys.

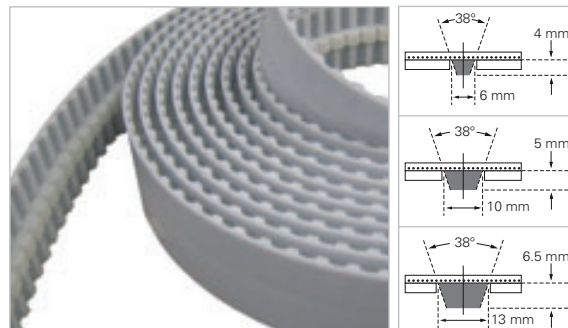


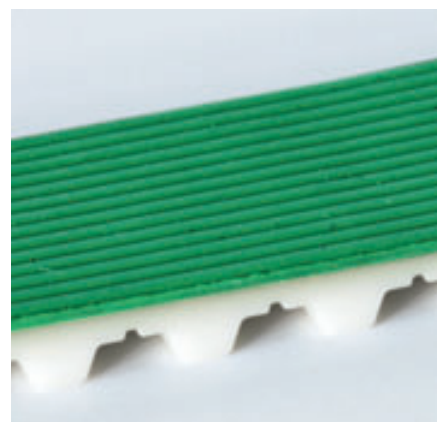
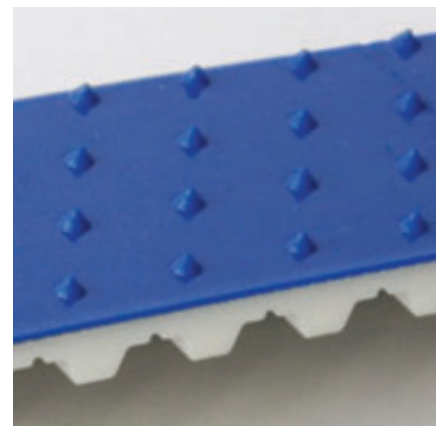
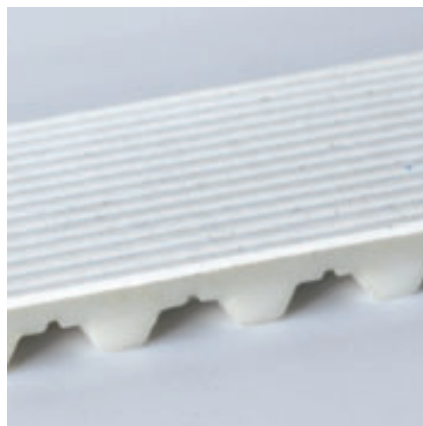
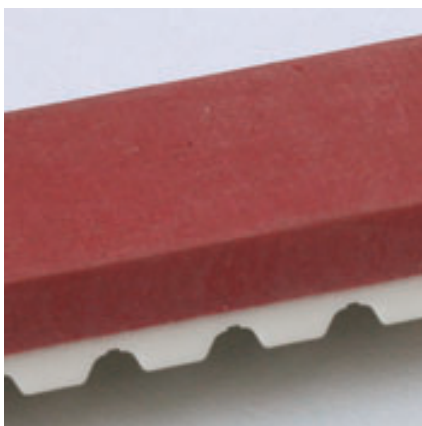
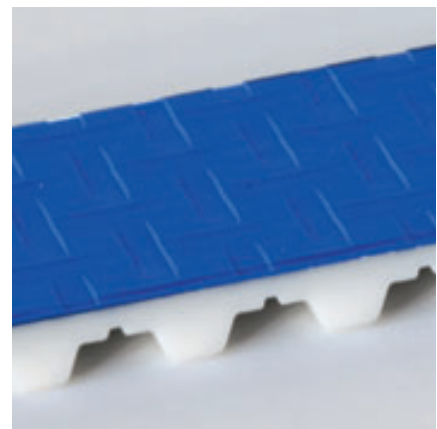
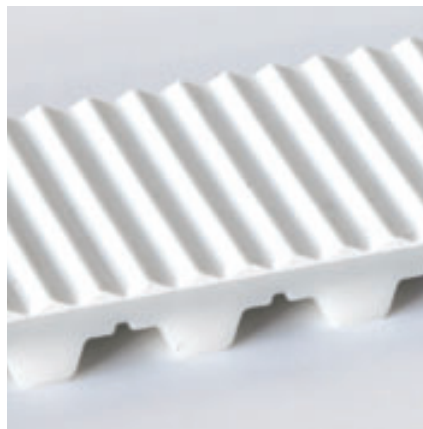
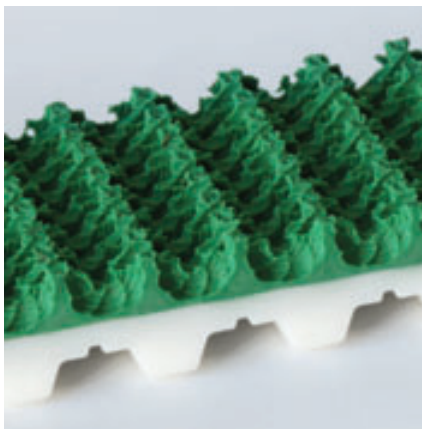
Illustration: Cross section of a timing belt with tracking guide (gray) on toothside. Tracking guide cross section G6, G10 and G13.

Standard HabaSYNC® tracking guides are available in 92 Shore A thermoplastic polyurethane as well as lower durometer thermoplastic urethane. For details, please consult our website: [www.habasync.com](http://www.habasync.com).

In order to provide the right frictional performance for your synchronous conveying application, Habasit offers a wide range of cover options from which to choose. Depending on your application, the product conveyed and its environment, HabaSYNC® cover options ranging from industry standard materials and well known Habasit covers types can be added to our belt.

Using processes that range from in line extrusion, lamination or secondary fabrication, Habasit cover materials provide solutions for the following types of requirements:

- High Friction
- Low Friction
- Compression
- Shock Absorption
- Ease of release
- Fragile conveying
- Electrostatic discharge
- Abrasion resistance
- Heat resistance (cover only)
- FDA



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.

## Common modifications include:

### 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

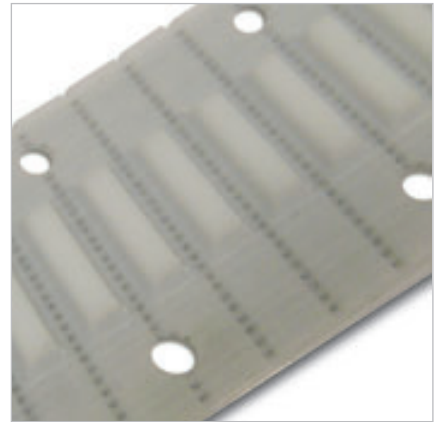
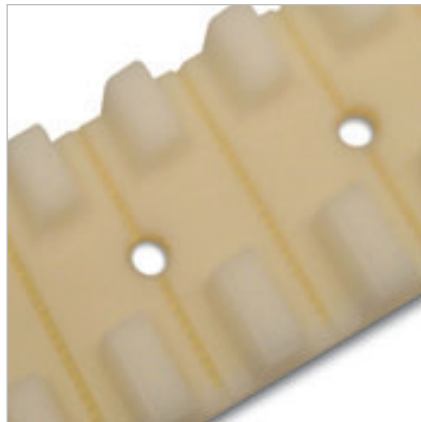
Grinding of the added cover can provide tight thickness tolerances and, in many cases, deliver more friction from the conveying side of the belt.

### 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.



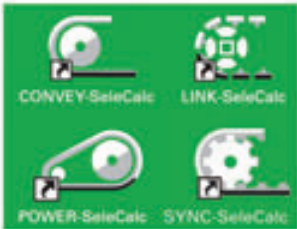
**Comprehensive services are central to Habasit's belting solution approach.**

**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 proudly provides the highest levels of support and top quality products enjoyed by the global market for over 60 years.



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

We will select and calculate the most suitable belt for your specific application. You also may 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 33 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.



### **Customer training programs**

Habasit offers training programs and provides support tools to ensure optimal use of our products and to prolong their lifecycles. 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, e.g. to achieve added value from the 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.

**At Habasit, we listen to our customers, innovate continuously and deliver reliable solutions to meet your every need.**

### Customers come first

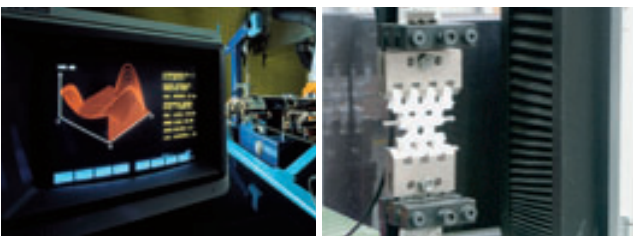
At Habasit we understand that our success depends on your success. This is why we offer solutions, not just products; partnership, not just sales.

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.



### Committed to innovation

Habasit is strongly committed to the continuous development of innovative, value-added solutions. Over 3% of our staff are dedicated exclusively to R&D, and our annual investment in this area exceeds 8% of turnover.



### Worldwide support

Our extensive organization is ready to support you anywhere in the world. Engineering and emergency assistance, quotes and order status are just a phone call away. Wherever you are. Whenever you need us.

**For additional information please visit: [www.habasit.com](http://www.habasit.com)**

### 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.

A selection of our product ranges:



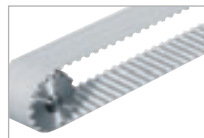
**HabaFLOW®**  
Fabric based conveyor and processing belts



**HabasitLINK® & KVP®**  
Plastic modular belts



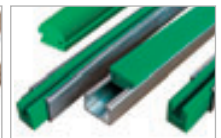
**HabaDRIVE®**  
Power transmission belts



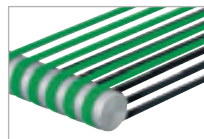
**HabaSYNC®**  
Timing belts



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



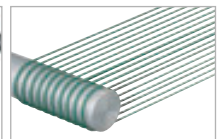
**HabiPLAST®**  
Profiles, guides, wear strips



Machine tapes



Seamless belts



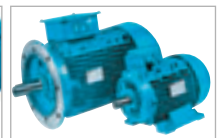
Round belts



Fabrication tools (joining tools)



Gear reducers, gearmotors, motion control



Electric motors

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