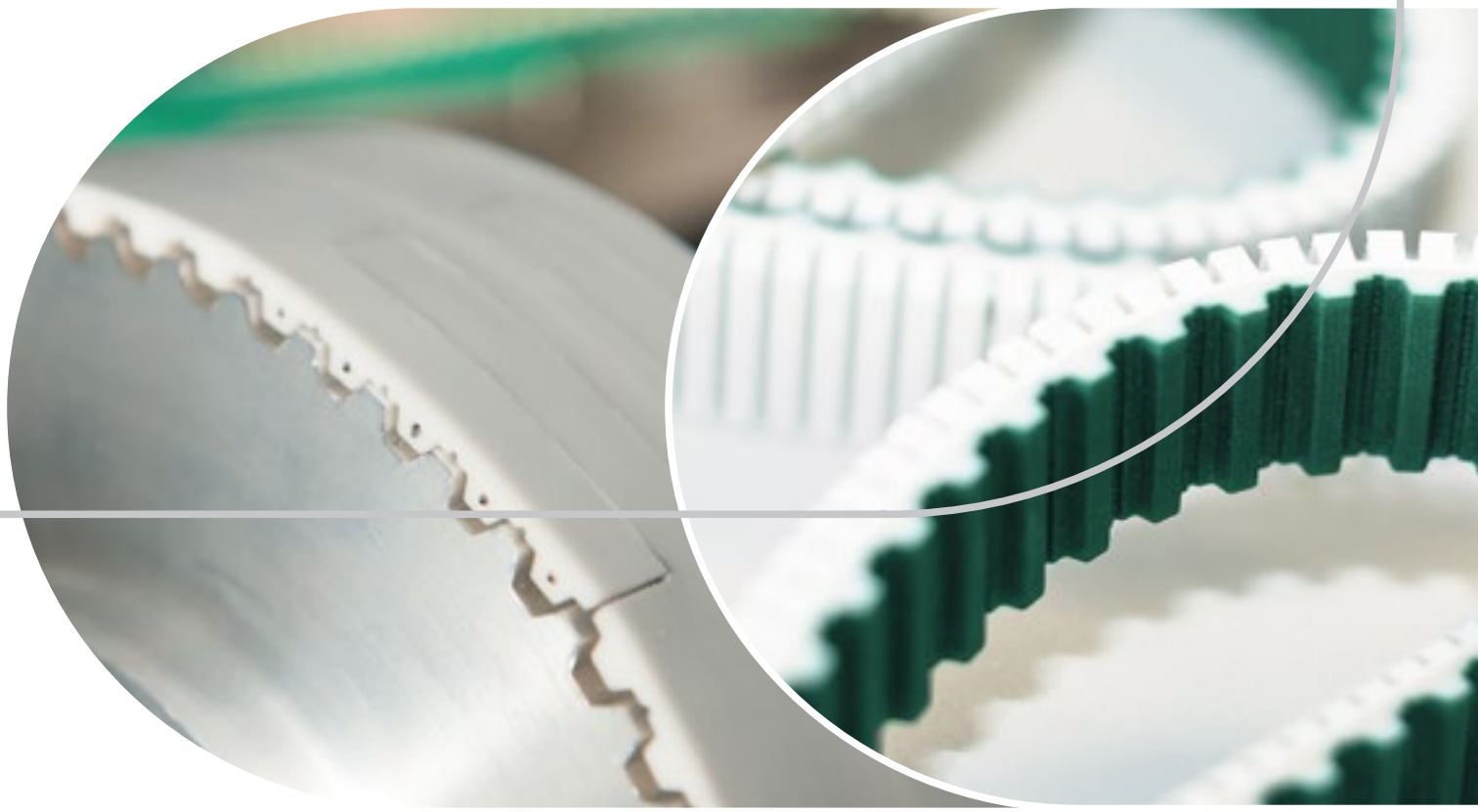
Habasit – Solutions in motion

habasit

HabaSYNC® Timing Belts

Products and Fabrication Capabilities



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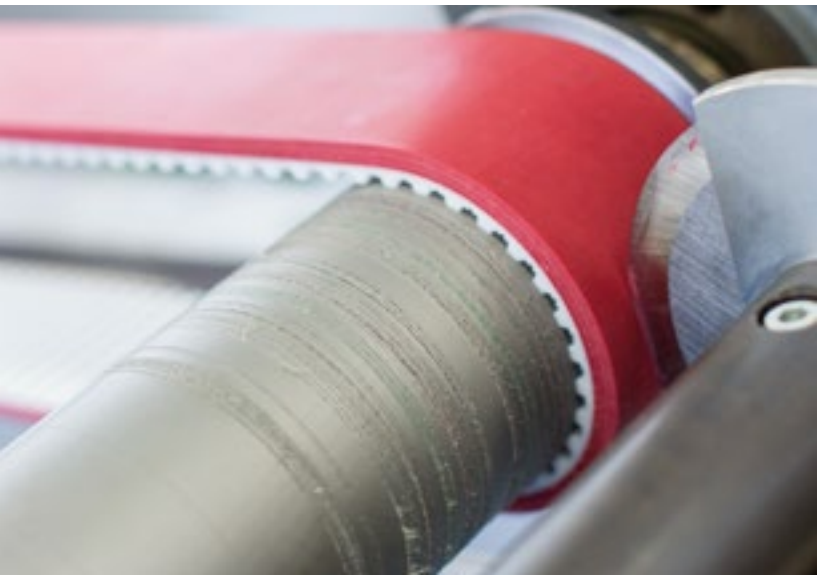
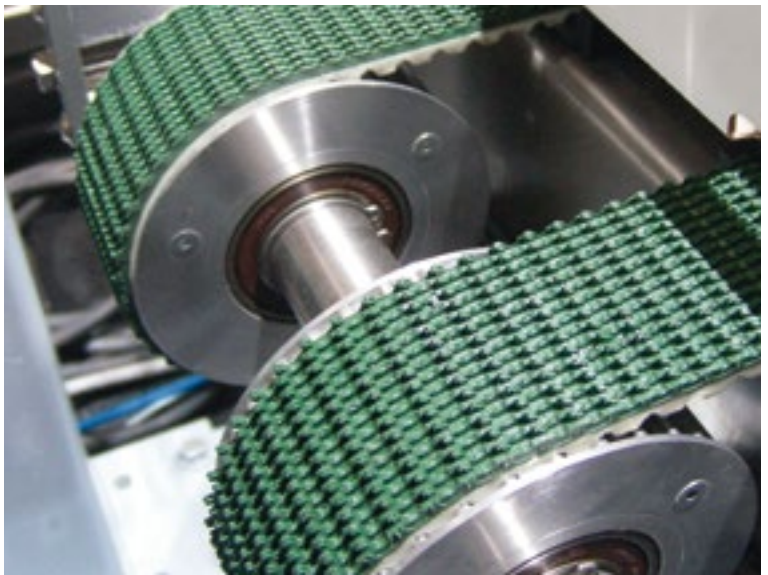




Introduction

HabaSYNC® timing belts – Swiss precision by nature
Process automation is essential for achieving high productivity and competitiveness in today's challenging business environment. In the manufacturing and materials handling industries, optimum performance for conveying and linear movement applications requires precise product positioning and synchronous conveying, along with high operational efficiency and reliability. And all this, while meeting ever-increasing environmental and energy-saving requirements.

The HabaSYNC® range of timing belts and accessories delivers the precision, efficiency and reliability you need for your particular application. Backed by our extensive experience and deep understanding of the industries we serve, our solutions naturally also comply with the latest environmental regulations.

A notch above the rest
All HabaSYNC® timing belts, pulleys, profiles, covers and other accessories have been developed through Habasit's meticulous dedication to solving the issues that our customers face in their specific applications.

Top-quality materials
HabaSYNC® belts are made of thermoplastic polyurethane (TPU), reinforced by steel, aramid or specialty cords. TPU is resistant to oil, grease, and chemical agents, as well as UV-resistant, weather-resistant, and extremely wear- and abrasion-resistant. Special versions also have FDA/EU food approval.

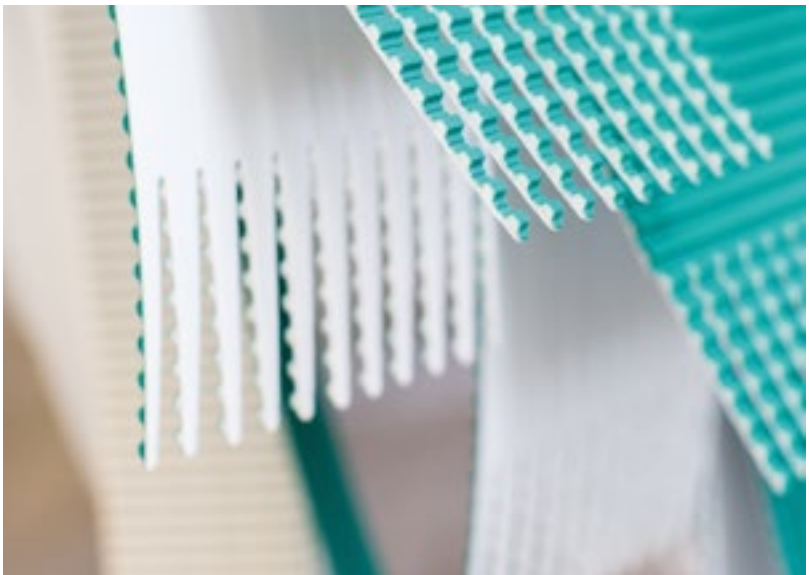
Our insistence on using only top-quality raw materials and maintaining the highest manufacturing consistency translates into reliable products with a long service life to meet your most demanding needs. Furthermore, all Habasit products meet the EU's Restriction of Hazardous Substances Directive 2011/65/EU (RoHS 2), and all our manufacturing plants and processes are ISO 9001 certified.

Customization options
At Habasit, quality goes beyond manufacturing the belts. Equally important are the fabrication capabilities that make our belting solutions truly adaptable to every need. These include our range of joining methods, flights and profiles, plus hole cutting and pocket options, and the widest range of cover materials on the market to meet almost any mechanical, physical or chemical challenge.

If you cannot find what you need in our standard offer, we will work with you to find a solution using our customized manufacturing capabilities.

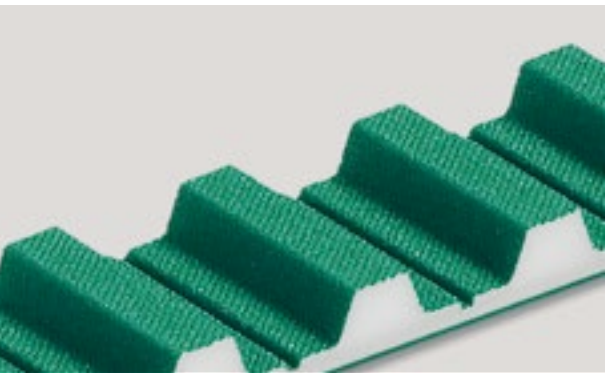
Dedicated to high quality service
Wherever you are in the world, Habasit's extensive distribution network and dedicated team of application engineers, product specialists and service technicians will ensure you receive the reliable and timely local service you need. We are giving you Swiss levels of reliability, service and efficiency at all times and in every location.

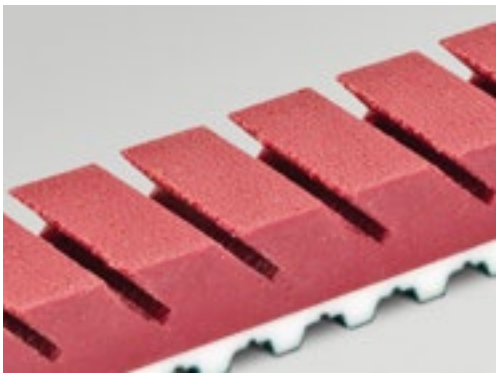
Read on for details of our various belt types and accessories.

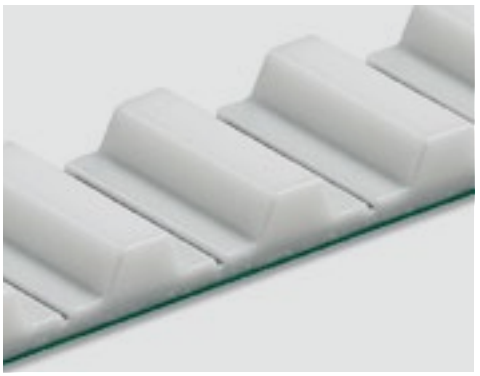


HabaSYNC® open-end timing belts

When you require parallel or linear synchronicity for timing belt conveyor applications, HabaSYNC® open-end belts meet the challenge thanks to their exact tooth pitches with very small tolerances. The belts deliver precise positioning and gentle product conveyance without damage or bottlenecks, while supporting increased throughput and greater efficiency due to tighter product spacing on the belt.







HabaSYNC® open-end belts also offer the highest possible and most efficient drive characteristics. They feature low noise and minimal start-up delay due to their low mass inertia and high torsional stiffness, which provide the added benefits of smooth running and precise directional stability. Furthermore, Habasit's unique manufacturing processes allow precise tolerances that ensure even distribution of the load, and make our open-end belts suitable for transmitting high torques.

Dimensional accuracy, long lifetimes
Like all HabaSYNC® timing belts, our open-end belts are made of abrasion resistant TPU matrix material and high-strength cords. This combination ensures dimensionally accurate and highly durable timing belts.

If required, open-end belts can be equipped with friction reducing, wear-resistant polyamide fabric on the tooth side, and with highly abrasion-resistant polyamide fabric on the conveying side, or on both sides. These fabrics are also available in antistatic versions. While our timing belts can operate at ambient temperatures between -30 °C / *-22 °F* and +80 °C / *176 °F*, different belt materials are available for particular temperature ranges and application areas.

HabaSYNC® open-end belts offer the following characteristics:

Mechanical properties
- Friction / adhesion
- Release
- Abrasion resistance
- Wear resistance
- Cut resistance
- Compressibility

Physical properties
- Antistatic
- Electrical conductivity
- Cold resistance
- Hydrolysis resistance
- Flame retardance

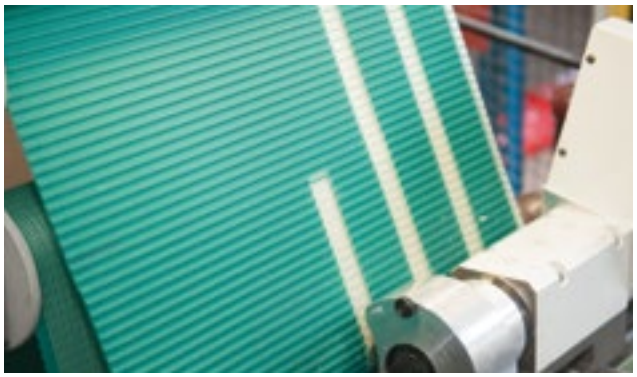
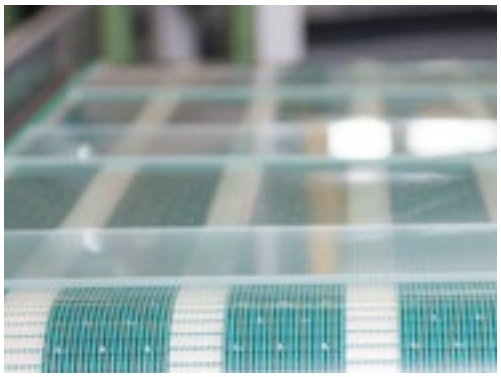
Chemical properties
- Oil and fat resistance
- Acid and base resistance
- Ozone and UV resistance
- Antimicrobial properties
- Food approved
- Easy to clean

For special applications, we offer timing belts for use in low or high temperature ranges, challenging environmental conditions and also for direct food contact.

In addition to the standard steel cords; stainless steel, flexible steel, high strength steel and aramid cords are available.

HabaSYNC® wide timing belts

HabaSYNC® wide timing belts are designed especially for synchronous conveying applications and precise product positioning where wide-surface conveyance is required. Wide timing belts can be ordered in widths of up to 600 mm.


Habasit wide timing belts provide positive drive and synchronized conveying. This results in slip-free conveyance, more precise belt running, higher timing and positioning accuracy, and less elongation. This yields a lower shaft load and consistently lower energy consumption.

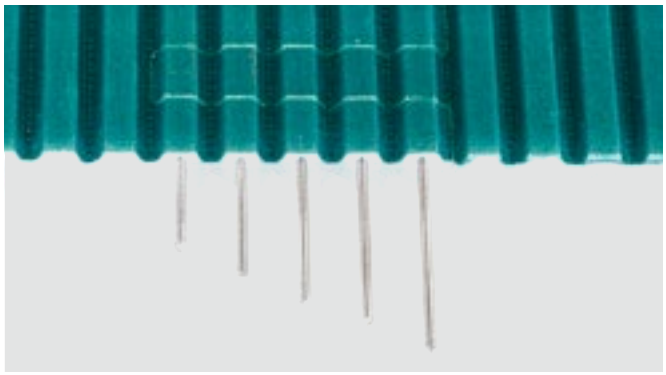
Offered in widths of up to 600 mm the wide timing belts can be used in many applications, such as in the tire industry, food production, materials handling and beverage industry.

HabaSYNC® wide timing belts are made with TPU matrix material and aramid cords. They are offered with polyamide fabric on the tooth, conveying or both sides. Belts can be fabricated with milling, perforations, covers, or profiles to fulfill even extraordinary application requirements.

Habasit wide timing belts expand the design range for the use of synchronous properties to better serve application needs.

HabaSYNC® open-end joining

A timing belt is only as strong as its weakest link. Whatever your application, Habasit can provide the right joining method to ensure faultless belt performance, a long service life, and excellent application safety. Thanks to our expertise and wide range of connection technologies, you can access a full range of configuration options for your application.



Connection options
The following joining technologies are available:
- Welded joints = Habasit Flexproof
- Mechanical joints = 5, 8 or 11 pins
- Mechanical joints = Habasit hinge joint
- Mechanical joints = Habasit heavy hinge joint
- Mechanical joints = Polyamide hinge joint
- Clamp plate butt end

Welded joints - Habasit Flexproof
Habasit offers all its thermoplastic timing belts with a welded Habasit Flexproof joint as standard. HabaSYNC® timing belts can also be supplied with an open, prepared Habasit Flexproof joint for on-site assembly. This enables faster belt assembly directly on the application with minimum effort. Habasit offers the tools needed to make these on-site installations.

Mechanical joints
In many synchronous conveying applications, replacing timing belts can be very time-consuming, especially in the case of multi-line systems or difficult-to-reach belts. Mechanical joining methods make this job fast and easy. A further advantage is that they require little space and no special tools. Joining on-site provides a level of flexibility with more configuration options for the belts in the joint area (coatings, profiles, perforations, etc.) resulting in a wider field of application.

Mechanical joints – pin joint
Pin joints are flexible. Precision holes in the teeth form a sturdy guide for the connecting pins and guarantee a safe and reliable joint. The minimum deflection diameter specified by the belt is not negatively affected by the pin joint. A choice of 5, 8 or 11 connecting pins is available in this method, depending on the application. Other pin configurations can be provided for special requirements.

Benefits
- Reduced in installation time
- A fast "do-it-yourself" solution
- Only simple tools needed
- Stronger and more precise pitch control than conventional synthetic belt fasteners
- Wide range of tooth profiles available
- Suitable for most types of belt reinforcements
- Does not require large pulleys

HabaSYNC® open-end joining

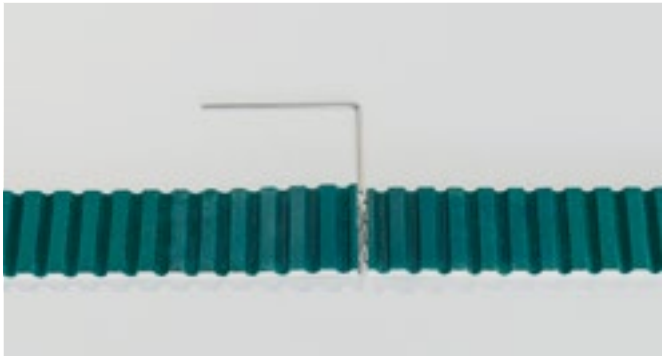
Mechanical joints – Habasit hinge joint
These unique connection types developed and patented by Habasit offer the same benefits as pin joints, while providing the best joint tensile strength and transversal rigidity on the market. The bending plane of the belt is not changed by the hinge joint, which prevents fast-running belts from vibrating. The joint is completely integrated in the belt body, which means that there are no open spots or gaps in the belt surface.

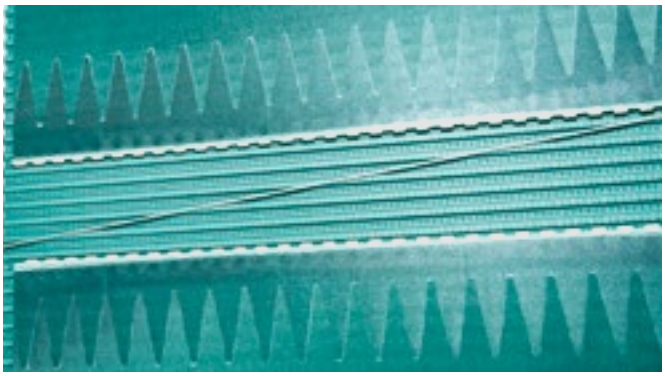
Hinge joints are suitable for food applications due to the use of stainless steel and polyamide. All teeth remain with no gap; and in the area of the connection, only a narrow cut is visible.

Mechanical joints – Habasit heavy hinge joint
Habasit heavy hinge joints use stronger metal sheets and pins for larger belt pitches and greater belt strengths, making them suitable for particularly heavy applications.

Mechanical joints – Polyamide hinge joint
Polyamide material characteristics allow dynamically higher loading capacities. This makes PA hinge joints an ideal application solution for wide timing belts.

On-site installation, tool range, and service and installation team
Habasit offers an extensive range of installation tools for independent on-site installation, and our technical support team will be glad to provide advice on joining methods and allowable belt loads. As an option, the Habasit service and installation team is also available to customers at all times.





HabaSYNC® flex seamless timing belts

HabaSYNC flex seamless (truly endless) timing belts are ideal for synchronized conveying and precise positioning of heavy loads. Manufactured with helically wound cords, they provide double the strength of joined endless belts. They can also be used in high power transmission applications.

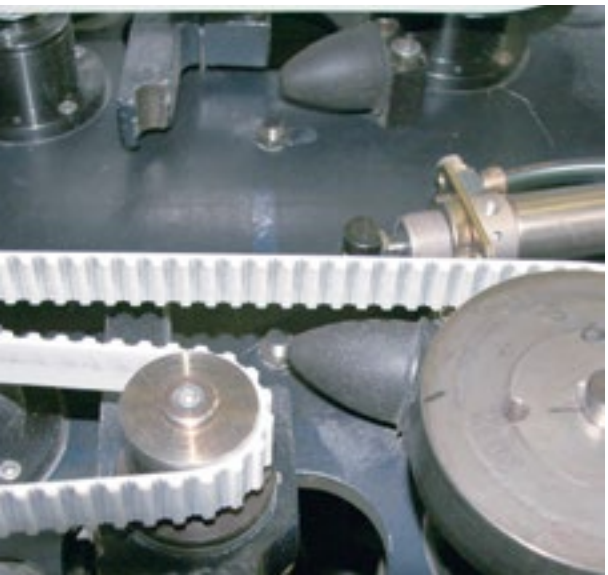
HabaSYNC® seamless timing belts are manufactured in endless lengths without cord interruption. The cord is coiled in a spiral shape. They can be universally used for all tasks in conveyance and power transmission engineering up to 10,000 rpm.

Synchronized conveying
When timing belt conveyor applications require parallel or linear synchronicity, HabaSYNC® seamless timing belts meet the challenge thanks to exact tooth pitches and very small tolerances. Smaller tooth pitches can be used while offering the same performance as welded endless belts. This allows for smaller pulley diameters and shorter transfer points.

Precise positioning
The seamless design allows highly precise positioning over the entire length of the belt and gentle product conveyance without damage or bottlenecks. Tighter product spacing on the belt supports increased throughput and results in greater efficiency.

Drive power transmission
HabaSYNC® seamless timing belts offer the highest possible and most efficient drive power transmission. They feature low noise and minimal start-up delay due to their low mass inertia and a high torsional stiffness, which provide the added benefits of smooth running and precise directional stability. The seamless design with uniform and precise tooth pitch over the entire belt length ensures flawless operation, especially for high power transmission.

Materials
HabaSYNC® seamless timing belts are made with the same high quality cords and TPU materials as our open end timing belts. Seamless timing belts can be produced with friction-reducing, wear-resistant polyamide fabric on the tooth side. These polyamide fabrics are also available with antistatic properties.

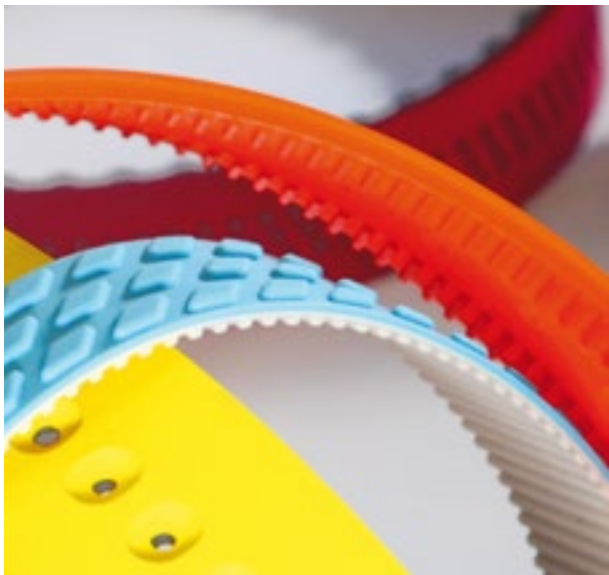


Cast timing belts

HabaSYNC® cast timing belts integrate the best of Habasit timing belt expertise with the design accuracy and dimensional precision of a molded belt solution.

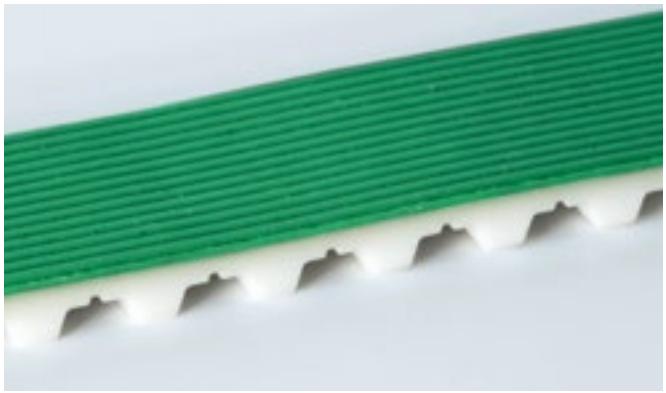
Cast belts are made with thermoset elastomers such as cast polyurethane and silicones and with a wide variety of cords including steel, aramid, polyester and fiberglass. The molds can be machined to yield intricate shapes and contours to match application needs.

Cast belts are typically provided when a complex construction is required and molding is the right solution.



Covers

To help meet the most demanding application needs, a vast selection of different covers and surface structures for HabaSYNC® timing belts is available.



Habasit offers the largest cover portfolio on the market, giving you a choice of over 100 different types of covers, divided into six material groups:

- Elastomer / rubber
- PVC
- Polyurethane
- PET / fleece
- Foams
- Special materials

Our wide range of cover options allows a broad selection of mechanical, physical, and chemical properties to fit your application needs. To select the best cover for your application, please refer to the technical table on pages 30–51, where you will find all materials, sorted by surface structure, thickness, durometer and temperature range.

The allowable operating temperature of a fabricated belt is determined by the respective temperature range of the base timing belt, cover material and lamination method.

Custom cover processing
Most cover materials can be further customized to match the specific application requirements. Habasit offers advanced fabrication options including:

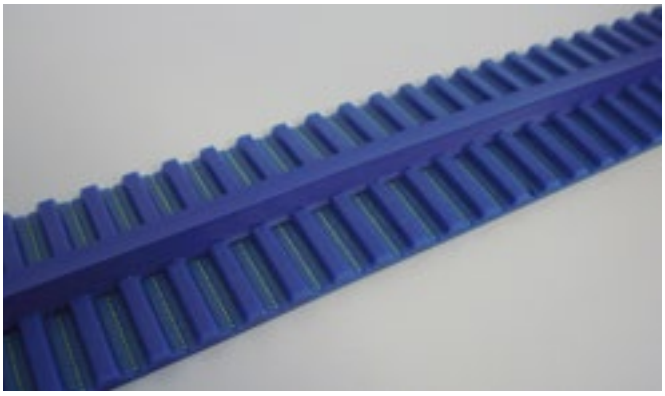
- Surface grinding for precise belt thickness
- Milling of surface contours such as pockets, transverse or longitudinal grooves in different shapes and precision tolerances
- Drilling, punching, or water jet cutting processes for almost unlimited custom and precise perforations
- Production of cover combinations to join compressible cover materials with wear- and abrasion-resistant materials, “dual-durometer”

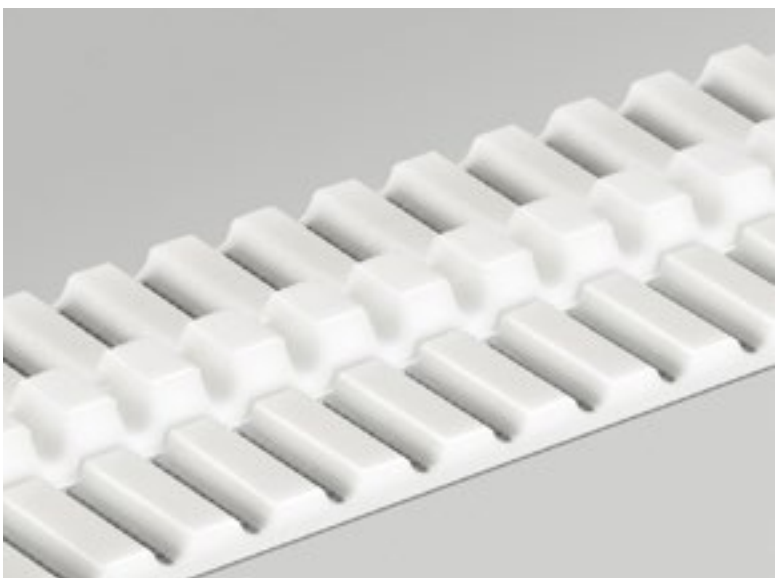
Some covers may not be available in all markets – please refer to your Habasit support associate.

V-guides and longitudinal profiles

V-guides, and other longitudinal profiles, can be added to HabaSYNC® timing belts to help track the belt or assist in conveying and product placement. Habasit offers a full array of industry standard and custom profiles.

V-guides are available notched and unnotched.

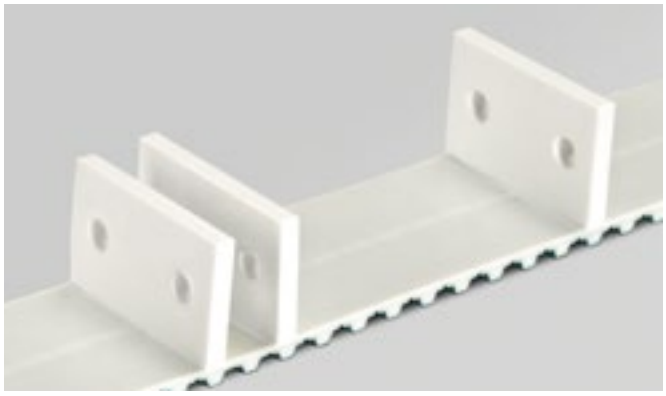


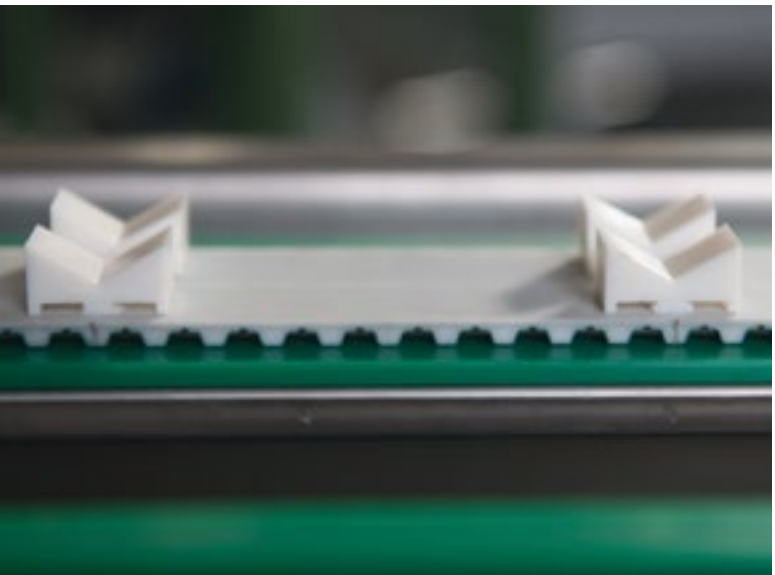


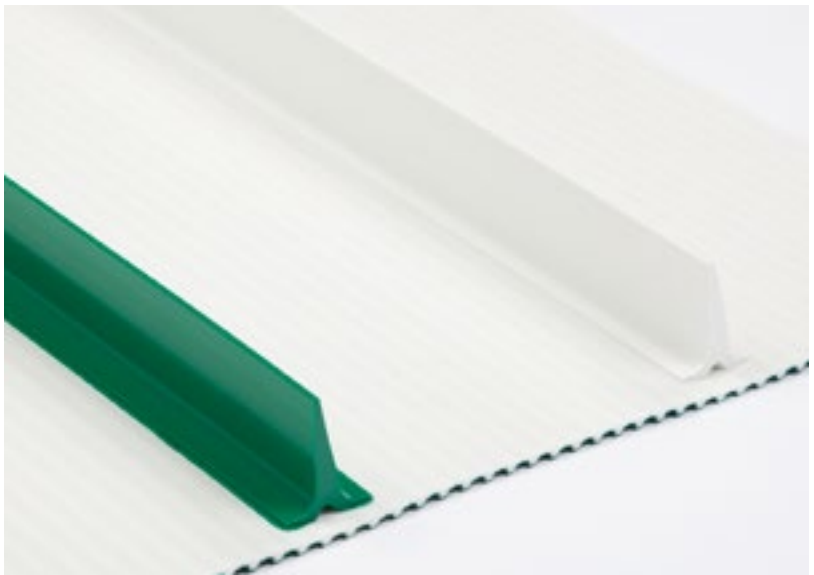
Cleats

Welded cleats
Cleats (TPU profiles) can be welded onto the convey side of the timing belt in any number, shape, or placement using high-frequency welding (HF), friction welding, or infrared welding. Cleats are particularly important for applications in the packaging and food processing industries.

In addition to the standard TPU materials; different durometer, TPU with food approval, and special properties are also available. As an option, profiles can be reinforced by supports (gussets) made of the same material, and are offered with perforations for attachments. If you require custom profile shapes, these can be produced.

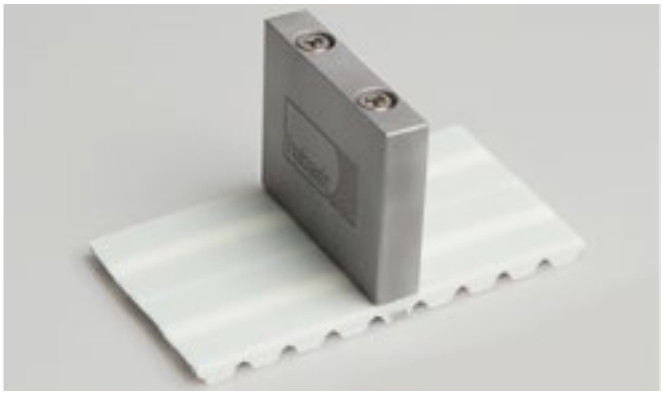






Cleats – false teeth attachments

False teeth attachments
The Habasit false teeth system makes it possible to attach profiles that cannot be welded to polyurethane timing belts due to their size and/or material characteristics; or when a more robust cleat attachment is required. The false teeth system forms a high-strength, detachable profile connection.



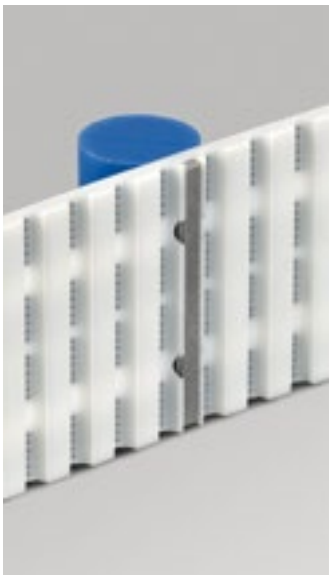
In this form of mechanical fastening, a profile is fastened with screws to a false tooth that is inserted into the teeth after the individual teeth have been machined. This ensures that the connection load is distributed along the entire width of the tooth and is firmly mechanically attached to the belt.

Habasit's unique false tooth design for profile attachments offers more robust construction, greater design flexibility, and better durability than typical industry options. It can be used with all timing belt types: open-end, wide, seamless or cast timing belts. False teeth stainless steel construction makes them ideal for FDA/EU food handling applications.

The false teeth system is available as an all-metal tooth or embedded tooth. The all-metal tooth replaces the complete belt tooth. The embedded tooth prevents direct contact between the metal and pulley metal allowing it to run more smoothly and preventing increased wear on the pulley.

Benefits
- Economical: as worn cleats can be easily replaced at little cost
- Flexible: lets customers interchange the attached cleats as needed
- For applications in food technology, pharmaceuticals, and for moist ambient conditions, the material is available in stainless steel
- The cleat is mechanically attached and can transmit considerably higher forces than welded profiles

The HabaSYNC® false teeth fastening system is a perfect solution for precise attachment and cleat spacing. It is available for the following tooth profiles: AT10, AT20, T10, T20, H, XH, 8M, 14M.



Custom fabrication

Modifications to HabaSYNC® timing belts can enhance the performance of your conveying and linear positioning applications. In addition to the wide selection of covers and the attachment of individual profiles, Habasit offers a comprehensive range of timing belt products for specific system designs. Milling, grinding, and perforations provide countless ways to adapt the entire HabaSYNC® portfolio to your exact application requirements.

Milling of the conveying side
Grooves milled in a transversal (lateral) direction on the conveying side of the belt produce better flexibility and can also be used for secure accommodation and better positioning of products.

Grooves milled in a longitudinal direction can be used to guide the belt, or to place a product in a proper position for picking, sorting or other processing steps.





Milling pockets
Pockets are mostly used for predefined product placements on the belt or in connection with perforations for applications in vacuum technology where optimized suction capacity is required.

Grinding the conveying side
Most HabaSYNC® timing belts can be finished by grinding the conveying side to provide improved thickness tolerances or deliver more friction through a roughened surface.

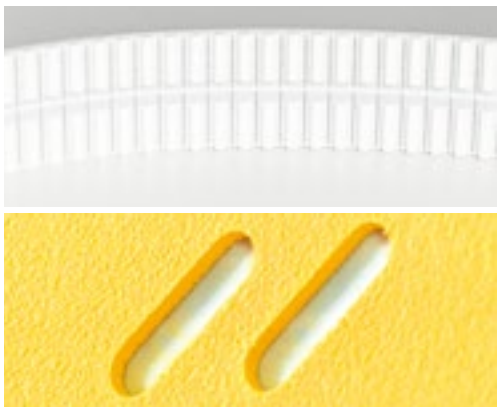
Grinding belt edges
Belt edges can be ground to meet tighter belt width tolerances, which can be particularly important for guiding belts through rails.

Custom fabrication

Removing teeth
When required, a single tooth or groups of teeth can be removed.

Longitudinal groove in tooth side
HabaSYNC® timing belts with a longitudinal tooth groove are used to guide belts, accommodate welded guiding profiles, and in combination with perforations for vacuum technology.

Perforating timing belts
Perforated HabaSYNC® timing belts are used for vacuum conveying technology, among other uses. A variety of hole shapes are available across the entire HabaSYNC® portfolio.

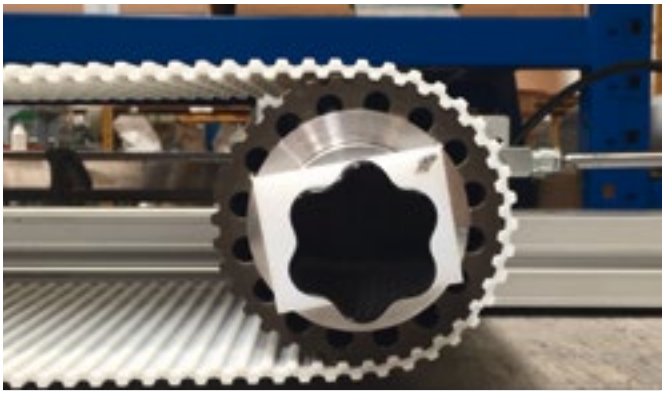


Transverse slotting
Transversal slots (lateral sipes) in covers improve belt flexibility and increase belt life.

Water jet cutting
Water jet cutting technology offers very accurate cutout shapes and designs, including special finger shapes for open-end connections. The technology features precise cutting edges, high cutting accuracy, very low heat development.

HabaSYNC® double-sided belts

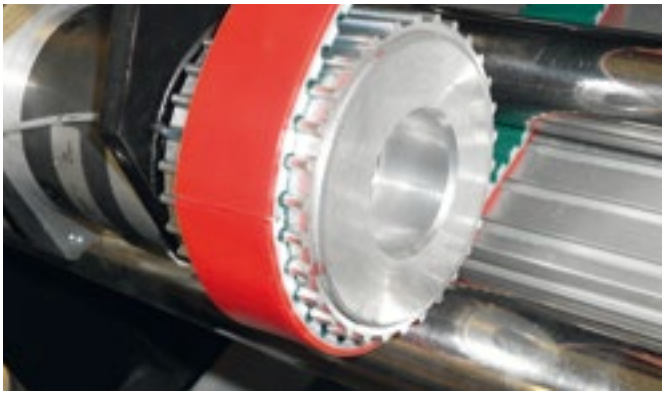
Double-sided timing belts can be used for all tasks where positive drive transmission or synchronization is required on both sides of the belt. The standard version of double-sided HabaSYNC® open-end and seamless timing belts is a composite construction of abrasion resistant polyurethane and high-strength cord materials. Both tooth sides are fully loadable.



Double-sided belt types with steel cords The following double–sided belt types are available as standard.		**Manufacturing dimensions**	
		Max. coil length [mm]	Max. belt width [mm]
Manufactured according to DIN 7721 with tooth over tooth gap			
DT5	DT5 Polyamide fabric added to the tooth side	38,000	150
DAT5	DAT5 Polyamide fabric added to the tooth side		
DT10	DT10 Polyamide fabric added to the tooth side		
DAT10	DAT10 Polyamide fabric added to the tooth side		
DT20	DT20 Polyamide fabric added to the tooth side		
DAT20	DAT20 Polyamide fabric added to the tooth side		
Manufactured according to ISO 13050 with tooth over tooth			
D5M	D5M Polyamide fabric added to the tooth side	38,000	150
D8M	D8M Polyamide fabric added to the tooth side		
D14M	D14M Polyamide fabric added to the tooth side		

All other pitches and different milling shapes must be fabricated and manufactured to order.

Pulleys and clamp plates



Habasit offers a wide range of timing belt pulleys for all applications, including custom pulleys for special functional and quality requirements for almost all drives.

The quality of a timing belt pulley is essential for the efficient functioning, smooth running, and long life of a timing belt drive. Combining HabaSYNC® timing belts with HabaSYNC® pulleys ensures you the best possible transmission behavior.

Habasit's pulley range is divided into three groups:

- Standard pulleys have a standard design and materials, and are prepared with a core bore for shaft support
- Standard modified pulleys have a standard design and materials, and are finished and modified by Habasit to support a shaft according to the customer's specification
- Custom pulleys are manufactured to order according to the customer's specification

State-of-the-art manufacturing technology lets us offer you extensive processing options as well as special shapes. Pulleys with zero backlash or other special requirements are available.

Materials

Habasit products are made using only RoHS compliant materials following the implementation of directive 2002/95/EC.

We offer a variety of materials for different pulley application areas.

- **Standard pulleys made of high-quality aluminum**
  Used for components subjected to high stresses and oscillation; offer very good corrosion resistance
- **Special pulleys made of steel and stainless steel**
  Made for low to high loads, with good corrosion resistance, especially for the food industry
- **Special pulleys made of plastic**
  Made for low to medium loads, with good chemical resistance, especially for the food industry

Surface treatments

The following surface treatments are offered as required:

- **For aluminum:** anodization, hard anodization, or hard coating
- **For steel:** zinc coating, burnishing, chemical nickel plating
- **For stainless steel:** electrochemical etching and polishing

Clamp plates

Timing belt clamp plates are used to join the HabaSYNC® belt ends in linear positioning and vertical lift applications where the belt moves bi-directionally between the pulleys on a horizontal or vertical plane. Clamp plates may be orderd in all pitches.

HabiPLAST™ support guides

The HabiPLAST™ range
The HabiPLAST™ product portfolio includes machined profiles made of ultra-high-molecular-weight polyethylene (UHMW PE) that are used as a sliding support in conveying and linear movement applications for HabaSYNC® timing belts.

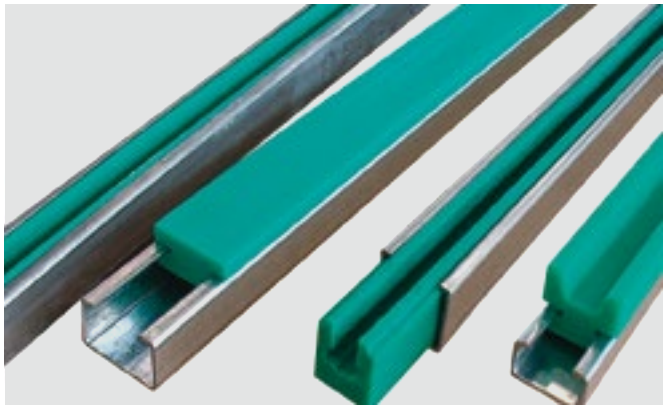
The TPU material offers good friction and wear resistance. This can be further enhanced when support guides are used improving the performance of the conveyor line and reducing energy consumption.

HabiPLAST™ guides support the load and prevent belt deflection. When side forces exist, edge guides prevent belt wandering.

HabiPLAST™ guides reduce the coefficient of friction (COF) between the teeth on HabaSYNC® timing belts and the supporting conveyor surface. These guides are self-lubricating and designed to yield low noise.

The material also provides good chemical and corrosion resistance.

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



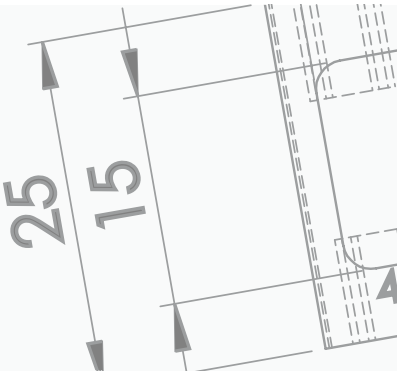
Tools – BTM-1 tension meter

Service life of belt drives depend on several aspects.

Two of the most important factors are:
- Correct belt selection and dimensioning
- Proper belt installation and tensioning

To assure a correct dimensioning you can consult the **Habasit SeleCalc programs.** To assure correct installation, Habasit provides the most helpful belt tension meter BTM-1. With just a few steps you can exactly determine the real belt tension and adjust if necessary.

Our knowledge for your benefit
- Design with well-assessed Habasit quality
- Integrated database with all Habasit power transmission and timing belts
- User defined belt types possible
- Customized belt with measurement of:
  - Belt strand frequency [Hz]
  - Belt tension [N]
  - Rotation speed [rpm]
- Bright and clearly visible light beam
- Shock absorbing case
- Robust probe with molded plug
- User-friendly operating system
- Background light
- Sensor calibration on check
- Outstanding value for money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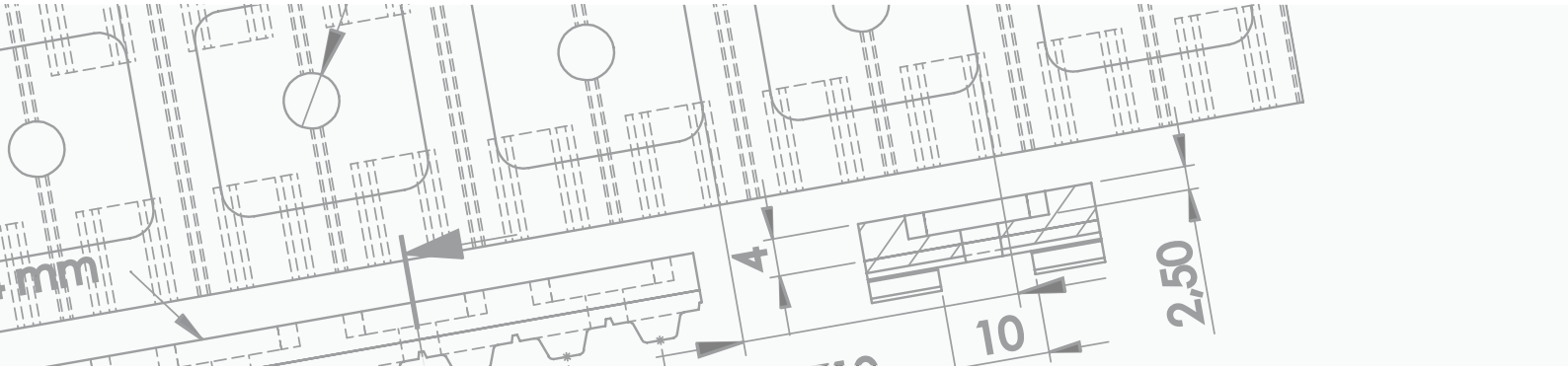
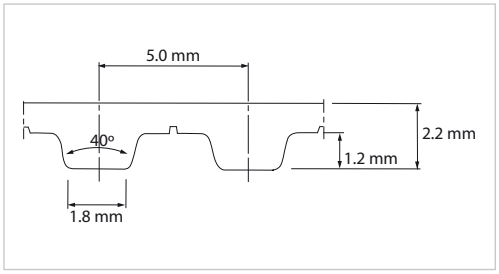


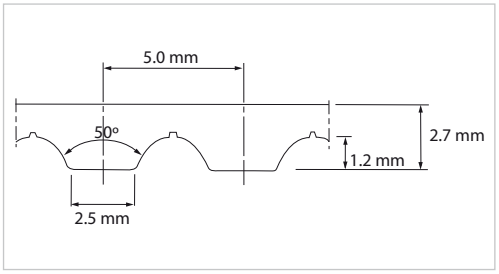
Sketches of basic pitch shape

T5



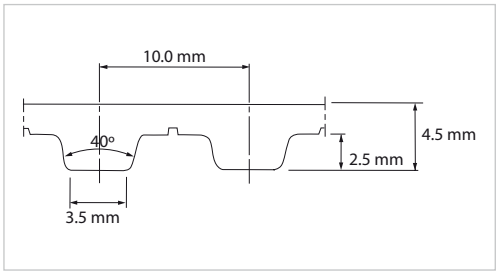
Sketch of basic shape according to DIN 7721

AT5



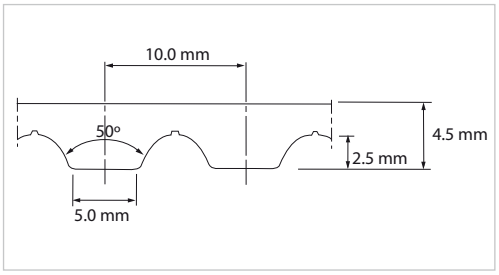
Sketch of basic shape

T10



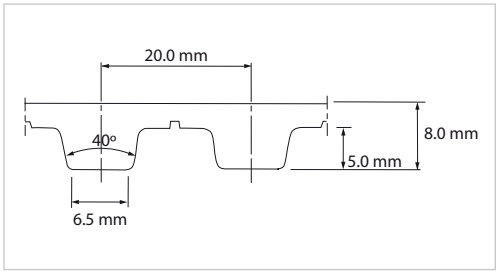
Sketch of basic shape according to DIN 7721

AT10



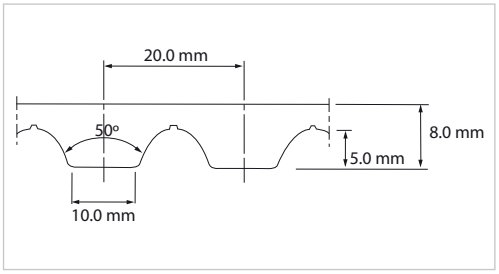
Sketch of basic shape

T20



Sketch of basic shape according to DIN 7721

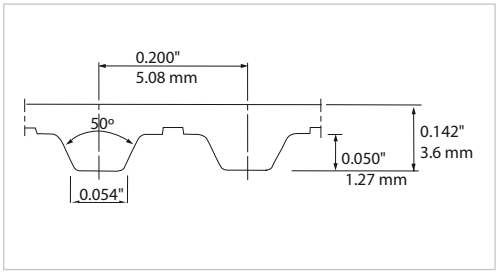
AT20



Sketch of basic shape

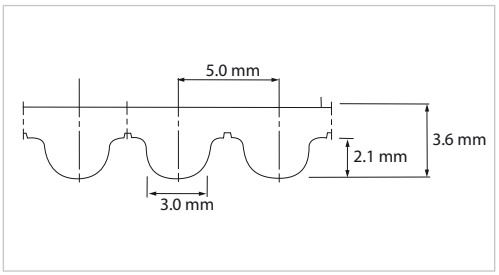
Sketches of basic pitch shape

XL



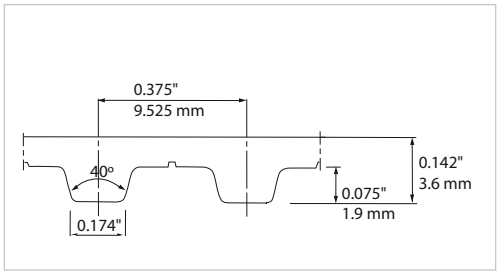
Sketch of basic shape according to ISO 5296

5M (HTD)



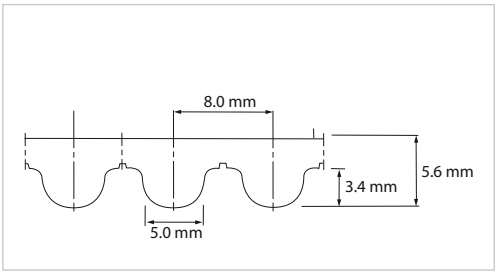
Sketch of basic shape

L



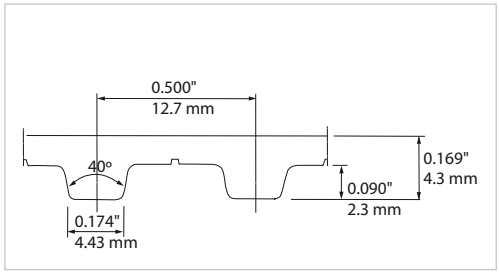
Sketch of basic shape according to ISO 5296

8M (HTD)



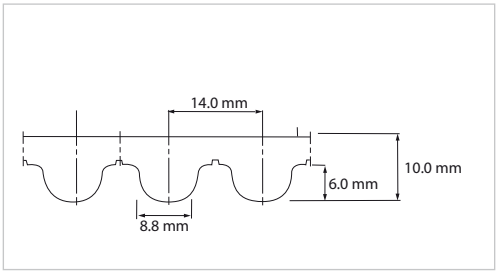
Sketch of basic shape according to ISO 13050

H



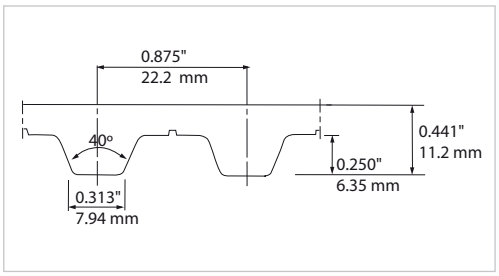
Sketch of basic shape according to ISO 5296

14M (HTD)



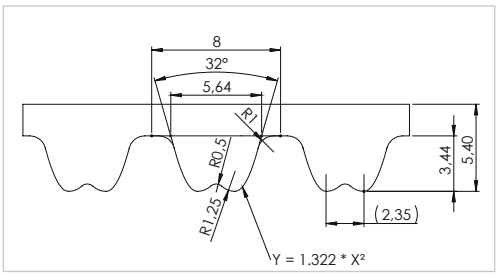
Sketch of basic shape according to ISO 13050

XH



Sketch of basic shape according to ISO 5296

RPP8

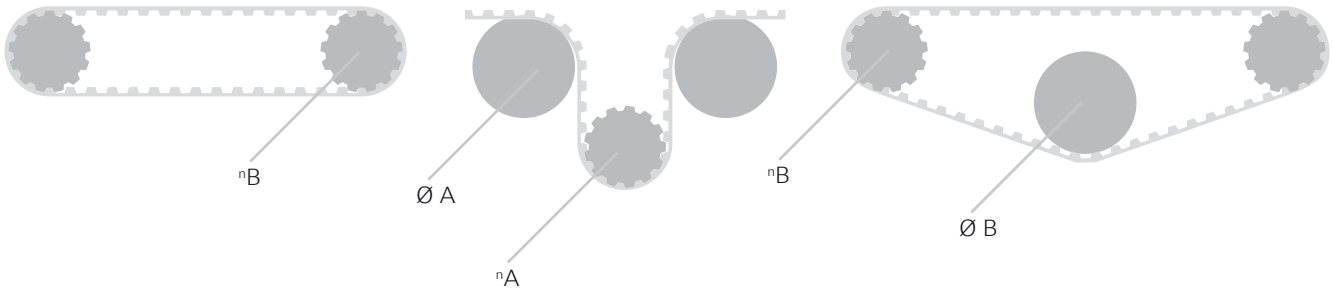


Sketch of basic shape

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 = Aramid P = Performance I = Stainless steel
03	Polyester urethane	88 Shore A	Good abrasion resistance	Green	-20 to 70 °C *(-4 to 150 °F)*	A = Aramid
04	Polycarbonate urethane	92 Shore A	Good microbial resistance	White	-20 to 80 °C *(-4 to 176 °F)*	A = Aramid
05	Polyether urethane	90 Shore A	Good hydrolysis features, FDA/EU	Cobalt blue	-30 to 80 °C *(-22 to 176 °F)*	A = Aramid I = Stainless steel
06	Polyester urethane	92 Shore A	High abrasion resistance	Black	-20 to 80 °C *(-4 to 176 °F)*	S = Steel A = Aramid
09	Polycarbonate urethane	92 Shore A	Good microbial resistance	Black	-20 to 80 °C *(-4 to 176 °F)*	A = Aramid
22	Polyester urethane	90 Shore A	FDA/EU	Transparent	-20 to 70 °C *(-4 to 150 °F)*	S = Steel A = Aramid I = Stainless steel

Coefficient of friction (COF) tooth side – dry	
TPU against steel	0.5 to 0.7
Polyamide against steel	0.2 to 0.4
TPU against UHMW (PE)	0.3 to 0.5
Polyamide against UHMW (PE)	0.1 to 0.3

Minimum pulley size



For the latest updates and additional information on HabaSYNC® belts, visit: www.habasync.com
All HabaSYNC® timing belts are also available with polyamide fabric on tooth and/or conveying side.

HabaSYNC® open-end timing belts

Metric pitch

Belt type	Belt width [mm]	Admissible tensile force open-end belt [N]		Admissible tensile force joined belt [N]		Tensile strength [N]		Tensile force for 1% elongation [N]		Minimum pulley size*						Belt weight [kg/m]	
		Steel	Aramid	Steel	Aramid	Steel	Aramid	Steel	Aramid	nA	Ø dp (nA)	Ø A	nB	Ø dp (nB)	Ø B	Steel	Aramid
										[Teeth]	[mm]	[mm]	[Teeth]	[mm]	[mm]		
Metric pitch – trapezoidal shape – T type																	
TT5	10		600		300		3200		1000	15	24	30	12	19	30		0.03
T5	25	840	840	420	420	3 500	6 500	2 100	1 400	15	24	30	12	19	30	0.06	0.05
T10	25	2 200	2 000	1 100	1 000	9 240	15 400	5 500	3 333	20	64	60	12	38	60	0.12	0.10
T20	25	3 500	3 500	1 750	1 750	15 200	26 600	8 750	5 833	25	160	120	15	96	120	0.19	0.16
Metric pitch – trapezoidal shape – AT type																	
AT5	25	1 750	1 750	875	875	7 410	12 100	4 375	2 833	25	40	60	15	24	25	0.09	0.08
AT5P	25	2 200				8 800		5 500		25	40	60	25	40	40	0.09	
AT10	25	3 500	3 500	1 750	1 750	15 200	26 600	8 750	5 833	25	80	120	15	48	50	0.15	0.11
AT10P	25	5 000				24 220		12 500		25	80	180	18	57	120	0.17	
AT20	25	5 000		2 500		24 220		12 500		25	160	180	18	115	120	0.24	
AT20P	25	9 167				33 000		22 920		25	160	250	18	115	160	0.30	
ATM10	25	2 600		1 300		11 600		6 500		25	80	120	15	48	50	0.13	
ATM20	25	3 500		1 750		16 000		8 750		25	160	180	18	115	120	0.22	
Metric pitch – curvilinear shape – HTD type																	
5M	25	1 750	3 500	875	1 750	7 410	10 000	4 375	5 835	16	26	60	16	26	25	0.09	0.11
8M	25	3 500		1 750		15 200		8 750		18	46	100	18	46	50	0.16	
14M	25	5 000		2 500		24 220		12 500		25	112	180	25	112	115	0.28	
RPP8	25	3 500		1 750		15 200		8 750		18	46	100	18	46	50	0.16	

Imperial pitch

Belt type	Belt width	Admissible tensile force open-end belt		Admissible tensile force joined belt		Tensile strength		Tensile force for 1% elongation		Minimum pulley size*						Belt weight [kg/m]	
		Steel	Aramid	Steel	Aramid	Steel	Aramid	Steel	Aramid	nA	Ø dp (nA)	Ø A	nB	Ø dp (nB)	Ø B	Steel	Aramid
	mm	N		N		N		N		Teeth	mm		Teeth	mm			
	inch	*lbf*		*lbf*		*lbf*		*lbf*			*inch*			*inch*			
Imperial pitch – trapezoidal shape																	
XL	25	840	840	420	420	3 444	6 394	2 100	1 400	15	24	30	12	20	30	0.06	0.05
	1.00	*188*	*188*	*84*	*84*	*774*	*1437*	*472*	*315*		*0.945*	*1.18*		*0.787*	*1.18*		
L	25	1 700	1 700	850	850	7 293	11 874	4 250	2 833	20	61	60	15	46	60	0.10	0.08
	1.00	*382*	*382*	*191*	*191*	*1693*	*2669*	*955*	*637*		*2.40*	*2.36*		*1.81*	*2.36*		
H	25	2 200	2 000	1 100	1 100	9 095	15 158	5 500	3 333	20	80	80	14	57	60	0.12	0.10
	1.00	*495*	*450*	*247*	*247*	*2045*	*3408*	*1236*	*749*		*3.15*	*3.15*		*2.24*	*2.36*		
XH	25	3 500	3 500	1 750	1 750	14 961	26 700	8 750	5833	20	141	180	18	127	150	0.28	0.24
	1.00	*786*	*786*	*393*	*393*	*3363*	6002	*1967*	*1311*		*5.55*	*7.09*		*5.00*	*5.91*		

*All data are approximate values under standard climatic conditions: 23 °C / *73 °F*, 50% relative humidity (DIN 50005 / ISO 554)

Belt type	Belt width [mm]	Admissible tensile force open-end belt [N]	Admissible tensile force joined belt [N]	Tensile strength [N]	Tensile force for 1% elongation [N]	Minimum pulley size*						Belt weight [kg/m]
		Aramid	Aramid	Aramid	Aramid	^{n}A	Ø dp (^{n}A)	Ø A	^{n}B	Ø dp (^{n}B)	Ø B	Aramid
						[Teeth]	[mm]	[mm]	[Teeth]	[mm]	[mm]	
WT10A04UU1X600	609	13100	6550	97440	21900	20	64	60	15	48	60	2.14
WT10A04PU1X600	609	13100	6550	97440	21900	20	64	60	15	48	60	2.17
WT10A04PP1X600	609	13100	6550	97440	21900	20	64	60	15	48	60	2.20
WT10A22UU1X600	609	11800	5900	99200	19800	20	64	60	15	48	60	2.14
WT10A22PU1X600	609	11800	5900	99200	19800	20	64	60	15	48	60	2.17
WT10A22PP1X600	609	11800	5900	99200	19800	20	64	60	15	48	60	2.20
WT10A05UU1X600	609	12900	6450	86300	21700	20	64	60	15	48	60	2.14
WHA04UU1X600	609	13140	6570	91380	21900	20	81	60	15	61	60	2.14
WHA04PU1X600	609	13140	6570	91380	21900	20	81	60	15	61	60	2.17
WHA04PP1X600	609	13140	6570	91380	21900	20	81	60	15	61	60	2.20
WHA05UU1X600	609	13480	6740	106000	22400	20	81	60	15	61	60	2.14
WHA22UU1X600	609	11800	5900	97800	19700	20	81	60	15	61	60	2.14
WHA22PU1X600	609	11800	5900	97800	19700	20	81	60	15	61	60	2.17
WHA22PP1X600	609	11800	5900	97800	19700	20	81	60	15	61	60	2.20
WT10A09UU1X600	609	13300	6650	97440	22200	20	64	60	15	48	60	2.14
WHA09UU1X600	609	13300	6650	105500	22200	20	64	60	15	48	60	2.14

*All data are approximate values under standard climatic conditions: 23 °C / *73 °F,* 50% relative humidity (DIN 50005 / ISO 554)

Pitch	Tooth-side cover			Cords				
	Without cover	Green polyamide material	Black polyamide antistatic material	Steel	Aramid	Stainless steel	High flexible	Performance
T5	●	●	●	●	●	●	●	○
T10	●	●	●	●	●	●	●	○
T20	●	●	●	●	●	●	●	●
AT5	●	●	●	●	●	●	●	○
AT10	●	●	●	●	●	●	●	●
AT20	●	●	●	●	○	●	○	●
5M (HTD)	●	●	●	●	●	●	●	○
8M (HTD)	●	●	●	●	●	●	●	●
14M (HTD)	●	●	●	●	○	●	○	○
RPP8	●	●	●	●	●	●	●	●
XH	●	●	●	●	●	●	●	●
H	●	●	●	●	●	●	●	○
L	●	●	●	●	●	●	●	○
XL	●	●	●	●	●	●	●	○

● Available ○ Currently not available

Availability of materials

All of the pitches above can be produced in different TPU materials including:

Code	Material	Hardness	Properties	Color	Temperature range
01	Polyester urethane	92 Shore A	High abrasion resistance	White	-20 to 80 °C *(-4 to 176 °F)*
05	Polyether urethane	90 Shore A	Good hydrolysis features FDA/EU	Cobalt blue	-30 to 80 °C *(-22 to 176 °F)*
06	Polyester urethane	92 Shore A	High abrasion resistance	Black	-20 to 80 °C *(-4 to 176 °F)*
22	Polyester urethane	90 Shore A	FDA/EU	Transparent	-20 to 70 °C *(-4 to 150 °F)*

Slit lane configuration

Slit lanes are fully customizable per request. In case of doubts get in touch with a Habasit representative.

Calculation	Formula
Power calculation	$P = M \cdot \omega = M \cdot 2 \cdot \pi\, n$
Peripheral force calculation	$F_u = F_i \cdot z_e \cdot b$
Torque calculation	$M = \frac{M_i \cdot d \cdot \pi \cdot z_e \cdot b}{P_b}$
Pitch diameter calculation	$d = \frac{z \cdot P_b}{\pi}$
Calculation of number of engaged teeth	$z_e = \frac{z_1}{180} \cdot \text{arc cos} \frac{(z_2 - z_1) \cdot P_b}{2\, \pi\, e}$
Maximum number of engaged teeth for calculation	$z_e \text{ max} = 12$

Term	Habasit symbol
Rotational speed [rpm]	n
Belt speed [m/s]	v
Power [W]	P
Number of teeth on small pulley	z_1
Number of teeth on large pulley	z_2
Belt pitch [mm]	P_b
Centerline distance [mm]	e
Peripheral force of timing belt	F_u
Specific peripheral force per engaged tooth and per cm of belt width (see data tables*)	F_i
Torque capacity of timing belt	M
Torque capacity per engaged tooth and per cm of belt width (see data tables*)	M_i
Number of teeth engaged	z_e
Maximum number of teeth engaged that can be used for timing belt calculation	$z_e \text{ max}$
Pitch diameter [mm]	d
Belt width [cm]	b

* data required for calculation of specific belt is available in product data sheets available on www.habasit.com

Given

Power	10 kW
Rotational speed	800 min^{-1}
Pulley data	z = 30; d = 93.6 mm
Timing belt	FAT10

What is the required belt width?

Calculation

$$M = \frac{P}{\omega} = \frac{P}{2 \cdot \pi \cdot n}$$

$$M = \frac{10{,}000\ \text{Nm} \cdot 60\ \text{s}}{2 \cdot \pi \cdot 800\ \text{s}} = 119.37\ \text{Nm}$$

Using the FAT10 torque table* for 800 rpm, we find M_i = 0.083 Nm/cm belt width.

With

$$M = \frac{M_i \cdot d \cdot \pi \cdot z_e \cdot b}{P_b}$$

we get the belt width b:

$$b = \frac{P_b \cdot M}{M_i \cdot d \cdot \pi \cdot z_e}$$

$$b = \frac{10\ \text{mm} \cdot 119.37\ \text{Nm} \cdot \text{cm}}{0.083\ \text{Nm} \cdot 93.6\ \text{mm} \cdot \pi \cdot 12} = 4.07\ \text{cm}$$

Choose the next larger belt width: **50 mm**

For longer periods of operation and high loads, the safety factors of 1.2 to 2.5 commonly used in engineering should be employed to ensure functional reliability. For dimensioning timing belts in terms of applications engineering for power transmission jobs, the unit load table* is solely determinant.

* data required for calculation of specific belt is available in product data sheets available on www.habasit.com

Deflection diameter D_{min}
Please note that timing belts with covers have lower flexibility and may require pulleys with a larger diameter. The minimum deflection diameter is calculated using the thickness factor for each cover type.

Deflection diameter = cover material thickness in mm x thickness factor

As a rule, the thicker the cover material, the larger the pulley deflection diameter must be.

Note: The minimum deflection diameter of the pulley calculated from the thickness factor must be greater than or equal to the minimum pulley diameter of the timing belt with cover.

The following methods are used for joining the covers, depending on the materials involved:
- Thermal welding
- Skived joints
- Butt seams
- Seamless joints
- Open-end joints

HabaSYNC® fabrication capabilities are well developed in all international markets but there is some variability of equipment and technologies. Therefore, all covers may not be readily available in all markets.
Please consult your local Habasit representative.

Covers – elastomer materials

Cover	Correx	CT	EAT	EPDM-Rubber 70	HAB
					
Material	Natural rubber	NBR	NBR	EPDM	NBR
Surface structure	Smooth	Rough textile	Rough textile	Matt	Smooth
Abrasion resistance	+	+++	++	+++	+++
Friction	+++	+++	+++	++	+++
Release properties	++	+++	+++	+++	+++
Wear resistance	++	+++	++	++	+++
Cut resistance	+++	+++	+++	++	++
Compressibility	+	+	+	+	+
Oil and grease resistance	++	+++	+++	++	+++
Ozone- and UV-resistance	No	No	No	Yes	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	Yes	No	No
Electrically conductive	No	No	Yes	No	No
Hydrolysis resistance	+++	+++	+++	+++	+++
Flame retardance	No	No	No	No	No
Non glazing	No	Yes	Yes	Yes	Yes
Food approval	No	No	No	No	No
Cleanability	++	++	++	++	+++
Color	Beige	Gray	Black	Black	Green
Durometer (Shore hardness)	40 A	60 A	77 A	70 A	75 A
Temperature range [°C]	15 to 70	0 to 60	-40 to 120	-40 to 120	0 to 100
Temperature range *[°F]*	*5 to 158*	*32 to 140*	*-40 to 248*	*-40 to 248*	*32 to 212*
Cover thickness [mm]	4.0 to 10.0	0.9	1.1	2.0, 3.0	0.8
Minimum pulley diameter Ø [mm]*	20 mm per mm cover thickness	40	40	50, 75	40

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – elastomer materials

Cover	HAG	SAG	HAL	HAR	HAT
					
Material	NBR	EPDM	EPDM	NBR	NBR
Surface structure	Grip	Grip	Longitudinal groove	Rough textile	Rough textile
Abrasion resistance	+++	+++	++	+++	+++
Friction	+++	+++	+++	+++	+++
Release properties	+++	+++	+++	+++	+++
Wear resistance	++	++	++	++	+++
Cut resistance	++	++	++	++	+++
Compressibility	++	++	+	+	+
Oil and grease resistance	+++	-	-	+++	+++
Ozone- and UV-resistance	No	Yes	Yes	No	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	+++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	No	No	No	No
Cleanability	+	+	++	++	++
Color	Green	Anthracite	Green	Green	Green
Durometer (Shore hardness)	55 A	69 A	50 A	70 A	60 A
Temperature range [°C]	0 to 100	-30 to 70	-30 to 100	-20 to 100	0 to 100
Temperature range *[°F]*	*32 to 212*	*-22 to 158*	*-22 to 212*	*-4 to 212*	*32 to 212*
Cover thickness [mm]	4.7	4.2	1.2	0.8	1.25
Minimum pulley diameter Ø [mm]*	50	50	40	40	40

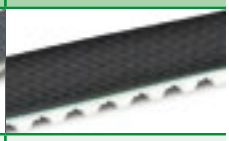
+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – elastomer materials

Cover	HAT-W	Linaplus	Linatex HM	Linatrile	Linard 60
					
Material	NBR	Natural rubber	Natural rubber	NBR	Natural rubber
Surface structure	Rough textile	Smooth	Smooth	Smooth	Smooth
Abrasion resistance	+++	++	+++	+++	+++
Friction	+++	+++	+++	+++	+++
Release properties	+++	++	++	++	++
Wear resistance	+++	++	+++	++	+++
Cut resistance	+++	++	+++	++	+++
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	-	-	++	-
Ozone- and UV-resistance	No	No	No	No	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	Yes
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	+++
Flame retardance	No	No	No	No	No
Non glazing	Yes	No	No	Yes	No
Food approval	No	FDA/EU	No	No	No
Cleanability	++	++	++	++	++
Color	Light green	White	Red	Orange	Red
Durometer (Shore hardness)	60 A	38 A	38 A	55 A	60 A
Temperature range [°C]	0 to 100	-40 to 70	-40 to 70	-20 to 110	-40 to 75
Temperature range *[°F]*	*32 to 212*	*-40 to 158*	*-40 to 158*	*-4 to 230*	*-40 to 167*
Cover thickness [mm]	1.0, 2.0, 3.0, 4.0	2.0 to 5.0	2.0 to 12.0	3.0 to 6.0	3.0
Minimum pulley diameter Ø [mm]*	25, 50, 75, 100	20 mm per mm cover thickness	20 mm per mm cover thickness	25 mm per mm cover thickness	84

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – elastomer materials

Cover	RP400	SAR	TCF-L
			
Material	Natural rubber	EPDM	NBR
Surface structure	Smooth	Rough textile	Longitudinal groove
Abrasion resistance	+++	++	+++
Friction	+++	+++	+++
Release properties	++	++	+++
Wear resistance	+++	++	+++
Cut resistance	++	++	++
Compressibility	+	+	+
Oil and grease resistance	+++	-	+++
Ozone- and UV-resistance	No	Yes	No
Antimicrobial	No	No	No
Antistatic	No	No	No
Electrically conductive	No	No	No
Hydrolysis resistance	+++	+++	+++
Flame retardance	No	No	No
Non glazing	Yes	Yes	No
Food approval	No	No	No
Cleanability	++	++	++
Color	Yellow	Anthracite	Black
Durometer (Shore hardness)	39 A	69 A	85 A
Temperature range [°C]	-10 to 80	-30 to 70	-20 to 70
Temperature range *[°F]*	*14 to 176*	*-22 to 158*	*-4 to 158*
Cover thickness [mm]	2.0, 3.0	0.7	1.2
Minimum pulley diameter Ø [mm]*	40, 60	40	40

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – PVC materials

Cover	FAB-CV	NAB-AV	NAB-DV	NAB-SBV	NAB-WV
					
Material	PVC	PVC	PVC	PVC	PVC
Surface structure	Matt	Smooth	Smooth	Smooth	Smooth
Abrasion resistance	++	++	++	++	++
Friction	++	++	++	+++	+++
Release properties	+++	+++	+++	++	+++
Wear resistance	++	++	++	++	++
Cut resistance	+	+	+	+	+
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	++	++	++	+++
Ozone- and UV-resistance	Yes	Yes	Yes	Yes	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	+++
Flame retardance	No	No	No	Yes	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	FDA	No	No	No	FDA/EU
Cleanability	+++	+++	+++	+++	+++
Color	Cobalt blue	Anthracite	Dark green	Black	White
Durometer (Shore hardness)	86 A	45 A	45 A	67 A	45 A
Temperature range [°C]	-10 to 80	-10 to 60	-10 to 60	0 to 70	-10 to 70
Temperature range *[°F]*	*14 to 176*	*14 to 176*	*14 to 140*	*32 to 158*	*14 to 158*
Cover thickness [mm]	0.4	1.7	1.2, 2.0	1.2	0.4
Minimum pulley diameter Ø [mm]*	40	50	40	40	40–60

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – PVC materials

Cover	NAG-G	NAG-CV	NAJ-SBV	NAQ-BV	NAS-DV
					
Material	PVC	PVC	PVC	PVC	PVC
Surface structure	Grip structure	Grip structure	Grip structure	Basketweave	Sawtooth profile
Abrasion resistance	++	++	++	++	++
Friction	+++	+++	+++	++	+++
Release properties	+++	+++	+++	+++	+++
Wear resistance	++	++	++	++	++
Cut resistance	+	+	+	+	+
Compressibility	++	++	++	+	++
Oil and grease resistance	++	++	++	++	++
Ozone- and UV-resistance	Yes	Yes	Yes	Yes	Yes
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	+++
Flame retardance	No	No	Yes	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	FDA/EU	No	No	No
Cleanability	+	+	+	++	+
Color	Dark green	Cobalt blue	Black	Black	Dark green
Durometer (Shore hardness)	45 A	45 A	45 A	45 A	45 A
Temperature range [°C]	-10 to 70	-10 to 70	0 to 70	-10 to 70	-10 to 70
Temperature range *[°F]*	*14 to 158*	*14 to 158*	*32 to 158*	*14 to 158*	*14 to 158*
Cover thickness [mm]	3.8	4.5	3.2	1.1	6.5
Minimum pulley diameter Ø [mm]*	80	90	90	40	50

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – PVC materials

Cover	PVC Foil	SAQ	SNB	WAG-G	ST-PVC-W
					
Material	PVC	PVC	PVC	PVC	PVC
Surface structure	Smooth	Basketweave	Sand finish	Minigrip	Flat
Abrasion resistance	++	++	++	++	++
Friction	++	++	+	+++	+++
Release properties	+++	+++	+++	+++	+++
Wear resistance	++	++	++	++	++
Cut resistance	+	+	+	+	++
Compressibility	+	+	+	+	+
Oil and grease resistance	-	++	++	++	+
Ozone- and UV-resistance	No	Yes	Yes	Yes	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	Yes	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	No
Food approval	No	No	No	No	Yes
Cleanability	+++	++	+++	++	++
Color	Transparent	Anthracite	Anthracite	Dark green	White
Durometer (Shore hardness)	70 A	72 A	80 A	50 A	65 A
Temperature range [°C]	0 to 60	-10 to 60	-5 to 70	-10 to 60	-10 to 60
Temperature range *[°F]*	*32 to 140*	*14 to 140*	*23 to 158*	*14 to 140*	*14 to 140*
Cover thickness [mm]	2.0	0.5	0.6	1.6	3.0
Minimum pulley diameter Ø [mm]*	50	40	40	40	50

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	ENI	FAB	FAC-C	FAC-W	FAF
					
Material	TPU	TPU	TPU	TPU	TPU
Surface structure	Fine textile	Smooth	Cone top	Cone top	Fish/herringbone
Abrasion resistance	+++	++	++	++	++
Friction	+	+++	+++	+++	+++
Release properties	+++	+++	+++	+++	+++
Wear resistance	+++	+++	+++	+++	+++
Cut resistance	+++	++	++	++	++
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	+++	+++	+++	+++
Ozone- and UV-resistance	No	No	No	No	No
Antimicrobial	No	No	No	No	No
Antistatic	Yes	No	No	No	No
Electrically conductive	Yes	No	No	No	No
Hydrolysis resistance	++	++	++	++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	FDA/EU	FDA/EU	FDA/EU	FDA/EU
Cleanability	++	+++	++	++	++
Color	Black	White	Cobalt blue	White	White
Durometer (Shore hardness)	92 A	85 A	85 A	85 A	85 A
Temperature range [°C]	-30 to 80	-30 to 80	0 to 100	0 to 100	-30 to 80
Temperature range *[°F]*	*-22 to 176*	*-22 to 176*	*32 to 212*	*32 to 212*	*-22 to 176*
Cover thickness [mm]	1.0	0.8	2.3	2.3	3.0
Minimum pulley diameter Ø [mm]*	60	50	50	50	75

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	FAS-C	FAS	FAW	FAW-C	FMB-C
					
Material	TPU	TPU	TPU	TPU	TPU
Surface structure	Sawtooth profile	Sawtooth profile	Waffle	Waffle	Silk finish
Abrasion resistance	++	++	++	++	++
Friction	+++	+++	+++	+++	++
Release properties	+++	+++	+++	+++	+++
Wear resistance	+++	+++	+++	+++	+++
Cut resistance	++	++	++	++	++
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	+++	+++	+++	+++
Ozone- and UV-resistance	No	No	No	No	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	++	++	++	++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	FDA/EU	FDA/EU	FDA/EU	FDA	FDA/EU
Cleanability	++	++	++	++	+++
Color	Cobalt blue	White	White	Cobalt blue	Cobalt blue
Durometer (Shore hardness)	85 A	85 A	85 A	85 A	85 A
Temperature range [°C]	-30 to 80	-30 to 80	-30 to 80	-30 to 80	-30 to 80
Temperature range *[°F]*	*-22 to 176*	*-22 to 176*	*-22 to 176*	*-22 to 176*	*-22 to 176*
Cover thickness [mm]	0.7	1.6	0.6	0.6	0.4
Minimum pulley diameter Ø [mm]*	50	100	50	50	50

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	FNB	FNQ-C	HNB	FSB-C	N5 Conetop stump
					
Material	TPU	TPU	TPU	TPU	TPU
Surface structure	Smooth	Square	Smooth	Silk finish	Cone top
Abrasion resistance	++	++	++	++	+++
Friction	+	+	+	+++	+++
Release properties	+++	+++	++	++	+++
Wear resistance	+++	+++	+++	+++	+++
Cut resistance	+++	+++	+++	++	++
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	+++	+++	+++	+++
Ozone- and UV-resistance	No	No	No	No	No
Antimicrobial	No	Yes	No	No	Yes
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	++	++	++	++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	FDA/EU	FDA/EU	FDA/EU	No	FDA
Cleanability	+++	++	+++	+++	++
Color	White	Cobalt blue	Green	Blue	Blue
Durometer (Shore hardness)	93 A	93 A	90 A	70 A	85 A
Temperature range [°C]	-15 to 80	-30 to 80	-15 to 80	-30 to 80	-15 to 80
Temperature range *[°F]*	*5 to 176*	*-22 to 176*	*5 to 176*	*-22 to 176*	*5 to 176*
Cover thickness [mm]	0.8	0.5	0.7	1.5	4.2
Minimum pulley diameter Ø [mm]*	50	50	40	60	90

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	PQF-140/2.6LT72	PQF-B85TS	PU foil 70	PU foil 85	PU Supergrip blue
					
Material	TPU	TPU	TPU	TPU	TPU
Surface structure	Longitudinal groove	Fine textile	Smooth	Smooth	Grip
Abrasion resistance	++	++	++	++	++
Friction	++	++	++	++	+++
Release properties	++	+++	+++	+++	++
Wear resistance	++	++	++	++	++
Cut resistance	++	++	++	++	++
Compressibility	+	+	+	+	++
Oil and grease resistance	+++	++	++	+++	+++
Ozone- and UV-resistance	+	+	+	+	+
Antimicrobial	No	No	No	No	No
Antistatic	No	Yes	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	++	++	++	++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	FDA/EU	No	FDA	No	FDA/EU
Cleanability	++	++	+++	+++	+
Color	Transparent	Black	Transparent	Transparent	Blue
Durometer (Shore hardness)	72 A	85 A	70 A	85 A	92 A
Temperature range [°C]	-10 to 80	-30 to 90	-30 to 80	-30 to 80	-20 to 80
Temperature range *[°F]*	*14 to 176*	*-22 to 195*	*-22 to 176*	*-22 to 176*	*-4 to 176*
Cover thickness [mm]	2.6	1.2	6.0	2.0	3.8
Minimum pulley diameter Ø [mm]*	75	30	150	60	80

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	PU D44	PQF-XC85	PQF-B60LG	PQF-N92	PQF-R55
					
Material	TPU	TPU	TPU	TPU	TPU
Surface structure	Smooth	Smooth	Longitudinal groove	Smooth	Smooth
Abrasion resistance	+++	++	++	+++	++
Friction	++	++	+++	+	+++
Release properties	+++	+++	+++	+++	+++
Wear resistance	+++	+++	++	+++	++
Cut resistance	+++	++	++	++	++
Compressibility	+	+	+	+	+
Oil and grease resistance	+++	+++	+++	+++	+++
Ozone- and UV-resistance	No	No	No	No	No
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	++	++	++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	FDA	No	No	No
Cleanability	+++	+++	++	+++	+++
Color	Brown	Cobalt blue	Black	White	Red
Durometer (Shore hardness)	80 A	85 A	60 A	92 A	55 A
Temperature range [°C]	-10 to 60	-30 to 80	-10 to 60	-30 to 80	-30 to 60
Temperature range *[°F]*	*14 to 140*	*-22 to 176*	*14 to 140*	*-22 to 176*	*-22 to 176*
Cover thickness [mm]	1.0, 2.0, 3.0, 4.0, 5.0	1.3, 2.0	2.5	2.0, 4.0	2.0, 3.0
Minimum pulley diameter Ø [mm]*	30, 60, 90, 120, 150	50, 60	75	60, 120	50, 75

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – polyurethane materials

Cover	PQF-T60	PQF-W85	PQF-Y85HR	PU-SP
				
Material	TPU	TPU	TPU	TPU
Surface structure	Smooth	Smooth	Glossy	Spike
Abrasion resistance	++	++	++	+++
Friction	+++	++	++	+++
Release properties	+++	+++	+++	+++
Wear resistance	++	++	++	+++
Cut resistance	++	++	++	++
Compressibility	+	+	+	+
Oil and grease resistance	+++	+++	+++	+++
Ozone- and UV-resistance	No	No	No	No
Antimicrobial	No	No	No	No
Antistatic	No	No	Yes	No
Electrically conductive	No	No	Yes	No
Hydrolysis resistance	++	++	++	++
Flame retardance	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes
Food approval	No	FDA	No	FDA
Cleanability	+++	+++	+++	++
Color	Transparent	White	Yellow	Blue
Durometer (Shore hardness)	60 A	85 A	85 A	86 A
Temperature range [°C]	-30 to 80	-30 to 80	-10 to 160	-20 to 100
Temperature range *[°F]*	*-22 to 176*	*-22 to 176*	*14 to 320*	*-4 to 212*
Cover thickness [mm]	2.0, 3.0	1.3, 2.0, 3.0, 4.0, 5.0	2.0	2.2
Minimum pulley diameter Ø [mm]*	60, 75	40, 60, 90, 120, 150	60	50

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Cover	T-NPW	WAL-C
		
Material	TPU	TPU
Surface structure	Pimple	Longitudinal groove
Abrasion resistance	++	++
Friction	+++	+++
Release properties	+++	+++
Wear resistance	++	++
Cut resistance	++	++
Compressibility	+	+
Oil and grease resistance	+++	+++
Ozone- and UV-resistance	No	No
Antimicrobial	No	No
Antistatic	No	No
Electrically conductive	No	No
Hydrolysis resistance	++	++
Flame retardance	No	No
Non glazing	Yes	Yes
Food approval	FDA/EU	FDA/EU
Cleanability	++	+
Color	White	Cobalt blue
Durometer (Shore hardness)	80 A	80 A
Temperature range [°C]	-20 to 60	-30 to 80
Temperature range *[°F]*	*-4 to 140*	*-22 to 176*
Cover thickness [mm]	1.6	1.6
Minimum pulley diameter Ø [mm]*	40	50

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – PET / fleece

Cover	FNI	G-NB	G-NBW	PES fabric
				
Material	PET	PET	PET	PET
Surface structure	Impregnated fabric	Fabric	Fabric	Fabric
Abrasion resistance	+++	+++	++	++
Friction	+	+	+	+
Release properties	+++	+++	+++	+++
Wear resistance	+++	+++	++	++
Cut resistance	++	+++	+++	++
Compressibility	+	+	+	+
Oil and grease resistance	+	+	+++	+
Ozone- and UV-resistance	No	No	No	No
Antimicrobial	No	No	No	No
Antistatic	Yes	Yes	No	No
Electrically conductive	No	No	No	No
Hydrolysis resistance	-	-	+++	-
Flame retardance	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes
Food approval	FDA/EU	No	FDA	FDA/EU
Cleanability	+++	+	+	++
Color	Light gray	Black	White	Light gray
Durometer (Shore hardness)	90 A	80 A	80 A	N /A
Temperature range [°C]	-30 to 80	-10 to 80	-10 to 80	-30 to 80
Temperature range *[°F]*	*-22 to 176*	*14 to 176*	*14 to 176*	*-22 to 176*
Cover thickness [mm]	0.8	1.2/2.25	0.75	0.8
Minimum pulley diameter Ø [mm]*	160	160	40	30

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – PET / fleece

Cover	MAN	MNN	NNT-B
			
Material	PET	PET	PET
Surface structure	Fabric	Nonwoven (fleece)	Impregnated fabric
Abrasion resistance	+++	+++	+++
Friction	++	+	+
Release properties	+++	+++	+++
Wear resistance	+++	+++	+++
Cut resistance	+++	+++	+++
Compressibility	+	+	+
Oil and grease resistance	+	+	+
Ozone- and UV-resistance	No	No	No
Antimicrobial	No	No	No
Antistatic	No	No	No
Electrically conductive	No	No	No
Hydrolysis resistance	+	+	+
Flame retardance	No	No	No
Non glazing	Yes	Yes	Yes
Food approval	No	No	No
Cleanability	+	+	++
Color	Anthracite	Beige	Black
Durometer (Shore hardness)	50 A	40 A	90 A
Temperature range [°C]	-30 to 60	-20 to 60	0 to 80
Temperature range *[°F]*	*-22 to 140*	*-4 to 140*	*32 to 176*
Cover thickness [mm]	0.8	0.5	1.3
Minimum pulley diameter Ø [mm]*	25	40	40

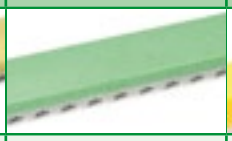
+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – foam materials

Cover	PU yellow	Foam rubber smooth	Foam rubber rough	Sylomer blue	Sylomer brown
					
Material	PU foam	Natural rubber	Natural rubber	PU foam	PU foam
Surface structure	Smooth	Closed-cell	Open-cell	Closed-cell	Closed-cell
Abrasion resistance	++	+	+	+	+
Friction	++	++	++	++	++
Release properties	++	+++	+++	+++	+++
Wear resistance	++	+	+	+	++
Cut resistance	++	+	+	+	+
Compressibility	++	+++	+++	+++	+++
Oil and grease resistance	+++	++	++	+++	+++
Ozone- and UV-resistance	No	No	No	Yes	Yes
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	++	+++	+++	+++	+++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	No	No	No	No
Cleanability	++	+	+	+	+
Color	Yellow	Orange	Orange	Light blue	Brown
Durometer (Shore hardness)	60 A	200 kg / m³	200 kg / m³	220 kg / m³	400 kg / m³
Temperature range [°C]	-10 to 60	-20 to 65	-20 to 65	-30 to 70	-30 to 70
Temperature range *[°F]*	*14 to 140*	*-4 to 150*	*-4 to 150*	*-22 to 158*	*-22 to 158*
Cover thickness [mm]	2.0 to 8.0	10.0, 15.0, 20.0	10.0, 15.0, 20.0	5.0, 10.0, 12.0, 20.0	5.0 to 20.0
Minimum pulley diameter Ø [mm]*	50 to 200	100, 150, 200	100, 150, 200	75, 150, 180, 300	100 to 360

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – foam materials

Cover	Sylomer yellow	Sylomer green	Sylodyne yellow	Neoprene	Cell rubber + PA fabric blue
					
Material	PU foam	PU foam	PU foam	Chloroprene rubber	Chloroprene rubber
Surface structure	Closed-cell	Closed-cell	Closed-cell	Smooth closed-cell	Fabric
Abrasion resistance	+	+	++	++	+++
Friction	++	++	++	+++	+
Release properties	+++	+++	++	++	+++
Wear resistance	+	+	+	+	++
Cut resistance	+	+	+	+	++
Compressibility	+++	+++	++	+++	+++
Oil and grease resistance	+++	+++	+++	-	+++
Ozone- and UV-resistance	Yes	Yes	Yes	No	Yes
Antimicrobial	No	No	No	No	No
Antistatic	No	No	No	No	No
Electrically conductive	No	No	No	No	No
Hydrolysis resistance	+++	+++	+++	+++	++
Flame retardance	No	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes	Yes
Food approval	No	No	No	No	No
Cleanability	+	+	++	++	+++
Color	Yellow	Light green	Yellow	Black	Blue
Durometer (Shore hardness)	160 kg / m³	300 kg / m³	450 kg / m³	180 kg/ m3	170 kg / m³
Temperature range [°C]	-30 to 70	-30 to 70	-30 to 70	-40 to 80	-40 to 85
Temperature range *[°F]*	*-22 to 158*	*-22 to 158*	*-22 to 158*	*-40 to 176*	*-40 to 185*
Cover thickness [mm]	5.0, 10.0	2.0 to 20.0	12.0	2.0 to 20.0	3.0
Minimum pulley diameter Ø [mm]*	75, 150	30 to 300	240	30 to 300	45

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – foam materials

Cover	Cell rubber + PA fabric black	Cell polyurethan
		
Material	Chloroprene rubber	PU foam
Surface structure	Fabric	Closed-cell
Abrasion resistance	+++	++
Friction	+	++
Release properties	+++	+++
Wear resistance	++	++
Cut resistance	++	++
Compressibility	+++	+++
Oil and grease resistance	+++	+++
Ozone- and UV-resistance	Yes	Yes
Antimicrobial	No	No
Antistatic	No	No
Electrically conductive	No	No
Hydrolysis resistance	++	++
Flame retardance	No	No
Non glazing	Yes	Yes
Food approval	No	No
Cleanability	+++	+
Color	Black	Beige
Durometer (Shore hardness)	170 kg / m³	350 kg / m³
Temperature range [°C]	-40 to 85	-30 to 80
Temperature range *[°F]*	*-40 to 185*	*-22 to 158*
Cover thickness [mm]	8.0	1.0 to 25.0
Minimum pulley diameter Ø [mm]*	120	20 to 500

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – special materials

Cover	Chrome split leather	FNT	PA fabric heavy	Teflon laminate
				
Material	Chrome leather	Polyester cotton fabric	Polyamide	Teflon
Surface structure	Leather	Fabric	Smooth	Glossy
Abrasion resistance	+++	++	+++	+
Friction	+	+	-	-
Release properties	++	+++	+++	+++
Wear resistance	++	++	+++	+
Cut resistance	+++	++	++	+
Compressibility	+	+	+	+
Oil and grease resistance	+++	+++	-	+++
Ozone- and UV-resistance	+	-	-	-
Antimicrobial	-	-	-	-
Antistatic	-	-	-	-
Electrically conductive	-	-	-	-
Hydrolysis resistance	+	+	+	+++
Flame retardance	No	No	No	No
Non glazing	Yes	Yes	Yes	Yes
Food approval	No	FDA	No	No
Cleanability	+	+	+	+++
Color	Gray	White	Green	White
Durometer (Shore hardness)	N /A	N /A	N /A	N/A
Temperature range [°C]	0 to 60	-30 to 80	-30 to 80	0 to 80
Temperature range *[°F]*	*32 to 140*	*-22 to 176*	*-22 to 176*	*32 to 176*
Cover thickness [mm]	2.0 - 3.0	0.8	0.75	0.25
Minimum pulley diameter Ø [mm]*	50, 75	40	45	75

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Covers – special materials

Cover	ACI-28SWF	Silicone blue
		
Material	Silicone	Silicone
Surface structure	Customizable structure	Glossy
Abrasion resistance	++	++
Friction	+++	+++
Release properties	+++	+++
Wear resistance	+	+
Cut resistance	+	+
Compressibility	+	+
Oil and grease resistance	+++	+++
Ozone- and UV-resistance	-	-
Antimicrobial	-	-
Antistatic	-	-
Electrically conductive	-	-
Hydrolysis resistance	+++	+++
Flame retardance	No	No
Non glazing	Yes	Yes
Food approval	FDA/EU	No
Cleanability	+++	+++
Color	White	Cobalt blue
Durometer (Shore hardness)	28 A	50 A
Temperature range [°C]	-20 to 200	-20 to 200
Temperature range *[°F]*	*-4 to 392*	*-4 to 392*
Cover thickness [mm]	min 2.0	1.0
Minimum pulley diameter Ø [mm]*	min 40	80 mm

+++ = very good
++ = good
+ = low
- = none
* for multiple values see corresponding thickness capability above

Timing belt insert with threaded cylinders
Allows the mechanical attachment of cleats to the timing belt
- Made of stainless steel, on demand also brass

Fabrication possibilities:
- Machine a lateral groove into the timing belt tooth yields no metal on metal contact of false tooth insert to pulley. Ensures smooth and quiet operation.
- Completely remove tooth and replace with metal false tooth.

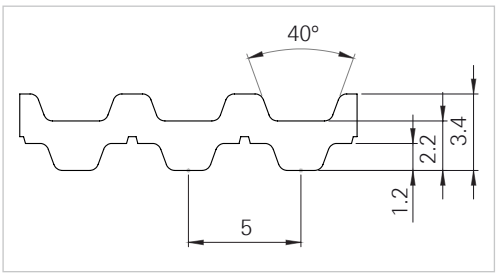
Industry and application examples:
- Materials handling
- Packaging machines
- Placement lines

Habasit Code	Product description	Technical data		Dimensions				
		Available timing belt pitches	Minimum timing belt width [mm]	Threaded pin	Height over timing belt cover side [mm]	Distance between threaded cylinders [mm]	Outside diameter threaded cylinder [mm]	False tooth bar width [mm]
FT-016I-1M4-080N1	rectangular bar	AT10 / AT20 / 8M / 14M / T10 / T20 / XH	from 16	internal thread M4	6 (T10/AT10)	min. 16	6 +0/- 0.1	16
FT-020I-2M4-080N2	rectangular bar	AT10 / AT20 / 8M / 14M T10 / T20 / H / XH	20* *possibility to combine with further inserts	internal thread M4	6 (T10/AT10)	10 +/- 0.05	6 +0/- 0.1	20
FT-025I-2M4-046N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	25* *possibility to combine with further inserts (25/50/75 width)	internal thread M4	2.6 (T10/AT10)	16 +/- 0.05	6 +0/- 0.1	24
FT-025I-2M4-080N2	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	25 mm* *possibility to combine with further inserts (25/50/75 width)	internal thread M4	6 (T10/AT10)	10 +/- 0.05	6 +0/- 0.1	20
FT-025I-2M4-120N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	25* *possibility to combine with further inserts (25/50/75 width)	internal thread M4	10 T10/AT10)	12 +/- 0.05	6 +0/- 0.1	24
FT-032I-2M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	32* *possibility to combine with further inserts (32 width)	internal thread M4	6 (T10/AT10)	20 +/- 0.05	6 +0/- 0.1	29
FT-038I-2M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	38* *possibility to combine with further inserts (38 width)	internal thread M4	6 (T10/AT10)	20 +/- 0.05	6 +0/- 0.1	36,5
FT-050I-2M3-040Z2	trapezoid bar	T10	50* *possibility to combine with further inserts (50 width)	internal thread M3	2	32 +/- 0.05	6 +0/- 0.1	49

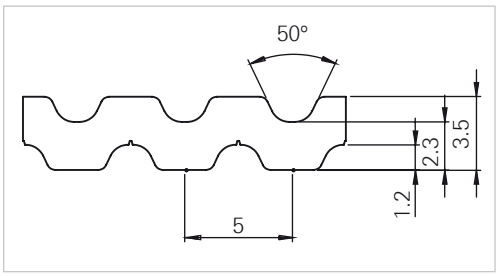
Habasit code	Product description	Technical data		Dimensions				
		Available timing belt pitches	Minimum timing belt width [mm]	Threaded pin	Height over timing belt cover side [mm]	Distance between threaded cylinders [mm]	Outside diameter threaded cylinder [mm]	False tooth bar width [mm]
FT-050I-2M4-046N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH		internal thread M4	2.6 (T10/ AT10)	25 +/- 0.05	6 +0/- 0.1	49
FT-050I-2M4-046Z1	trapezoid bar	AT10	50* *possibility to combine with further inserts (50 width)	internal thread M4	2.6	25 +/- 0.05	6 +0/- 0.1	49
FT-050I-2M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	50* *possibility to combine with further inserts (50/75 width)	internal thread M4	6 (T10/ AT10)	25 +/- 0.05	6 +0/- 0.1	49
FT-050I-2M5-100N1	rectangular bar	AT20 / XH / 14M / T20	50* *possibility to combine with further inserts (50/75 width)	internal thread M5	7	25 +/- 0.05	7.5 +0/- 0.1	49
FT-050I-3M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	50* *possibility to combine with further inserts (50/75 width)	internal thread M4	6 (T10/ AT10)	15 +/- 0.05	6 +0/- 0.1	45
FT-050I-3M5-060N1	rectangular bar	AT20 / XH / 14M / T20	50* *possibility to combine with further inserts (50 width)	internal thread M5	4	15 +/- 0.05	7 +0/- 0.1	49
FT-075I-2M4-046Z1	trapezoid bar	AT10	75* *possibility to combine with further inserts (75 width)	internal thread M4	2.6	50 +/- 0.05	6 +0/- 0.1	74
FT-075I-2M4-120N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	75* *possibility to combine with further inserts (50/75 width)	internal thread M4	10 (T10/ AT10)	50 +/- 0.05	6 +0/- 0.1	74
FT-075I-3M4-046N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	75* *possibility to combine with further inserts (50/75 width)	internal thread M4	2.6 (T10/ AT10)	25 +/- 0.05	6 +0/- 0.1	74
FT-075I-3M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	50* *possibility to combine with further inserts (50/75 width)	internal thread M4	6 (T10/ AT10)	25 +/- 0.05	6 +0/- 0.1	74
FT-100I-4M4-080N1	rectangular bar	AT10/ AT20/ 8M /14M T10 / T20 / H / XH	100	internal thread M4	6 (T10/ AT10)	25 +/- 0.05	6 +0/- 0.1	98
FT-150I-2M5-100N1	rectangular bar	AT20 / XH / 14M / T20	150	internal thread M5	7	100 +/- 0.05	7 +0/- 0.1	149

Product description	Double-sided tooth timing belts for use in power transmission and conveying applications. Both sides are mechanical stable and can drive pulleys.
Technical data	
Material	Polyurethane timing belts: open-end, joined or flex seamless belts
Timing belt type	T5 T10 T20 AT5 AT10 AT20 5M 8M 14M H
Alignment of the teeth	According DIN-standard for metric pitches tooth over tooth space. M-pitch – tooth over tooth. H-pitch – tooth over tooth/alternating.
Dimensions	
Timing belt width	up to 150 mm
Timing belt length	from 700 mm

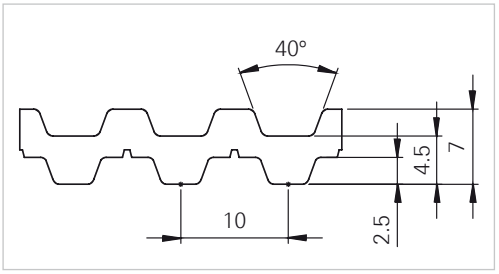
T5



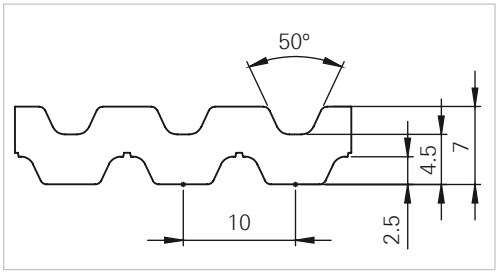
AT5



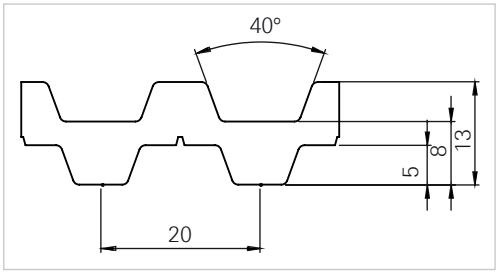
T10



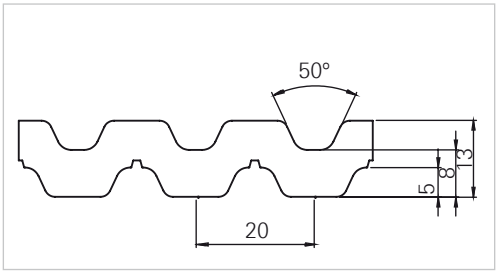
AT10



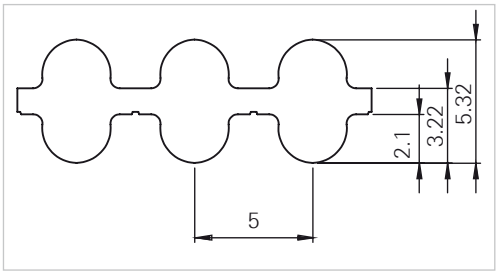
T20



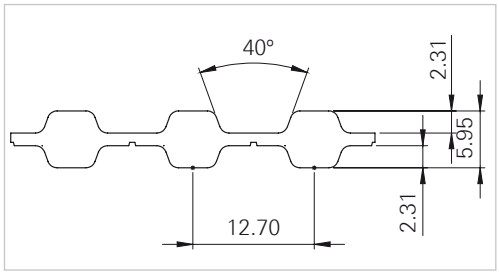
AT20



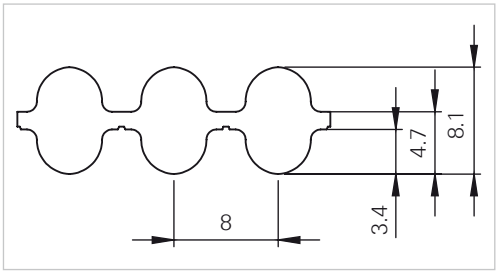
5M (HTD)



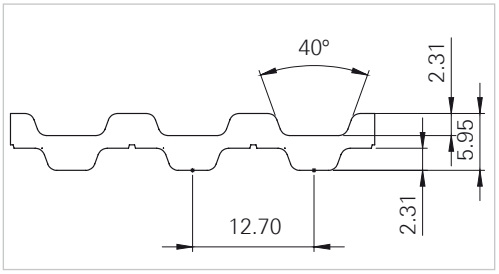
H (tooth over tooth)



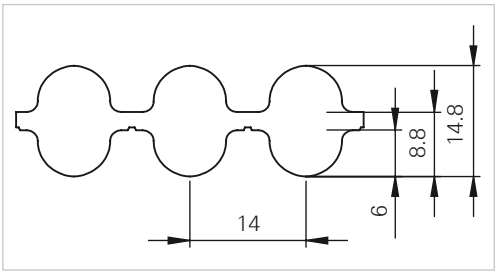
8M (HTD)



H (alternating teeth)



14M (HTD)



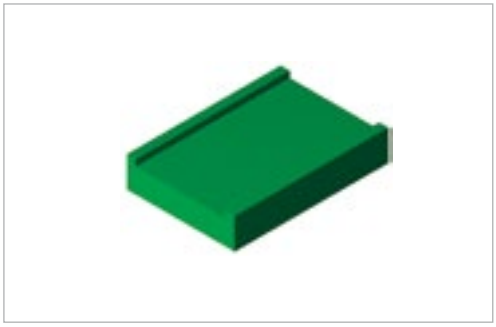
HabiPLAST™ support guides
Guides for timing belts SF (F)

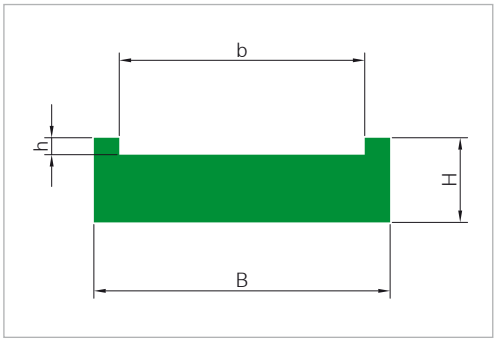
Material: ultra-high molecular weight polyethylene, green color.

Standard profile: 3 meter bars.

Other materials, colors, bar lengths are available on request.

Application: Used as a low friction sliding support in conveying and linear movement applications for HabaSYNC® timing belts.
With its excellent wear and chemical resistance, and inherent low noise properties, it works well with all types of machinery.
This is used in a wide range of industries such as bottling, packaging, materials handling, and food processing.





Habasit code	Belt type	B	H	b	h
		mm	mm	mm	mm
SF-02-PE10G-003+RC	T5 16 -AT5 16	25	10	17	1.8
SF-03-PE10G-003+RC	T5 25 -AT5 25	34	10	26	1.8
SF-04-PE10G-003+RC	T5 32 -AT5 32	41	10	33	1.8
SF-05-PE10G-003+RC	T5 50 -AT5 50	59	10	51	1.8
SF-08-PE10G-003+RC	T10 16 -AT10 16	25	15	17	3.8
SF-09-PE10G-003+RC	T10 25 -AT10 25	34	15	26	3.8
SF-10-PE10G-003+RC	T10 32 -AT10 32	41	15	33	3.8
SF-11-PE10G-003+RC	T10 50 -AT10 50	59	15	51	3.8
SF-12-PE10G-003+RC	T10 75 -AT10 75	84	15	76	3.8
SF-13-PE10G-003+RC	T10 100 -AT10 100	109	15	101	3.8
SF-16-PE10G-003+RC	T20 25 -AT20 25	34	20	26	7.0
SF-17-PE10G-003+RC	T20 32 -AT20 32	41	20	33	7.0
SF-18-PE10G-003+RC	T20 50 -AT20 50	59	20	51	7.0
SF-19-PE10G-003+RC	T20 75 -AT20 75	84	20	76	7.0
SF-20-PE10G-003+RC	T20 100 -AT20 100	109	20	101	7.0

HabiPLAST™ support guides
Guides for timing belts with metal profile SF(X) (FC)

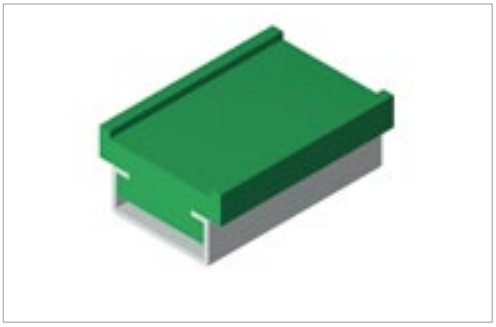
Material: ultra-high molecular weight polyethylene, green color.

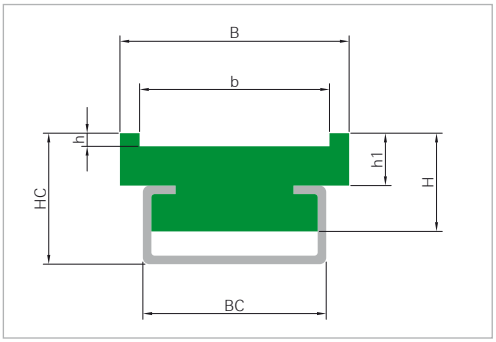
Standard profile: 3 meter bars.

Other materials, colors, bar lengths are available on request.

Accessories: metal profiles, to be ordered separately (see steel profiles for HabiPLAST™ guides), available in galvanized steel, AISI 304 and AISI 430 stainless steel.

Application: Used as a low friction sliding support in conveying and linear movement applications for HabaSYNC® timing belts. With its excellent wear and chemical resistance, and inherent low noise properties, it works well with all types of machinery. This is used in a wide range of industries such as bottling, packaging, materials handling, and food processing.





Habasit code	Belt type	B	H	BC	HC	h1	b	h	Metal profile
		mm	mm	mm	mm	mm	mm	mm	
SFE02-PE10G-003+RC	T5 16 -AT5 16	25	15	28	19	7	17	1.8	C-5
SFE03-PE10G-003+RC	T5 25 -AT5 25	34	15	28	19	7	26	1.8	C-5
SFJ04-PE10G-003+RC	T5 32 -AT5 32	41	20	38	25	7	33	1.8	C-9
SFJ05-PE10G-003+RC	T5 50 -AT5 50	59	20	38	25	7	51	1.8	C-9
SFE08-PE10G-003+RC	T10 16 -AT10 16	25	17	28	21	9	17	3.8	C-5
SFE09-PE10G-003+RC	T10 25 -AT10 25	34	17	28	21	9	26	3.8	C-5
SFJ10-PE10G-003+RC	T10 32 -AT10 32	41	22	38	27	9	33	3.8	C-9
SFJ11-PE10G-003+RC	T10 50 -AT10 50	59	22	38	27	9	51	3.8	C-9
SFJ12-PE10G-003+RC	T10 75 -AT10 75	84	22	38	27	9	76	3.8	C-9
SFJ13-PE10G-003+RC	T10 100 -AT10 100	109	22	38	27	9	101	3.8	C-9
SFE16-PE10G-003+RC	T20 25 -AT20 25	34	20	28	24	12	26	7.0	C-5
SFJ17-PE10G-003+RC	T20 32 -AT20 32	41	25	38	30	12	33	7.0	C-9
SFJ18-PE10G-003+RC	T20 50 -AT20 50	59	25	38	30	12	51	7.0	C-9
SFJ19-PE10G-003+RC	T20 75 -AT20 75	84	25	38	30	12	76	7.0	C-9
SFJ20-PE10G-003+RC	T20 100 -AT20 100	109	25	38	30	12	101	7.0	C-9

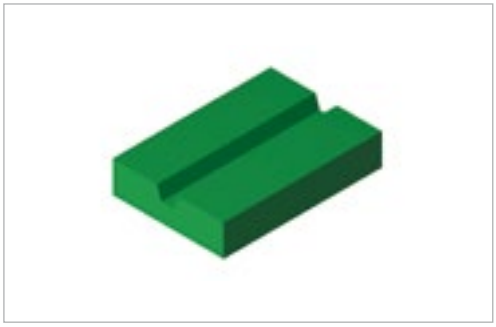
HabiPLAST™ support guides
Guides for timing belts SV (FV)

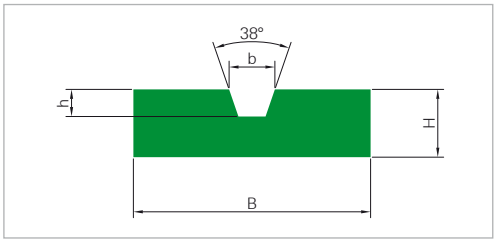
Material: ultra-high molecular weight polyethylene, green color.

Standard profile: 3 meter bars.

Other materials, colors, bar lengths are available on request.

Application: Used as a low friction sliding support in conveying and linear movement applications for HabaSYNC® timing belts with an attached tracking guide. With its excellent wear and chemical resistance, and inherent low noise properties, it works well with all types of machinery. This is used in a wide range of industries such as bottling, packaging, materials handling, and food processing.





Habasit code	Belt type	Track shape	B	H	b	h
			mm	mm	mm	mm
SV-23-PE10G-003+RC	TG5 16 - ATG5 16	G6	25	10	6.0	3.5
SV-25-PE10G-003+RC	TG5 25 - ATG5 25	G6	35	10	6.0	3.5
SV-27-PE10G-003+RC	TG5 32 - ATG5 32	G6	41	10	6.0	3.5
SV-29-PE10G-003+RC	TG5 50 - ATG5 50	G6	59	10	6.0	3.5
SV-32-PE10G-003+RC	TG10 25 - ATG10 25	G6	35	10	5.5	2.5
SV-33-PE10G-003+RC	TG10 25 - ATG10 25	G10	35	10	9.5	4.5
SV-34-PE10G-003+RC	TG10 25 - ATG10 25	G13	35	10	13.0	5.0
SV-37-PE10G-003+RC	TG10 32 - ATG10 32	G6	41	10	5.5	2.5
SV-38-PE10G-003+RC	TG10 32 - ATG10 32	G10	41	10	9.5	4.5
SV-39-PE10G-003+RC	TG10 32 - ATG10 32	G13	41	10	13.0	5.0
SV-42-PE10G-003+RC	TG10 50 - ATG10 50	G6	59	15	5.5	2.5
SV-43-PE10G-003+RC	TG10 50 - ATG10 50	G10	59	15	9.5	4.5
SV-44-PE10G-003+RC	TG10 50 - ATG10 50	G13	59	15	13.0	5.0
SV-47-PE10G-003+RC	TG10 75 - ATG10 75	G6	84	15	5.5	2.5
SV-48-PE10G-003+RC	TG10 75 - ATG10 75	G10	84	15	9.5	4.5
SV-49-PE10G-003+RC	TG10 75 - ATG10 75	G13	84	15	13.0	5.0
SV-52-PE10G-003+RC	TG10 100 - ATG10 100	G6	109	15	5.5	2.5
SV-53-PE10G-003+RC	TG10 100 - ATG10 100	G10	109	15	9.5	4.5
SV-54-PE10G-003+RC	TG10 100 - ATG10 100	G13	109	15	13.0	5.0
SV-58-PE10G-003+RC	TG20 32 - ATG20 32	G13	41	20	11.5	2.5
SV-61-PE10G-003+RC	TG20 50 - ATG20 50	G13	59	20	11.5	2.5
SV-62-PE10G-003+RC	TG20 50 - ATG20 50	G17	59	20	16.0	4.0
SV-65-PE10G-003+RC	TG20 75 - ATG20 75	G13	84	20	11.5	2.5
SV-66-PE10G-003+RC	TG20 75 - ATG20 75	G17	84	20	16.0	4.0
SV-69-PE10G-003+RC	TG20 100 - ATG20 100	G13	109	20	11.5	2.5
SV-70-PE10G-003+RC	TG20 100 - ATG20 100	G17	109	20	16.0	4.0

HabiPLAST™ support guides
Guides for timing belts with metal profile SV(X) (FCV)

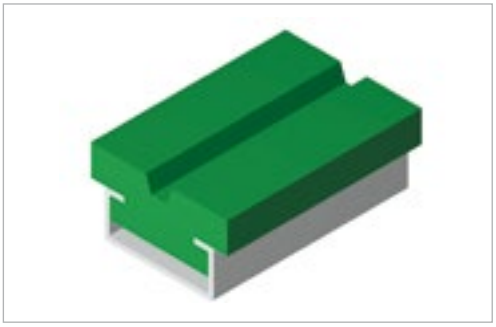
Material: ultra-high molecular weight polyethylene, green color.

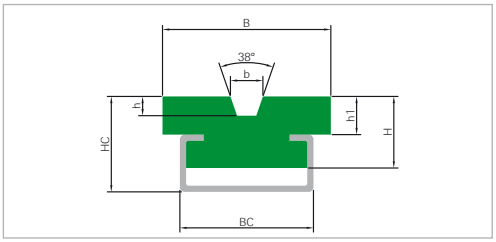
Standard profile: 3 meter bars.

Other materials, colors, bar lengths are available on request.

Accessories: metal profiles, to be ordered separately (see steel profiles for HabiPLAST™ guides), available in galvanized steel, AISI 304 and AISI 430 stainless steel.

Application: Used as a low friction sliding support in conveying and linear movement applications for HabaSYNC® timing belts with an attached tracking guide. With its excellent wear and chemical resistance, and inherent low noise properties, it works well with all types of machinery. This is used in a wide range of industries such as bottling, packaging, materials handling, and food processing.





Habasit code	Belt type	Track shape	B	H	BC	HC	h1	b	h	Metal profile
			mm	mm	mm	mm	mm	mm	mm	
SVE23-PE10G-003+RC	TG5 16 - ATG5 16	G6	25	15	28	19	7	6.0	3.5	C-5
SVE25-PE10G-003+RC	TG5 25 - ATG5 25	G6	35	15	28	19	7	6.0	3.5	C-5
SVJ27-PE10G-003+RC	TG5 32 - ATG5 32	G6	41	20	38	25	7	6.0	3.5	C-9
SVJ29-PE10G-003+RC	TG5 50 - ATG5 50	G6	59	20	38	25	7	6.0	3.5	C-9
SVE32-PE10G-003+RC	TG10 25 - ATG10 25	G6	35	17	28	21	9	5.5	2.5	C-5
SVE33-PE10G-003+RC	TG10 25 - ATG10 25	G10	35	17	28	21	9	9.5	4.5	C-5
SVE34-PE10G-003+RC	TG10 25 - ATG10 25	G13	35	17	28	21	9	13.0	5.0	C-5
SVJ37-PE10G-003+RC	TG10 32 - ATG10 32	G6	41	22	38	27	9	5.5	2.5	C-9
SVJ38-PE10G-003+RC	TG10 32 - ATG10 32	G10	41	22	38	27	9	9.5	4.5	C-9
SVJ39-PE10G-003+RC	TG10 32 - ATG10 32	G13	41	22	38	27	9	13.0	5.0	C-9
SVJ42-PE10G-003+RC	TG10 50 - ATG10 50	G6	59	22	38	27	9	5.5	2.5	C-9
SVJ43-PE10G-003+RC	TG10 50 - ATG10 50	G10	59	22	38	27	9	9.5	4.5	C-9
SVJ44-PE10G-003+RC	TG10 50 - ATG10 50	G13	59	22	38	27	9	13.0	5.0	C-9
SVJ47-PE10G-003+RC	TG10 75 - ATG10 75	G6	84	22	38	27	9	5.5	2.5	C-9
SVJ48-PE10G-003+RC	TG10 75 - ATG10 75	G10	84	22	38	27	9	9.5	4.5	C-9
SVJ49-PE10G-003+RC	TG10 75 - ATG10 75	G13	84	22	38	27	9	13.0	5.0	C-9
SVJ52-PE10G-003+RC	TG10 100 - ATG10 100	G6	109	22	38	27	9	5.5	2.5	C-9
SVJ53-PE10G-003+RC	TG10 100 - ATG10 100	G10	109	22	38	27	9	9.5	4.5	C-9
SVJ54-PE10G-003+RC	TG10 100 - ATG10 100	G13	109	22	38	27	9	13.0	5.0	C-9
SVJ58-PE10G-003+RC	TG20 32 - ATG20 32	G13	41	25	38	30	12	11.5	2.5	C-9
SVJ61-PE10G-003+RC	TG20 50 - ATG20 50	G13	59	25	38	30	12	11.5	2.5	C-9
SVJ62-PE10G-003+RC	TG20 50 - ATG20 50	G17	59	25	38	30	12	16.0	4.0	C-9
SVJ65-PE10G-003+RC	TG20 75 - ATG20 75	G13	84	25	38	30	12	11.5	2.5	C-9
SVJ66-PE10G-003+RC	TG20 75 - ATG20 75	G17	84	25	38	30	12	16.0	4.0	C-9
SVJ69-PE10G-003+RC	TG20 100 - ATG20 100	G13	109	25	38	30	12	11.5	2.5	C-9
SVJ70-PE10G-003+RC	TG20 100 - ATG20 100	G17	109	25	38	30	12	16.0	4.0	C-9

Tools – BTM-1 tension meter

Technical data	
Measurement range	1 – 500 Hz
Modulation	5 kHz
Sensor test	25 Hz with OK message
Readout error	+/- 0.3 Hz
Resolution	+/- 0.1 Hz
Operation temperature	-20 °C...+85 °C *[-68 °F...+185 °F]*
Storage temperature	-40 °C...+105 °C *[-40 °F...+221 °F]*
Humidity	20 – 95%
Housing	Plastic (PVC) IP10
Housing sensor	Plastic IP66
Housing dimensions WxHxD	75 x 115 x 35 mm *[2.95 x 4.53 x 1.38 in]*
Carrying-case dimensions	230 x 220 x 75 mm *[9.06 x 8.66 x 2.95 in]*
Display	2 line LCD 12 x 60 mm *[0.47 x 2.36 in]* with background illumination
Languages	English, French, German, Japanese
Input limits	Free belt strand: 30 – 9,999 mm
Input limits	Belt mass: 0.001 – 99.999 kg/m
No. of storage locations	255
Voltage supply	9 V alkaline battery, type E-Block 6LR61
Interface	RS232, DSUB9

PML portable press series

Hot-pressing device for joining timing belts up to 600 mm width.
The external control unit provides full management of the joining cycle parameters (temperature and time) and the cooling fan system.

Details				Power supply						Method		
Product name	Max. belt width	Ordering code	Article name	Power [W]	Manual	1 x 120 V	1 x 230 V	3 x 230 V	3 x 400 V	Flexproof	Quickmelt	Thermofix
PML-100	100	H088000630	PML-100/6	1000		●				●	●	●
PML-100	100	H088000631	PML-100/8	1000			●			●	●	●
PML-200	200	H088000632	PML-200/6	1200		●				●	●	●
PML-200	200	H088000633	PML-200/8	1200			●			●	●	●
PML-300	300	H088000634	PML-300/6	1600		●				●	●	●
PML-300	300	H088000635	PML-300/8	1600			●			●	●	●
PML-600	600	H088000636	PML-600/6	1600		●				●	●	●
PML-600	600	H088000637	PML-600/8	1600			●			●	●	●

● Available

AF-151TB

Cutting device for joining timing belts up to 152.4 mm width.
The portable cutting device with separate accessories for easy maintenance supports flexible on-site joining.

Details				Power supply						Method			Dimensions			
Product name	Max. belt width	Ordering code	Article name	Power [W]	Manual	1 x 120 V	1 x 230 V	3 x 230 V	3 x 400 V	Flexproof	Quickmelt	Thermofix	Length [mm]	Width [mm]	Height [mm]	Weight [kg]
AF-151-10/80 TB	150 mm	50011189	AF-151-10/80		●					●			720	215	670	18
AF-151-16/120 TB	150 mm	50011186	AF-151-16/120		●					●			720	215	670	18

● Available

Available accessories

Cutting device / type:	AF-151-10/80 SET	Cutting device / type:	AF-151-16/120 SET
Blade 80 mm order no.:	A-0127 000	Blade 120 mm order no.:	A-0224 000
Die support order no.:	AF-150-08	Die support order no.:	AF-150-08
Clamping strip order no.:	S552500223	Clamping strip order no.:	S552500223

Tools – joining plates

When HabaSYNC® timing belts need to be joined, Habasit joining plates provide outstanding results and smooth pulley engagement. Thanks to a special micro-coating, Habasit joining plates have excellent non-sticking properties and durability. A large variety of pitch-width alternatives is available to cover every situation, including both metric and imperial standard pitches.

Metric pitch						
Width [mm]	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name
	T5		T10		T20	
10	H088000105	CJ-T5-10-03				
16	H088000002	CJ-T5-16-03	H088000010	CJ-T10-16-03	H088000018	CJ-T20-16-03
25	H088000003	CJ-T5-25-03	H088000011	CJ-T10-25-03	H088000019	CJ-T20-25-03
32	H088000004	CJ-T5-32-03	H088000012	CJ-T10-32-03	H088000020	CJ-T20-32-03
50	H088000005	CJ-T5-50-03	H088000013	CJ-T10-50-03	H088000021	CJ-T20-50-03
75	H088000006	CJ-T5-75-03	H088000014	CJ-T10-75-03	H088000022	CJ-T20-75-03
100	H088000007	CJ-T5-100-03	H088000015	CJ-T10-100-03	H088000023	CJ-T20-100-03
125	H088000008	CJ-T5-125-03	H088000016	CJ-T10-125-03	H088000024	CJ-T20-125-03
150	H088000009	CJ-T5-150-03	H088000017	CJ-T10-150-03	H088000025	CJ-T20-150-03

Metric pitch						
Width [mm]	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name
	AT5		AT10		AT20	
16	H088000026	CJ-AT5-16-03	H088000034	CJ-AT10-16-03	H088000042	CJ-AT20-16-03
25	H088000027	CJ-AT5-25-03	H088000035	CJ-AT10-25-03	H088000043	CJ-AT20-25-03
32	H088000028	CJ-AT5-32-03	H088000036	CJ-AT10-32-03	H088000044	CJ-AT20-32-03
50	H088000029	CJ-AT5-50-03	H088000037	CJ-AT10-50-03	H088000045	CJ-AT20-50-03
75	H088000030	CJ-AT5-75-03	H088000038	CJ-AT10-75-03	H088000046	CJ-AT20-75-03
100	H088000031	CJ-AT5-100-03	H088000039	CJ-AT10-100-03	H088000047	CJ-AT20-100-03
125	H088000032	CJ-AT5-125-03	H088000040	CJ-AT10-125-03	H088000048	CJ-AT20-125-03
150	H088000033	CJ-AT5-150-03	H088000041	CJ-AT10-150-03	H088000049	CJ-AT20-150-03

Metric pitch								
Width [mm]	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name
	5M		8M		14M		RPP8	
10	H088000124	CJ-HTD5-10-03	H088000084	CJ-HTD8-10-03	H088000094	CJ-HTD14-10-03		
15	H088000125	CJ-HTD5-15-03	H088000085	CJ-HTD8-15-03	H088000095	CJ-HTD14-15-03		
20	H088000174	CJ-HTD5-20-03	H088000086	CJ-HTD8-20-03	H088000096	CJ-HTD14-20-03	H08D010067	CJ-RPP8-20-03
25	H088000126	CJ-HTD5-25-03	H088000087	CJ-HTD8-25-03	H088000097	CJ-HTD14-25-03		
30	H088000175	CJ-HTD5-30-03	H088000088	CJ-HTD8-30-03	H088000098	CJ-HTD14-30-03		
40	H088000176	CJ-HTD5-40-03	H088000089	CJ-HTD8-40-03	H088000099	CJ-HTD14-40-03		
50	H088000127	CJ-HTD5-50-03	H088000090	CJ-HTD8-50-03	H088000100	CJ-HTD14-50-03	H08D010065	CJ-RPP8-50-03
55					H088000122	CJ-HTD14-55-03		
85			H088000091	CJ-HTD8-85-03	H088000101	CJ-HTD14-85-03	H08D010063	CJ-RPP8-85-03
100	H088000178	CJ-HTD5-100-03	H088000092	CJ-HTD8-100-03	H088000102	CJ-HTD14-100-03	H08D010061	CJ-RPP8-100-03
115					H088000123	CJ-HTD14-115-03		
150	H088000179	CJ-HTD5-150-03	H088000093	CJ-HTD8-150-03	H088000103	CJ-HTD14-150-03	H08D010059	CJ-RPP8-150-03

Metric pitch				
Width [mm]	Ordering code	Product name	Ordering code	Product name
	T5CF		T10CF	
25	H08D010030	CJ-T5CF-25-03	H08D010026	CJ-T10CF-25-03
32	H08D010031	CJ-T5CF-32-03	H08D010027	CJ-T10CF-32-03
50	H08D010032	CJ-T5CF-50-03	H08D010028	CJ-T10CF-50-03
100	H08D010033	CJ-T5CF-100-03	H08D010029	CJ-T10CF-100-03

Metric pitch		
Width [mm]	Ordering code	Product name
	AT10G13	
32	S550050111	CJ-AT10G13-32
50	S550050110	JP AT10G13 50
75	S550050112	JP AT10G13 75
150	S550050154	JP AT10G13 150

Metric pitch				
Width [mm]	Ordering code	Product name	Ordering code	Product name
	DT10		DAT10	
25	S550050150	JP DT10 25	S550050151	JP DAT10 25
32	S550050148	JP DT10 32	S550050149	JP DAT10 32
50	S550050146	JP DT10 50	S550050147	JP DAT10 50
100	S550050144	JP DT10 100	S550050145	JP DAT10 100

Imperial pitch								
Width *[inch]*	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name	Ordering code	Product name
	XL		L		H		XH	
0.5	H088000107	CJ-XL-050-03	H088000108	CJ-L-050-03	H088000106	CJ-H-050-03		
0.75	H088000074	CJ-XL-075-03	H088000076	CJ-L-075-03	H088000078	CJ-H-075-03	H088000080	CJ-XH-075-03
1	H088000050	CJ-XL-100-03	H088000056	CJ-L-100-03	H088000062	CJ-H-100-03	H088000068	CJ-XH-100-03
1.5	H088000075	CJ-XL-150-03	H088000077	CJ-L-150-03	H088000079	CJ-H-150-03	H088000081	CJ-XH-150-03
2	H08800005	CJ-XL-200-03	H088000057	CJ-L-200-03	H088000063	CJ-H-200-03	H088000069	CJ-XH-200-03
3	H088000052	CJ-XL-300-03	H088000058	CJ-L-300-03	H088000064	CJ-H-300-03	H088000070	CJ-XH-300-03
4	H088000053	CJ-XL-400-03	H088000059	CJ-L-400-03	H088000065	CJ-H-400-03	H088000071	CJ-XH-400-03
5	H088000054	CJ-XL-500-03	H088000060	CJ-L-500-03	H088000066	CJ-H-500-03	H088000072	CJ-XH-500-03
6	H088000055	CJ-XL-600-03	H088000061	CJ-L-600-03	H088000067	CJ-H-600-03	H088000073	CJ-XH-600-03

Manufacturing tolerance open-end belts										
Pitch	T5	T10	T20	AT5	AT10	AT20	XL	L	H	XH
Thickness tolerance [mm]										
Nominal thickness	2.20	4.50	8.00	2.70	4.50	8.00	2.30	3.60	4.30	11.20
Min.	2.05	4.20	7.55	2.50	4.20	7.55	2.15	3.40	4.00	10.70
Max.	2.35	4.80	8.45	2.90	4.80	8.45	2.45	3.80	4.60	11.70
Width tolerance [mm]										
Nominal width	150.0	150.0	150.0	150.0	150.0	150.0	152.4	152.4	152.4	152.4
Min.	149.5	149.0	149.0	149.5	149.5	149.0	151.9	151.9	151.9	151.5
Max.	152.0	150.5	151.0	151.0	150.5	150.5	152.9	153.5	152.9	152.5
Tooth geometry	According to DIN 7721 – metric pitches and DIN ISO 5296 – imperial pitches									
Pitch tolerance	+/- 0.8mm /m									

Manufacturing tolerance open-end belts										
Pitch	5M	8M	14M	RPP8	TT5	ATM10	ATM20	AT5P	AT10P	AT20P
Thickness tolerance [mm]										
Nominal thickness	3.60	5.60	10.00	5.40	2.80	4.50	8.00	2.85	4.85	8.00
Min.	3.40	5.40	9.55	5.10	2.65	4.20	7.55	2.70	4.70	7.55
Max.	3.80	5.80	10.45	5.70	2.95	4.80	8.45	3.00	5.00	8.45
Width tolerance [mm]										
Nominal width	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0	150.0
Min.	149.5	149.5	149.0	149.5	149.0	149.5	149.0	149.0	149.0	149.0
Max.	150.5	150.5	150.5	150.5	150.5	150.5	150.5	150.5	150.5	150.5
Tooth geometry	According to DIN 7721 – metric pitches and DIN ISO 5296 – imperial pitches									
Pitch tolerance	+/- 0.8mm /m									

Manufacturing tolerance open-end belts							
Pitch	8MP	14MP	AT10G13	HGO	HGA	FL10	TF-102
Thickness tolerance [mm]							
Nominal thickness	5.60	10.00	4.60	4.30	4.30	3.40	4.60
Min.	5.40	9.55	4.20	4.00	4.00	3.30	4.50
Max.	5.80	10.45	4.80	4.60	4.60	3.50	4.70
Width tolerance [mm]							
Nominal width	150.0	150.0	150.0	152.4	152.4	150.0	150.0
Min.	149.5	149.0	149.5	151.4	151.4	149.5	149.0
Max.	150.5	150.5	150.5	152.9	152.9	150.5	151.0
Tooth geometry	According to DIN 7721 – metric pitches and DIN ISO 5296 – imperial pitches						
Pitch tolerance	+/- 0.8mm /m						

Manufacturing tolerance wide timing belts		
Pitch	T10	H
Thickness tolerance [mm]		
Nominal thickness	4.50	4.30
Min.	4.20	4.00
Max.	4.80	4.60
Width tolerance [mm]		
Nominal width	609.6	609.6
Min.	607.6	607.6
Max.	611.6	611.6
Tooth geometry	According to DIN 7721 – metric pitches and DIN IDO 5296 – imperial pitches	
Pitch tolerance	+/- 0.8mm /m	

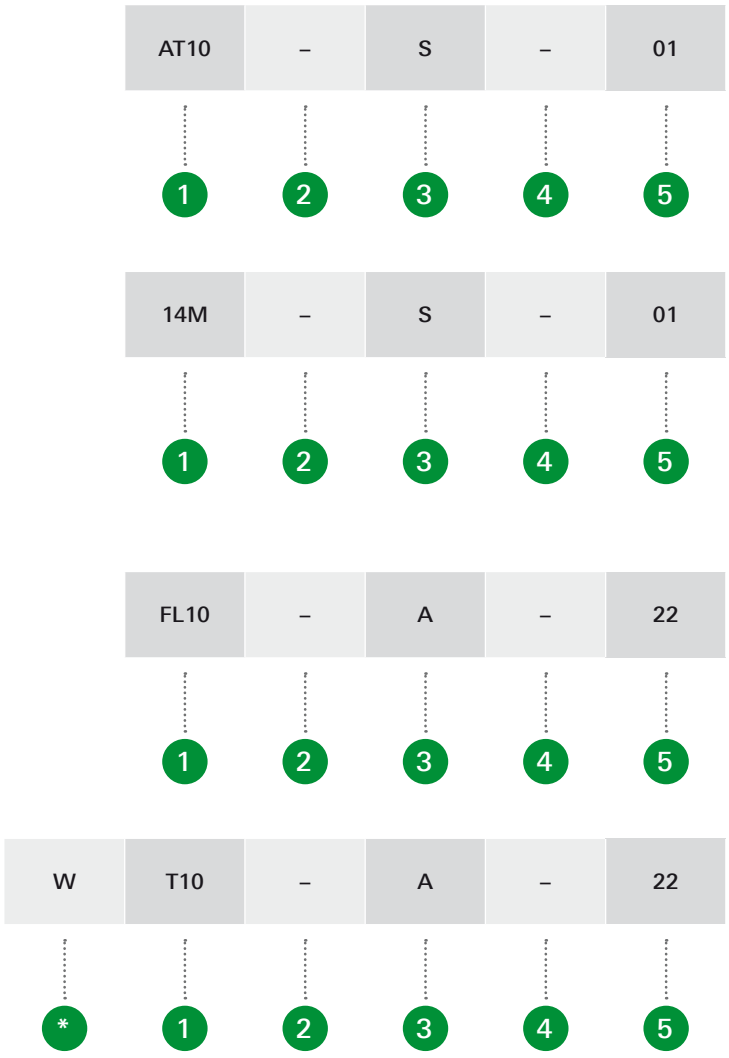
Manufacturing tolerance flex seamless timing belts										
Pitch	T5	T10	T20	AT5	AT10	AT20	XL	L	H	XH
Thickness tolerance [mm]										
Nominal thickness	2.20	4.50	8.00	2.70	4.50	8.00	2.30	3.60	4.30	11.20
Min.	2.05	4.20	7.55	2.50	4.20	7.55	2.00	3.30	4.00	10.70
Max.	2.35	4.80	8.45	2.90	4.80	8.45	2.60	3.90	4.60	11.70
Width tolerance [mm]										
Nominal width	150.0	150.0	150.0	150.0	150.0	150.0	152.4	152.4	152.4	152.4
Min.	149.5	149.5	149.0	149.5	149.5	149.0	151.9	151.9	151.9	151.4
Max.	150.5	150.5	151.0	150.5	150.5	151.0	152.9	152.9	152.9	153.4
Tooth geometry	According to DIN 7721 – metric pitches and DIN ISO 5296 – imperial pitches									
Pitch tolerance	+/- 0.8mm /m									

Manufacturing tolerance flex seamless timing belts				
Pitch	5M	8M	14M	RPP8
Thickness tolerance [mm]				
Nominal thickness	3.60	5.60	10.00	5.40
Min.	3.40	5.30	9.55	5.10
Max.	3.80	5.90	10.45	5.70
Width tolerance [mm]				
Nominal width	150.0	150.0	150.0	150.0
Min.	149.5	149.5	149.0	149.5
Max.	150.5	150.5	151.0	150.5
Tooth geometry	According to DIN 7721 – metric pitches and DIN ISO 5296 – Imperial pitches			
Pitch tolerance	+/- 0.8mm /m			

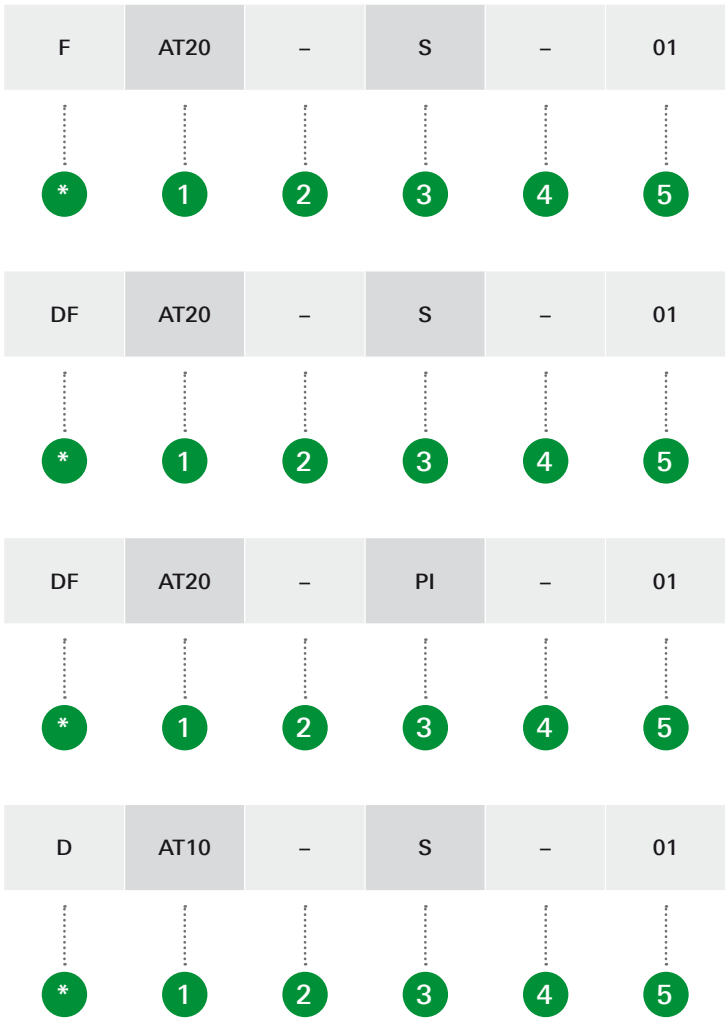
Product code structure for HabaSYNC® timing belts

* Prefix of timing belt sub-group (max 2 units)
1. Type of tooth (shape) and pitch (max 5 units)
2. Reading aid
3. Tensile member (cord) material (max 2 units)
4. Reading aid
5. Material type (comprises color) (2 units)

Code examples



Product code structure for HabaSYNC® timing belts



* HabaSYNC® timing belt sub-groups

Code prefix	Timing belt sub-group
None	Open-end timing belts
C	Cast timing belts
DF	Double-sided truly endless timing belts
D	Double-sided timing belts
F	Truly endless timing belts
N	Neoprene timing belts
W	Wide timing belts

Product code structure for HabaSYNC® timing belts
Detailed explanation of code key

Basic code explanation

1 1st code position – max 5 units – Type of tooth (shape) and pitch

AT5	Metric pitch 5 mm, modified trapezoid toothed
AT10	Metric pitch 10 mm, modified trapezoid toothed
AT20	Metric pitch 20 mm, modified trapezoid toothed
T5	Metric pitch 5 mm, trapezoid toothed
T10	Metric pitch 10 mm, trapezoid toothed
T20	Metric pitch 20 mm, trapezoid toothed
5M	Metric pitch 5 mm, curvilinear toothed shape
8M	Metric pitch 8 mm, curvilinear toothed shape
14M	Metric pitch 14 mm, curvilinear toothed shape
XL	Imperial pitch 1/5" (5.08 mm), trapezoid toothed
L	Imperial pitch 3/8" (9.525 mm), trapezoid toothed
H	Imperial pitch ½" (12.700 mm), trapezoid toothed
XH	Imperial pitch 7/8" (22.225 mm), trapezoid toothed
RPP8	Metric pitch 8 mm, specific curvilinear toothed shape
ATM10	Metric pitch 10 mm, modified trapezoid toothed, designed with space between slitting lanes for holes of 6 mm max for mechanical attachments
ATM20	Metric pitch 20 mm, modified trapezoid toothed, designed with space between slitting lanes for holes of 6 mm max for mechanical attachments
TT5	Metric pitch 5 mm, trapezoid toothed, additional 0.6 mm matrix material on the conveying side
FL10	Flat (timing) belt with metric pitch 10 mm but without teeth

2 Interruption – Reading aid – Hyphen (used on product data sheets (PDS) and marketing documentation)

3 3rd code position – 1 unit – Tensile member (cord) material

A	Aramid
C	Carbon (fiber)
G	Glass (fiber)
H	Highly flexible steel cords
I	Stainless steel
N	No cord
P	Performance steel
S	(Standard) Steel
T	Stainless steel PU covered
Special performance tensile member variants	
PA	Performance aramid
PH	Performance highly flexible steel
PI	Performance stainless steel
PT	Performance stainless steel PU covered

4 Interruption – Reading aid – Hyphen (used on product data sheets (PDS) and marketing documentation)

5 5th code position – 2 units – Material type (comprises color)

01	White TPU, 92 Shore A
02	Transparent TPU, 88 Shore A
03	Green TPU, 88 Shore A
04	White TPU, 92 Shore A, improved chemical resistance
05	Blue TPU, 90 Shore A, FDA/EU
06	Black TPU, 92 Shore A
07	Orange TPU, 88 Shore A
08	White, flame-retardant TPU, 90 Shore A
09	Black TPU, 92 Shore A, improved chemical resistance
12	Natural, high-performance PU, 95 Shore A
13	Red TPU, 90 Shore A
14	Orange TPU, 85 Shore A
15	Light blue TPU, 80 Shore A
20	Black chloroprene rubber, Power+, 81 Shore A
21	Black HNBR rubber, 80 Shore A
22	Transparent TPU, 90 Shore A, FDA/EU

Product code structure for HabaSYNC® timing belts
Detailed explanation of code key

HabaSYNC® timing belts with variant versions

T10	–	A	–	01	X

6A

HabaSYNC® open end timing belts with possible additions

AT10	–	S	–	01	–	G13

6B 7B

HabaSYNC® open end timing belts with possible additions

14M	–	S	–	01	U	P

6C 7C

HabaSYNC® wide timing belts

W	T10	–	A	–	22	U	P

6C 7C

HabaSYNC® truly endless belts with possible additions

F	T10	–	A	–	22	P	U

6C 7C

Product code structure for HabaSYNC® timing belts
Detailed explanation of code key

6A Only needed for timing belts with variant versions
6th code position – max. 2 units – Extra thickness / flight adaptation

X	Slightly increased conveying side with 0.5 mm extra thickness	T10-A-01**X**
D	Heavy belt version prepared for double teeth fabrication	T10-A-01**D**
E	Heavy belt version with 1.3 mm extra thickness	T10-A-01**E**
F	Heavy belt version with 1.4 mm extra thickness	T10-A-01**F**
M	Heavy belt version with 1.5 mm extra thickness	T10-A-01**M**
H	Heavy belt version with 2.0 mm extra thickness	T10-A-01**H**
I	Heavy belt version with 2.5 mm extra thickness	T10-A-01**I**
J	Heavy belt version with 3.0 mm extra thickness	T10-A-05**J**
K	Heavy belt version with 4.0 mm extra thickness	T10-A-05**K**
L	Heavy belt version with 5.5 mm extra thickness	T10-A-05**L**
Y	Heavy belt version with 7.0 mm extra thickness	T10-A-05**Y**
Z	Heavy belt version with 4.25 mm extra thickness	T10-A-01**Z**
CF	Closed flight version with encapsulated tensile members (sealed tooth side to protect the cords)	T10-A-05**CF**

6B Only needed for timing belts with integrated tracking guide
6th code position – 1 unit – Reading aid

7B Only needed for timing belts with integrated tracking guide –
7th code position – max 3 units – Tracking guide

G6	Self-tracking timing belts provide integrally extruded 6 mm guide profile
G10	Self-tracking timing belts provide integrally extruded 10 mm guide profile
G13	Self-tracking timing belts provide integrally extruded 13 mm guide profile
GA	Self-tracking timing belts provide integrally extruded *0.50″* guide profile
GO	Self-tracking timing belts provide integrally extruded *0.38″* guide profile

End of the basic belt code mentioned in the header on the PDS.

Product code structure for HabaSYNC® timing belts
Detailed explanation of code key

6C **7C** Needed to identify the basic belt type more precisely –
Shifting position*– 2 units – Fabric facings on tooth and conveying side

U	**U**	Uncovered tooth and conveying side - no cover on both sides
P	**U**	Tooth side: low coefficient of friction polyamide fabric, green Conveying side: uncovered
U	**P**	Tooth side: uncovered Conveying side: high-abrasion resistant polyamide fabric, green
P	**P**	Tooth side: low coefficient of friction polyamide fabric, green Conveying side: high-abrasion resistant polyamide fabric, green
Special options for fabric facings on tooth and conveying side		
A	**A**	Tooth side: antistatic polyamide fabric, black Conveying side: antistatic polyamide fabric, black
A	**U**	Tooth side: antistatic polyamide fabric, black Conveying side: uncovered
U	**H**	Tooth side: uncovered Conveying side: Heatmate (aramid fleece)
P	**H**	Tooth side: high-abrasion resistant polyamide fabric, green Conveying side: Heatmate (aramid fleece)
B	**U**	Tooth side: polyamide fabric, black Conveying side: uncovered
W	**U**	Tooth side: polyamide fabric, white, food approved Conveying side: uncovered
U	**G**	Tooth side: uncovered Conveying side: glossy surface

Remark: For different facing on tooth and conveying side, consult the HabaSYNC® Product Manager or your local HabaSYNC® specialist. Facing configurations are based per pitch type and timing belt sub-group. Not all configurations are available for all pitches and sub-groups.

"Standard" HabaSYNC® timing belt code ends here.
In order confirmations, invoices, etc. further details can be used to describe belt types.

Shifting position* (up to 5 units) – Slitting lane set-up

15x10	15 times 10 (mm)
10x15	10 times 15 (mm)
9x16	9 times 16 (mm)
4x25	4 times 25 (mm)
6x25	6 times 25 (mm)
8x25	8 times 25 (mm)
1x600	1 times 600 (mm)
8x075	8 times 0.75 (inch)
xxC	xx = main slit lane measurement accompanied by secondary values (e.g. 8MS01UU85C **->** 15-15-85-15-15 or 14MS01UU55C **->** 55-20-20-55)

Remark: For different slit lane configurations, consult the HabaSYNC® Product Manager or your local HabaSYNC® specialist. Slit lane configurations are based per pitch type and not all configurations are available for all pitches.

*Position of characters depending on previously mentioned belt features

Product code structure for HabaSYNC® timing belts
Detailed explanation of code key

Customized cords layout:
To better meet your customer application requirements you can adopt slitting lanes to meet specific needs. Fully customized cord layout is possible for flex belt range. The special design requires a drawing and coding added. Standard belt nomenclature will be extended by customized modification number. In case of request please get in touch with a Habasit representative.

Possible additions for Flex belts:
Various options are possible including an additional coating.
Extended code was developed to help to describe the customer needs in a consistent way.
In case of any request please get in touch with a Habasit representative.

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.

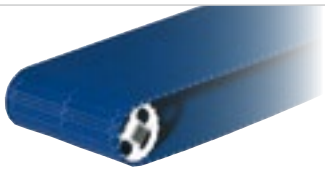
Belt monitoring, inspections, analyses and process optimization proposals
We organize and handle belt maintenance, inspections, analyses and surveys at customer's sites. Upon request, we are ready to develop optimization proposals to ensure you're getting maximum value from your machinery and process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

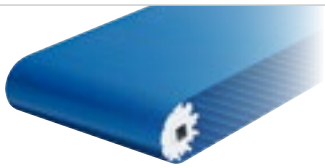
Certified for quality
We deliver the highest quality standards not only in our products and solutions, but also in our employees' daily work processes. Habasit AG is certified according to ISO 9001:2008.

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.



HabaFLOW®
Fabric-based conveyor and processing belts

HabasitLINK®
Plastic modular belts



Habasit Cleandrive™
Monolithic reinforced conveyor belts

HabaDRIVE®
Power transmission belts

HabaSYNC®
Timing belts

HabaCHAIN®
Chains (slat and conveyor chains)

Machine tapes

Round belts

Seamless belts

HabiPLAST™
Profiles, Guides, Wear strips

Accessories
(sprockets, flights, welding profiles, etc.)

Fabrication tools
(joining, cutting & preparing devices)

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