

# Tire Industry

Habasit Conveyor and Processing Belts for Rubber Handling and Tire Manufacturing

Habasit-Solutions in motion





# Introduction Contents

# Solutions provider for the rubber and tire industry

Habasit is the full range belting supplier and solutions provider for the rubber and tire industry. With our product range you find belting solutions for handling of uncured rubber in the mixing room, in the extrusion section, and on cooling lines. Belting products must provide excellent temperature and chemical resistance, combined with superior release properties and highest abrasion resistance.

For tire building, tire cooling and tire handling we offer a wide range of belts, such as fabric based conveyor and processing belts and HabasitLINK® plastic modular belts.

### Innovation is a key word at Habasit

The extensive variety of solutions enables our customers to choose the best product for their application.

## Competence and experience

Habasit application engineers, technicians and joining specialists are at your disposal to provide professional consulting, superb customer service and excellent support. Since its foundation in 1946, Habasit has proven this understanding of customer needs for more than 50 years.

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

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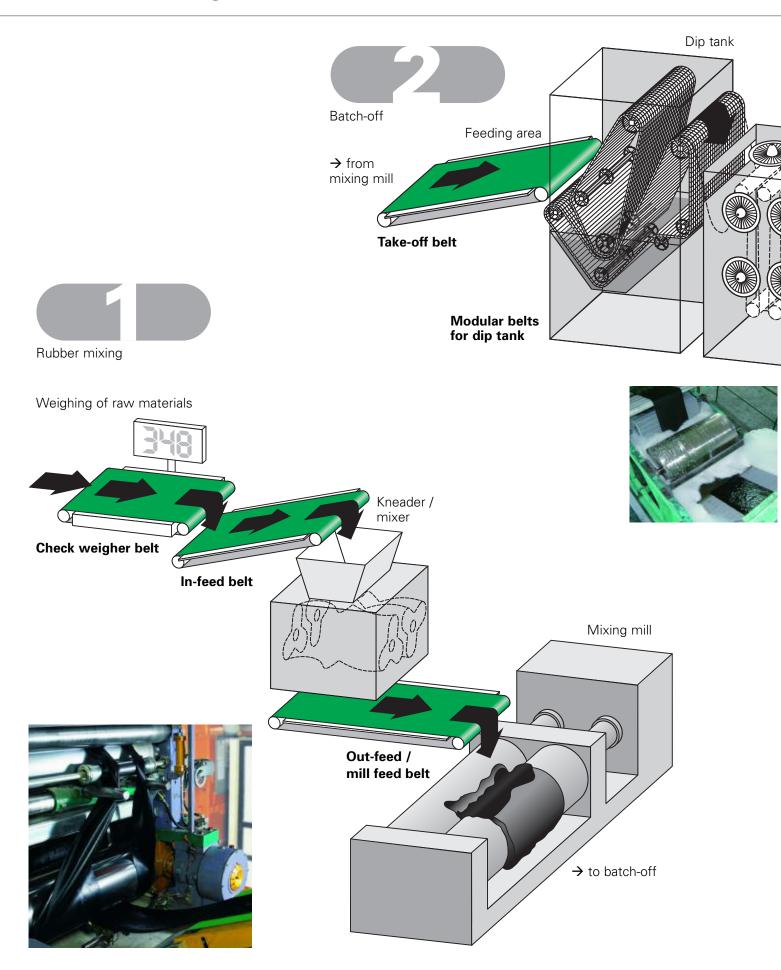
## The Habasit solution

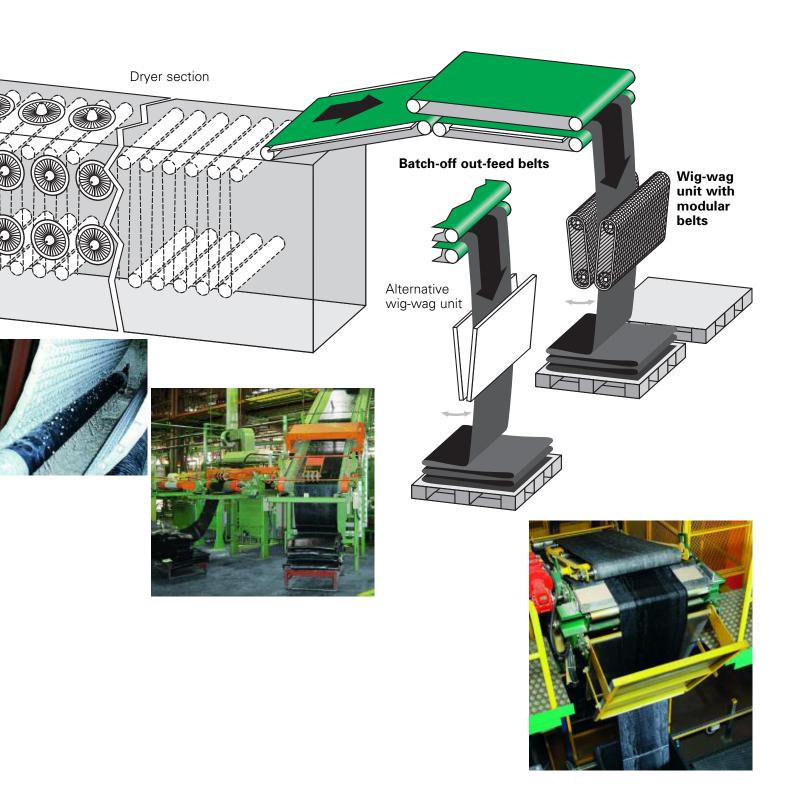
At Habasit we listen. We innovate. And we deliver integrated belting solutions – right first time. To learn more about the world wide presence of Habasit, refer to last page.



# Process / application overview (schematic)

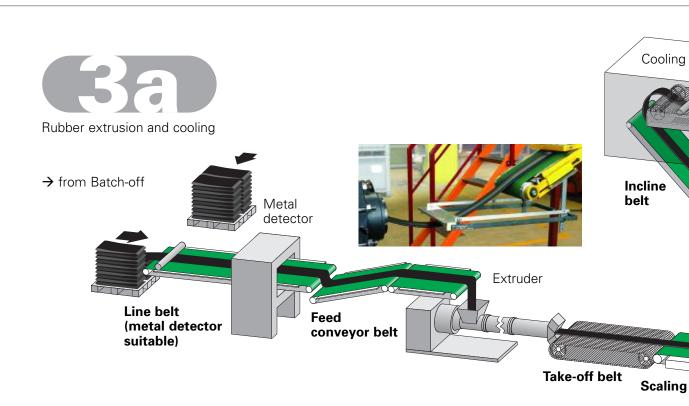
# Rubber mixing and batch-off

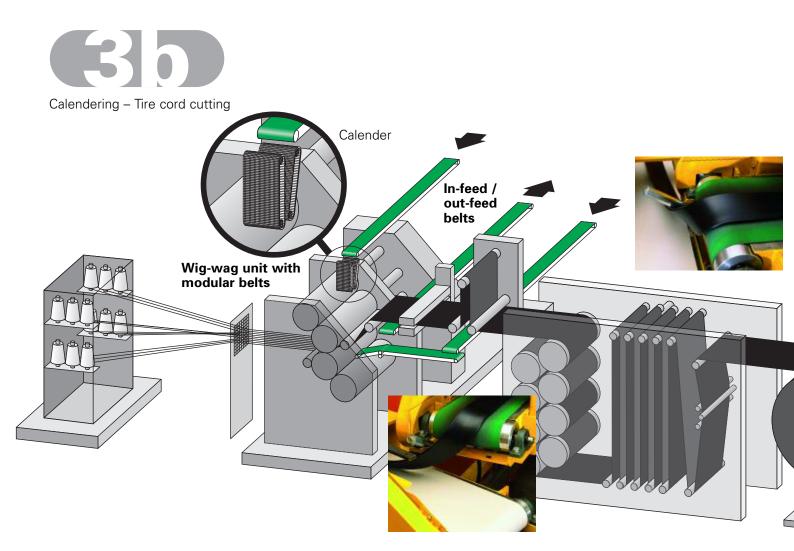




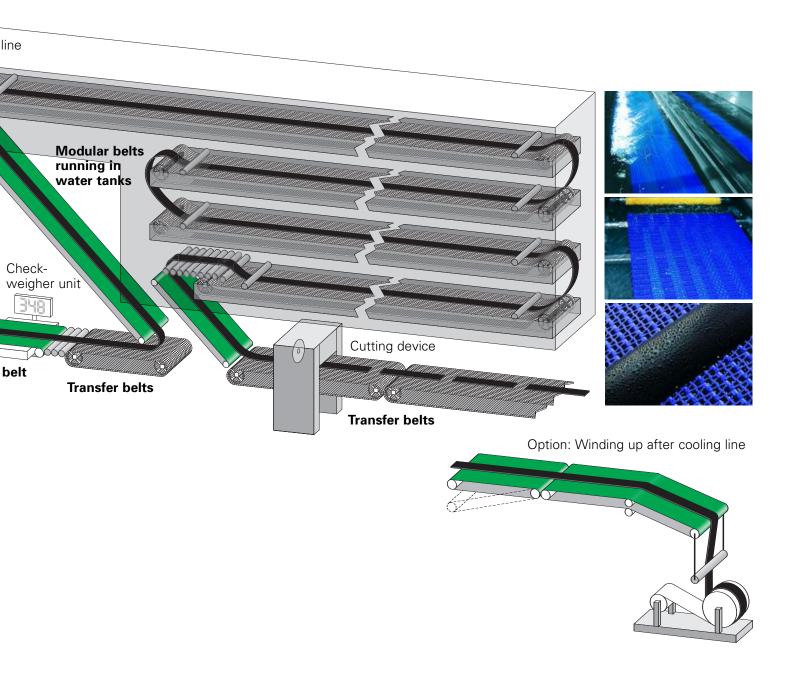
**Remark:** The drawings show schematic examples of selected applications / processes. The drawings don't lay claim to completeness. The belt recommendations (use / application / layout) should be considered as a general example only. Due to the complexity of the various processes and technical requirements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

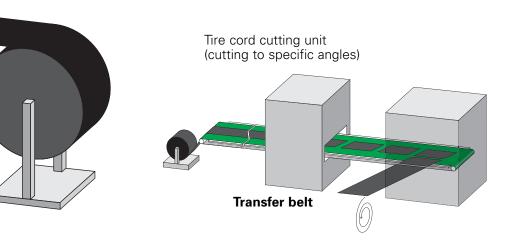
# Rubber extrusion and cooling - Calendering and tire cord c





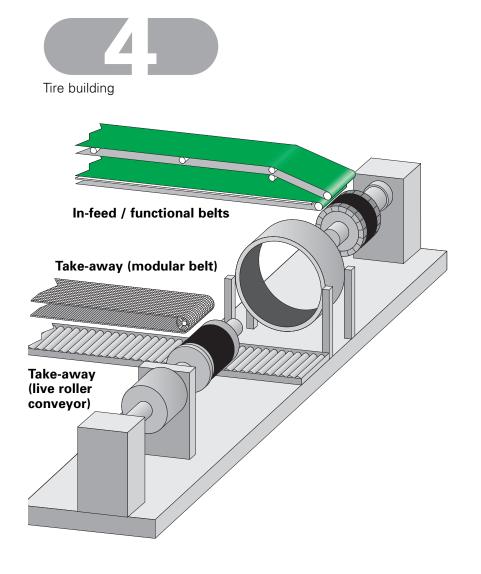
# utting





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

# Tire building - Vulcanization (curing) - Finished tire handling





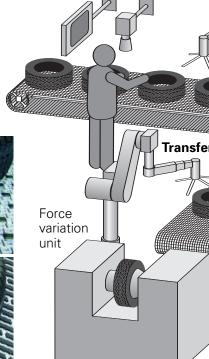


Finished tire handling

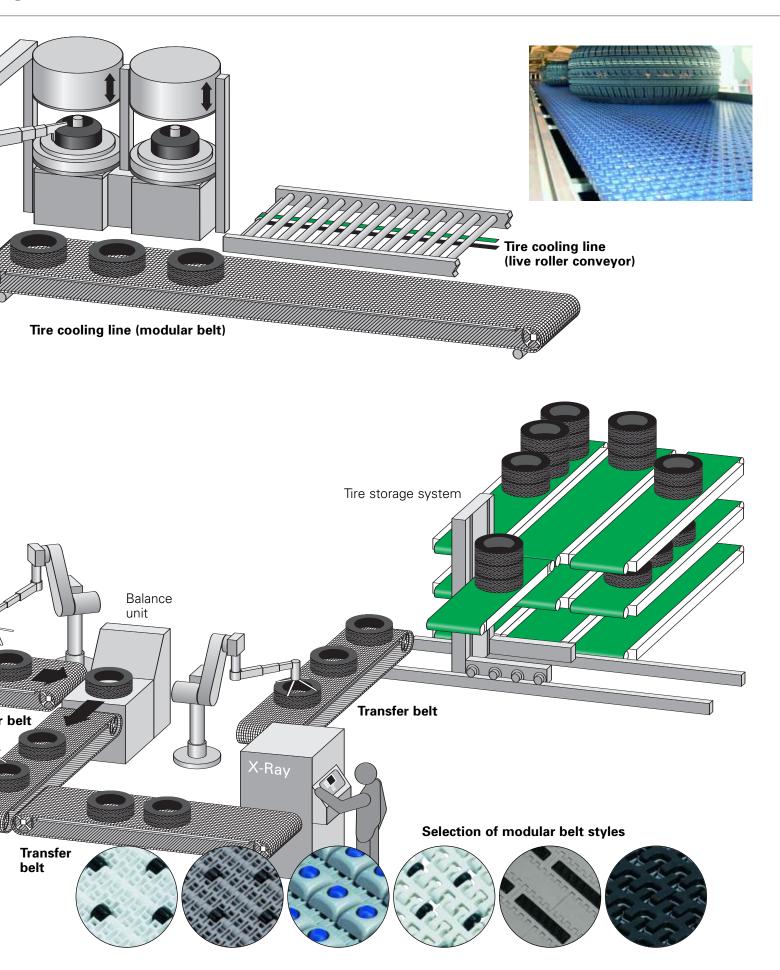
Visual inspection







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



## The right choice

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

## Belting products for the tire industry Design / material variations Plastic modular belts Fabric based belts Cotton fabric or silicone coated (Polypropylene) ENR-series EMB-series (Polyethylene) TPU coated • High duty line F-series POM/AC (Polyoxymethylene/Acetal) Nonwoven PA • G-series (Polyamide) Rubber coated • High duty line Special materials (e.g. high temperature, submersible, **PVC** coated electrically conductive, detectable, N-Line flame retardant materials, etc.) Standard line Detailed characteristics, belt features and PET fabric or impregnated fabric customer benefits you will find after the FNI-series application overview. E-series ENI-series

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

NNT-series



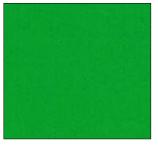
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## Belt surface and function

To fulfill the requirements for a specific application or a defined process, the belt surface or the material inherent properties play a key role. See following overview of various surfaces, styles and properties.

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

## **Fabric based belts**



Blank smooth (adhesive or non-adhesive)

Silicon coated

(non-adhesive)

Nonwoven

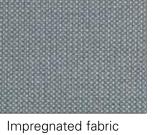


Cotton fabric



(non-adhesive)

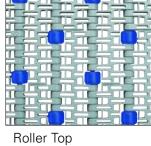




(non-adhesive)



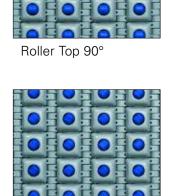
Rubber with textile impression (adhesive)



Plastic modular belts

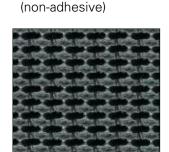
Flush Grid

Raised Rib



Flat Top

Roller Top 45°



Grip structure (adhesive)



Quadrillé structure (adhesive)



GripTop



Flush Grid Heavy

# Tire industry application table / belt selection guide and technical key data (selection only)

							_
Part A:	Product Cod	le					
Fabric based belts	Conveyor be	elts and proces	sing belts				
	Cotton		Silicone	coated		TPU coa	ate
Applications	ENR-15ERNC	ENR-20ERNC	ENR-15ERRS	ENR-20ERRS	EMB-20ERRS	F-2EXWT	70.047
Rubber mixing							
Kneader / mixer infeed conveyor							
Kneader / mixer outfeed conveyor	•	•	•	•	•		
Mixing mill feed conveyors Mill to mill conveyors		•	•	•	•		
Batch-off					•		
Take-off conveyor							
Dip tank							
Batch-off outfeed							
Wig wag belts  Rubber extrusion and cooling							
Feed conveyor							
Take-off conveyor							
Scaling, marking							
Cooling line incline / decline Cooling line horizontal							
Water blow-off							
Cutting							
Wind-up station							
Calendering – Tire cord cutting							
Calender infeed Calender outfeed							
Rubber sheet transfer							
Cutting of reinforced rubber sheets							
Tire building - Vulcanization - Finished tire handling							
Tire cooling line Tire transfer horizontal							
Tire transfer inclined / declined							
Tire storage						•	
Tire transfer transversal							
Tire accumulation							
Product construction / design							
Conveying side (Material)	Cotton (CO)	Cotton (CO)	Silicone (SI)	Silicone (SI)	Silicone (SI)	TPU	
Conveying side (Surface)	Fabric	Fabric	Impregnated fabric	Impregnated fabric	Sand finish	Blank/smooth	BI
Conveying side (Property)	Non-	Non-	Non-	Non-	Non-	Medium-	
Conveying side (Color)	adhesive Beige	adhesive Beige	adhesive Red	adhesive Red	adhesive Red	adhesive White	
Conveying side (Color)	Deige	Deige	ried	rieu	rieu	VVIIILE	
Number of fabrics (Plies)	3	4	3	4	3	1	
Product characteristics							
Permanently antistatic  Technical key data	No	No	No	No	No	Yes	
Thickness [mm	4.70	5.60	4.70	6.30	3.60	0.70	
[in		0.22	0.19	0.25	0.14	0.03	
Pulley diameter minimum with counter flexion [mm]	150	200	150	200	150	15	
[in] Tapaila force for 1% alongation (k1% static) [k2% static] [N/mm		7.9	5.9	7.9	5.9	0.6	
Tensile force for 1% elongation (k1% static) [k2% static] [N/mm [lbs/in		20 114	15 <i>86</i>	20 114	20 114	3 17	
Joining system					. , ,	.,	
Flexproof	•	•	•	•	•	•	
Thermofix Mechanical fastener	•						
Alternative joining method		•	•	•	•		
							L

## Legend/remarks

See folding page (flap)

ed			Nonwoven			Rubber	Rubber coated				PVC coated	
FA6-8E	H-4EMDT	HNB-12E	G23/0NNB6E	G24/0NNB6E	G24/0NNI6	HAR-12E	HAT-8P	HAT-12P	SAG-12E	NAB-8EXDV	NAB-10EXAV	
			•	•	•				•			
			•	•	•							
			•	•	•							
			•	•	•		•	•				
			-									
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			•	•		•			•	•	•	
	•											
TPU	TPU	TPU	PET/NBR	PET/NBR	PET/NBR	NBR	NBR	NBR	EPDM	Polyvinyl-	Polyv	
ank/smooth	Blank/smooth		Nonwoven	Nonwoven	Nonwoven	Rough textile	Rough textile	Rough textile	Grip	chloride (PVC) Blank/smooth	chloride	
			impr.	impr.	impr.	structure	structure	structure	structure		Ma	
Adhesive	Medium- adhesive	Non- adhesive	Non- adhesive	Non- adhesive	Non- adhesive	Adhesive	Adhesive	Adhesive	Adhesive	Adhesive	Medi adhe	
White	Dark green	Green (Habasit green)	Black	Black	Ice green	Green	Green	Green	Anthracite	Dark green	Anthra	
2	1	2	0	0	0	2	2	3	2	2	2	
Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No	No	
1.60	0.90	2.50	4.00	5.60	5.60	1.90	2.00	3.00	5.20	2.00	2.5	
<i>0.06</i> 25	<i>0.04</i> 15	<i>0.10</i> 60	<i>0.16</i> 80	<i>0.22</i> 125	<i>0.22</i> 100	<i>0.07</i> 50	0.08 25	<i>0.12</i> 50	<i>0.20</i> 80	0.08 40	0.1	
1.0	0.6	2.4	3.1	4.9	3.9	2.0	1.0	2.0	3.1	1.6	40	
8	5	20	8 [24]	8 [24]	8 [24]	20	7	10	12	8	8	
46	29	114	46 [137]	46 [137]	46 [137]	114	40	57	69	46	46	
•	•	•	•	•	•	•				•	•	
•	•	•				•	•	•	•			
Clipper JCM-36 SP		Clipper	Clipper	Clipper#3	Clipper#3	Clipper	Clipper	Clipper	Clipper			
CIVI-30 3P		UCM-36	UCM-36 LP			UCM-36 SP	UCM-36 SP	UCM-36	UCM-36			

			PET fab	ric or imp	regnated	fabric			
	NAB-12EXDV	NAQ-10ELBV	FNI-12E	E-16EHMU (	ENI-10E	NNT-8EFWE	NNT-10ENBU	NNT-12ECDV	NNT-20ECDV
							٠	•	•
			•	•	•		•	•	
			•	•	•	•			
			•	•	•	•			
	•	•					•	•	•
inyl- (PVC) mooth, at um- sive acite	Polyvinyl- chloride (PVC) Blank/smooth Adhesive Dark green	Polyvinyl- chloride (PVC) Quadrillé Adhesive Black	PET/TPU impr. Impregnated fabric Non-adhesive Off-white	PET/PUR impr. Impregnated fabric Non-adhesive Grey	TPU Impregnated fabric Non-adhesive Light grey	Polyester (PET) Fabric Non- adhesive White	PET/PUR impr. Fabric Non- adhesive Black	PET/PVC impr. Fabric (multifil) Non-adhesive Dark green	PET/PVC impr. Fabric (multifil) Non-adhesive Dark green
	2	2	2	2	2	2	2	2	3
60 (0 0) 6	2.80 0.11 60 2.4 12 69	3.10 0.12 50 2.0 10 57	Yes  1.60 0.06 50 2.0 15 86	Yes  1.60 0.06 40 1.6 15 86	Yes  1.50 0.06 48 1.9 12 69	No 1.60 0.06 30 1.2 8 46	Yes  2.10 0.08 40 1.6 10 57	Yes  2.40 0.09 80 3.1 12 69	3.50 0.14 120 4.7 20 114
			Clipper UCM-36 SP	•	•				





**Fabric based belts** 

Plastic modular belts HabasitLINK®

#### Remarks

All data are approximate values under standard climatic conditions: 23°C/73°F, 50% relative humidity (DIN 50005/ISO 554), and are based on the Habasit Master Joining Method.

## Legend

EPDM		=	Ethylenepropyleneterpolymer (also called EPT)
NBR		=	Acrylonitrile-Butadiene-Rubber
Nonwov	en	=	Web/fleece
Nonwov	en/NBR impr.	=	Nonwoven impregnated/saturated with Acrylonitryle-Butadiene-Rubber
PET/NBI	3	=	Polyester fleece saturated with Acrylonitrile-Butadiene-Rubber
PET/PUF	R impr.	=	Polyester fabric impregnated with cross-linked Polyurethane
PET/PVC	C impr.	=	Polyester fabric impregnated with Polyvinylchloride
PET/TPU	J impr.	=	Polyester fabric impregnated with thermoplastic Polyurethane
TPU		=	Polyurethane thermoplastic
• =	applicable		
- =	not applicab	е	

## Product key data overview

You will find the key data for most Habasit products on the Habasit Website:

## www.habasit.com

Select an affiliated company

• e.g. United Kingdom

## **Products**

• e.g. Conveyor belts

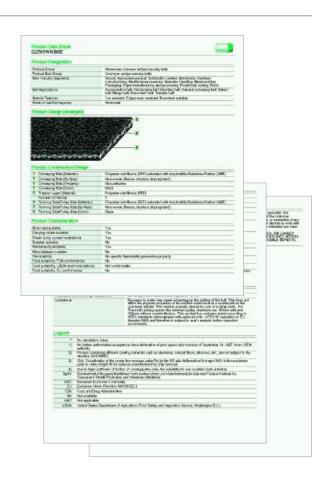
## Product data

Overview

## Detailed technical data for each product/ belt type

With one more click on the respective belt type, you will obtain a technical data overview, showing details such as:

- Product designation / features
- Product design / built-up
- Product characteristics
- Technical data etc.



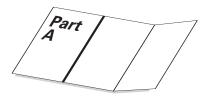
# Tire industry application table / belt selection guide and technical key data (selection only)

Part B:	Product Co	de						
Plastic	Conveyor b	elts and proc	essing belts					
	Modula	ar belts						
modular belts							>	
HabasitLINK®			<u>م</u>	5		_	Heav	
	M1233 Flush Grid	M2520 Flat Top	M2531 Raised Rib	M2533 Flush Grid	M2533 Grip Top	M2533 Roller Top	M2620 Flat Top Heavy	M2540 Radius Flush Grid
Applications	M12 Flus	M25 Flat	M25 Rais	M25 Flus	M25 Grip	M25	M26 Flat	M25 Rad Flus
Rubber mixing								
Kneader / mixer infeed conveyor		•					•	
Kneader / mixer outfeed conveyor		•					•	
Mixing mill feed conveyors		•					•	
Mill to mill conveyors		•					•	
Batch-off								
Take-off conveyor		•			•		•	
Dip tank			•					
Batch-off outfeed		•					•	
Wig wag belts	•							
Rubber extrusion and cooling								
Feed conveyor					•			
Take-off conveyor		•						
Scaling, marking								
Cooling line incline / decline				•				
Cooling line horizontal			•	•				
Water blow-off		•					•	
Cutting								
Wind-up station								
Calendering – Tire cord cutting								
Calender infeed								
Calender outfeed							•	
Rubber sheet transfer								
Cutting of reinforced rubber sheets								
Tire building - Vulcanization - Finished tire handling Tire cooling line				•				
Tire transfer horizontal		•		•				
Tire transfer inclined / declined		•		•			•	•
Tire storage					_			
Tire transfer transversal								
Tire accumulation						•		
Product construction / design								
Belt materials available	The following	belt materials	can be select	ed, depending	on the applica	tion: PP=Polyr	propylene, PE=	Polyethyler
Open area	25%	0%	35%	35%	~ 20%	35%	0%	35%
Available standard colors	White/Gray Natural/Blue	White/Gray Blue	Gray/Dark Gray/Blue	White/Gray Natural/Blue	White/Gray Blue	Blue	Dark gray	White/Gra
Antistatic material available	•	•	•	•	•	•	•	•
Temperature-resistant material available (up to 240°C/4	164°F)				•			
Technical key data								
Pitch [in]	0.5"	1"	1"	1"	1"	1"	1"	1"
Maximum nominal tensile strength [N/m] [l/bs/ft]	18′000 <i>1′233</i>	26′000 1′782	27′000 1′850	22'000 1'507	22'000 <i>1'507</i>	18'000 <i>1'233</i>	42'000 <i>2'877</i>	27′000 <i>1′850</i>
Available accessories								
Flights	•	•	_	•	_	-	-	•
Side guards	•	•	-	•	-	-	-	•
Hold down device / tab	-	•	-	•	•	-	•	•
Combs (finger transfer plates)	-	-	•	-	_	-	_	_

## Legend/remarks

See folding page (flap)

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	Sa Sa	ق م ا	M3840 Roller Top	Ra Ba	M5010 Flat Top	0.0	M5020 Grip Top	M5131 Raised Rib	ا حق ا	2,7 Z	2 5 T	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	254 Jht	384 diu ush	384   e	384 Jht	501 at T	502 at T	0502 . di	513 ise	503 ush	503 eav	503   e	203   e
	M2543 Tight Radius	M3840 Radius Flush Grid	8 ≅	M3843 Tight Radius	12世	M5020 Flat Top Heavy	Ë́∂	≅ eg	M5032 Flush Grid Heavy	M5032 Roller Top Heavy	M5032 Roller Top 90°	M5032 Roller Top 0°
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ne, F		oxymethylene/	Acetal, PA=Po	lyamide and o	ther special ma	aterials						
	35%	31%	31%	37%	0%	0%	0%	37%	34%	33%	-	-
ay	White/Gray	White/Gray	White	White	White/Gray	Gray/Natural	Gray/	Gray	Gray/Natural	Gray	Gray/Blue	Gray/Blue
		•		•	Natural/Blue	Dark gray	Dark gray	•	Blue	•	•	•
	•	•	•					•		•		
	1"	1.5"	1.5"	1.5"	2"	2"	2"	2"	2"	2"	2"	2"
	20'000	32'000	25'000	29'000	30'000	45'000	45'000	36'000	40'000	30'000	38'000	38'000
	1′370	2′193	1′713	1′986	2′056	3′083	3′083	2′467	2′741	2′056	2'603	2'603
	-	•	-	-	•	•	-	-	•	-	-	-
	-	•	-	•	•	•	-	-	•	-	-	-
	-	•	-	•	•	•	•	_	•	-	_	-
	_	_	_	_	_	_	_	•		_		_





## **Fabric based belts**

## Plastic modular belts HabasitLINK®

#### Remarks

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

## Legend

•	=	applicable
•	=	conditionally applicable
_	=	not applicable

## Product key data overview

You will find the key data for most Habasit products on the Habasit Website:

# www.habasit.com

or

# www.HabasitLINK.com

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• e.g. United Kingdom

**Products** 

• e.g. Conveyor belts

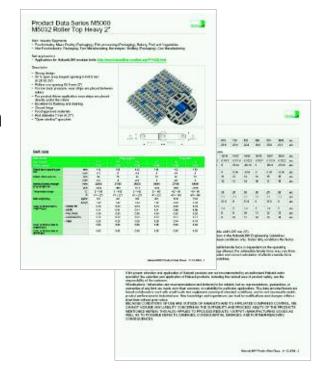
Product data

Overview

## Detailed technical data for each product/ belt type

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- Product designation / features
- Product design / built-up
- Product characteristics
- Technical data etc.



## Cotton fabric and silicone coated belts

## Cotton fabric and silicone coated belts

Purpose-built for the handling of sticky, hot rubber in the tire and rubber industries.



#### **Features**

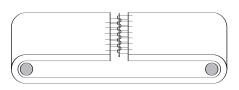
 Excellent rubber release

- **Benefits**
- → No sticking of rubber
- → Process reliability
- → Extended belt life

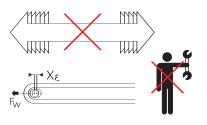


High temperature resistance

- → Long belt life
- → No downtimes
- → Lower cost

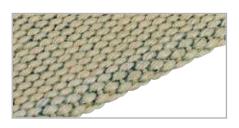


 Good fastener retention → Highly appropriate for mechanical joining / lacing



 Stable modulus of elasticity after running-in

- ightarrow No re-tensioning
- ightarrow No downtimes
- → No maintenance



 Special folded edge version available

- → Improved edge wear properties
- → No contamination of rubber
- → Less rejects, lower cost

## **TPU coated belts**

## **TPU** coated belts

Solution for high demanding applications, e.g. small pulleys and narrow transfer points, extreme temperatures, applications which ask for cut and abrasion resistant surfaces.



## **Features Benefits** Longitudinal → Belts can cope with small pulley flexibility diameters, compact design → Smooth and trouble-free product transfer → Low energy consumption • Excellent abrasion → Reduced belt wear resistance → No marking of goods → Long belt life Constant coefficient of friction • Stable modulus → No re-tensioning → No downtimes of elasticity after → No maintenance running-in Permanently → No interference with electronic devices → Less dust and dirt attraction antistatic → Process reliability Simple and fast → Easy handling joining method → Adhesive-free joint → Minimum equipment needed → Short machine downtimes

# Nonwoven belts

## Nonwoven belts

The nonwoven construction (polyester web/fleece PET) is perfectly suitable for conveying of finished tires under rough and rugged conditions.



	Features	Benefits
	<ul> <li>Impact- and wear-resistant nonwoven design</li> <li>Damping capability of belt</li> </ul>	<ul> <li>→ Durable and forgiving belt surface thanks to nonwoven construction</li> <li>→ Gentle, soft and safe handling of conveyed goods</li> <li>→ Extended belt service life</li> <li>→ Less rejects, reduced cost</li> </ul>
200	<ul> <li>Excellent flexibility in spite of greater thickness</li> </ul>	<ul> <li>→ Can handle small pulley diameters</li> <li>→ Lower power consumption</li> </ul>
	• Excellent abrasion resistance	<ul> <li>→ Reliable conveying properties</li> <li>→ Long belt life</li> </ul>
	Superior edge fray resistance	<ul> <li>→ No stringing or fraying of belt running against side of conveyor</li> <li>→ Extended belt service life</li> </ul>
	<ul> <li>Good fastener retention</li> </ul>	→ Highly appropriate for mechanical joining / lacing
MMM MMM MMM MMM MMM MMM MMM MMM MMM MM	PES traction layer	<ul> <li>→ Stable modulus of elasticity after running-in</li> <li>→ No re-tensioning required, no downtimes</li> </ul>
	<ul> <li>Permanently antistatic belts available</li> </ul>	<ul> <li>→ No interference with electronic devices</li> <li>→ Less dust and dirt attraction</li> <li>→ Process reliability</li> </ul>

# **Rubber coated belts**

## **Rubber coated belts**

Belts with NBR rubber cover are the preferred solutions for handling uncured rubber like tire components, rubber profiles and other rubber goods.

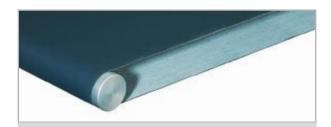


	Features	Benefits
	• Excellent rubber release properties	<ul> <li>→ No sticking of rubber</li> <li>→ Process reliability</li> <li>→ Low maintenance cost</li> </ul>
	• Longitudinal flexibility	<ul> <li>→ Belt can cope with small pulley diameters, compact design</li> <li>→ Smooth and trouble-free product transfer</li> <li>→ Long belt life</li> </ul>
MMM MMM MMM MMM MMM MMM MMM MMM MMM MM	Stable modulus     of elasticity after     running-in	<ul> <li>→ No re-tensioning</li> <li>→ No downtimes</li> <li>→ No maintenance</li> </ul>
	Permanently     antistatic	<ul> <li>→ No interference with electronic devices</li> <li>→ Less dust and dirt attraction</li> <li>→ Process reliability</li> </ul>
	High grip rubber surface available	<ul> <li>→ Constant coefficient of friction during entire lifetime of belt</li> <li>→ Durable and abrasion resistant rubber belt surface</li> <li>→ Reliable product flow in acceleration sections or within inclines / declines</li> <li>→ Long service live</li> </ul>

## **PVC** coated belts

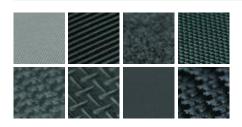
## **PVC** coated belts

The solution for materials handling / general conveying with excellent cost / value ratio.



# Features

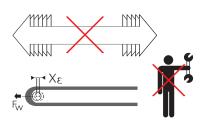
#### **Benefits**



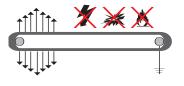
- A wide range of surface types, structures and belt strengths available
- → Selection possibility of the appropriate conveyor belt for a specific application
- ightarrow Cost "friendly" solutions



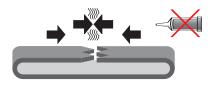
- Longitudinal flexibility
- → Belt can cope with small pulley diameters, compact design
- → Long belt life



- Stable modulus of elasticity after running-in
- ightarrow No re-tensioning
- → No downtimes
- → No maintenance



- Permanently antistatic belts available
- ightarrow No interference with electronic devices
- ightarrow Less dust and dirt attraction
- → Process reliability



- Simple and fast joining method (Flexproof)
- → Easy handling
- → Adhesive-free joint
- → Minimum equipment needed
- → Short machine downtimes

# PET fabric or impregnated fabric belts

## PET fabric or impregnated fabric belts

Fabric surfaces or impregnated surfaces are well suited for rubber infeed, take-off, cutting, etc.



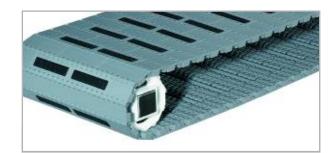
	Features	Benefits
	Excellent rubber release properties	<ul> <li>→ No sticking of rubber</li> <li>→ Constant coefficient of friction over entire belt life</li> <li>→ Process reliability</li> </ul>
	<ul> <li>Excellent abrasion resistance</li> </ul>	<ul> <li>→ Reduced belt wear</li> <li>→ Reliable conveying and process flow</li> <li>→ Long belt life</li> </ul>
+	<ul> <li>Impregnated fabric surfaces</li> </ul>	<ul> <li>→ Less soiling and therefore less maintenance</li> <li>→ Constant low coefficient of friction</li> </ul>
	• Permanently antistatic (one exception NNT-8EFWE)	<ul> <li>→ No interference with electronic devices</li> <li>→ Less dust and dirt attraction</li> <li>→ Process reliability</li> </ul>
	<ul> <li>Simple and fast joining method (Flexproof)</li> </ul>	<ul> <li>→ Easy handling</li> <li>→ Adhesive-free joint</li> <li>→ Minimum equipment needed</li> <li>→ Short machine downtimes</li> </ul>

## Plastic modular belts

## Plastic modular belts (HabasitLINK®)

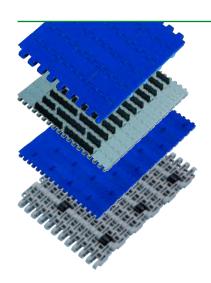
Based on our comprehensive experience and our leadership position in traditional fabric-based belting, Habasit has developed the HabasitLINK® modular belt range. This state-of-the-art product line completes our offer as a single source supplier and partner for your success.

Plastic modular belts are used successfully in a wide range of applications in tire manufacturing like hot rubber handling, dip-tanks, cooling lines straight and / or combined radius transport of green and finished tires, inclines, accumulation / separation, pusher sorter with 90° transfer and many more.



#### **Features**

## Benefits



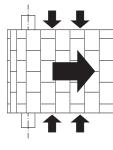
- Large variety of plastic materials and colors available PP = Polypropylene PE = Polyethylene POM/AC = Polyoxymethylene/ Acetal PA = Polyamide and special materials
- Different module styles, sizes and module strengths available

- → Optimum adaptation to needs of an application
- → Tailor-made solutions
- → The best solution for each application
- → Rough and rugged application suitable (heavy duty rod and belt materials available)
- → High lateral stiffness design



- Radius and straight transport with one single belt
- → Larger runs without transfers Smaller number of drives and motors Reduced cost for entire system





- Positive drive and tracking by belt engaged with sprocket
- Guided belt alignment
- → Straight running, even under influence of transversal forces
- → Exact positioning of goods
- → No need for tensioning devices
- → No re-adjustments, no downtimes
- → Reliable tracking
- → Elimination of belt edge damages
- → Simple system design

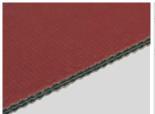
# Plastic modular belts (contd.)

## **Features Benefits** • High temperature → Suitable for warm / hot conditions resistant material without changing its features available (ST) → Suitable up to 240°C / 464°F Submersible ightarrow High density, which allows the belt to materials submerse in water, e.g. in cooling lines ightarrow No dimensional change due to water (non-floating) absorption → Resistant against hydrolysis processes / degradation → Insensive to humidity and temperature fluctuations (up to 97°C) → Good chemical resistance Reduced tire → Tire rolls smoothly over the rollers damage with without touching belt surface ightarrow High admissible vertical load Roller Top 90° (approx 4500N) → Rollers can be assembled in various patterns according to requirements → Rollers can be repaired by simple exchange of the clipped-on roller Accumulation and $\rightarrow$ Tire rolls smoothly over the rollers → Reduced bad pressure separation lines with Roller Top 0° → maintenance free accumulation and separation lines Easy installation → Snap-in assembling method Simple and fast → Replacement of single belt modules assembling → Easy repair

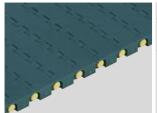
# Successful belt solutions

## **Customer value**

Each of our employees is a specialist who is at your service to provide you with belting solutions that will best suit your needs. Following some examples of currently successful applications which are giving added value to the customer are listed below:



Application	Handling of hot rubber after kneader / mixer
Challenge	Hot rubber sticking to the belt surface
	Involved temperatures reduce belt service life
Solution	Installation of ENR-15ERRS (Silicone coated belt)
and result	<ul> <li>No sticking of rubber and excellent belt performance</li> </ul>
	Excellent resistance to chemicals and elevated temperature
	Extended helt service life



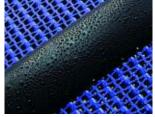
Application Inclined feed belt for mixing mill	
Challenge	Difficult and time consuming maintenance of steel mesh belt
	High power consumption due to heavy steel construction
Solution	Installation of M5010 Flat Top (Modular belt)
and result	Energy savings thanks to light belt design
	Simple maintenance
	Easy release of hot rubber, no sticking of rubber



Application	Batch-off infeed belt
Challenge	Cut and wear resistance of belt surface
	Belt which can handle rough environment of rubber processing
Solution	Installation of HAT-12P (Rubber coated belt)
and result •	Superior cut and wear resistance of rubber surface
	Excellent resistance to chemicals and elevated temperature
	Extentend lifetime in rough environment of rubber processing



Application Dip Tank		Dip Tank
ş	Challenge	Rough running conditions leading to reduced belt life
<ul> <li>Intensive belt maintenance</li> </ul>		Intensive belt maintenance
	Solution	Installation of M5031 Raised Rib (Modular belt)
and result • Improved chemical resistance of high quality be		Improved chemical resistance of high quality belt product
2		Extended belt service life
Ó		No belt maintenance



Application	Application   Cooling line for extruded rubber	
Challenge	Steel meshes on cooling lines require high level of maintenance	
	Sticking of rubber in steel meshes	
	Steel mesh belts are difficult and time consuming to repair	
Solution	Installation of M 2533 Flush Grid (Modular belt)	
and result	No sticking of rubber on belt	
	No maintenance – possibility for easy and quick repair	



Application	plication Tire cooling line for finished tires	
Challenge	<ul> <li>High level of maintenance required with chain driven life roller conveyors</li> </ul>	
Solution and result	Installation of M2533 Flush Grid (Modular belt)  • The line can be operated maintenance free  • Long service life  • Smooth running of plastic modular belt	

# Services General Services

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



## Consulting and technical support

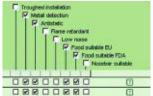
Habasit offers the best consulting and technical support on the belting market for fabric based belts and plastic modular belts founded on the experience and competence acquired in more than 50 years.



#### Belt selection and calculation

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

**LINK-SeleCalc** = Plastic modular belt selection and calculation



#### Fabrication or assembling

We make fabric based belts endless or assemble plastic modular belts at our locations or on-site directly on the machine or on the system.



### Shortest lead times and installing service at hand

Habasit owns 26 Affiliated Companies located in North America, Europe and Asia, each with own inventory, fabrication, assembling and service facilities. Together with our country managers, representative offices and a large number of

qualified distributors we are in a position to react quickly, competently and reliably to customers' demands on an international scale.



## Testing at customer's site

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



## Legal and conformity check

We are supporting our customers with respect to declaration issues, conformity issues or conformance with national laws/authorities like Safety data sheets, Flame-retardant conformity, etc.



## Belt inspection and analyses

We organize / handle belt inspections, analyses, surveys per location and work out the necessary reports.



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



#### **Process optimization proposals**

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

## Special belt fabrication

We offer special fabrication, such as longitudinal joining, edge sealing, profile welding, guide profiles welding, hole punching, side skirt installations, power turn belt cutting, etc.

# Services (contd.) Customized Services









## Joining tools and auxiliaries

To support an effective and efficient fabrication of our belts, we develop and offer a broad range of tools and devices designed to meet the needs of our customers and distribution/service partners. This range covers the requirements of inhouse fabrication (series and specialties) as well as those of on-site installations of conveyor belts, power transmission belts and tapes such as slitters, skiving tools, finger cutting tools, hot-presses and auxiliaries like coiling and welding devices. For plastic modular belts HabasitLINK® we are well equipped with semi-automated assembling machines designed and manufactured by Habasit.

#### **Training**

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

## Specific application knowledge transfer

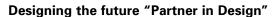
Habasit provides application specific knowledge transfer for process specific issues to allow for optimal use of our products and to optimize machinery and processes.

## **Guaranteed performance**

Our faith in our products is such that if one of our sales specialists has recommended a belt for a specific application, we will guarantee its performance. Should for any reason that belt not perform optimally, your money will be refunded unconditionally.

## **Customized Services**





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



### Testing offer for customer

R&D expertise, laboratory and test equipment are offered for the customer's specific process needs like mechanical endurance testing, influence of customer/process used chemicals/ingredients or thermal influence behavior on belts.



## **Belt monitoring**

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



#### **Customized service agreements**

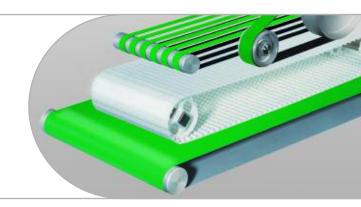
According to the specific needs of our customers we offer customized services like inventory, emergency service, belt exchange services or order/re-order management.

## **Project management**

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

## The Habasit Solution

At Habasit, we listen. We innovate. And we deliver integrated belting solutions – right first time.



#### **Customer first**

Habasit understands that our success depends on the success of our customers. That's why we offer solutions, not just products; partnership, not just sales. Our innovative belting solutions are tailored exactly to specific needs. We guarantee best value for money in every application. Since its foundation in 1946, Habasit has proven this understanding of customer needs for more than 50 years. That's why we are the no. 1 in belting. Worldwide.

## **Product range**

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

Fabric conveyor & processing belts	
Plastic modular belts	
Power transmission belts	
Machine tapes	
Seamless belts	
Round belts	
Timing belts	
Auxiliaries (e.g. profiles, tools)	









## Innovation/R&D

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





# Global network Facts & figures

rounaea	1946
Turnover 2003	CHF 418 million
Sales to market	4.2 million m <sup>2</sup>
Employees	more than 2200
Production plants	12
Affiliated companies	26
Representatives	in over 50 countries
Service centers	over 250 globally

## Quality



Highest quality standards are found not only in products, but also in our employees' daily work process. Based on a worldwide TQM approach, Habasit started very early to implement a quality system and was certified already in 1987 according to ISO 9001 / EN 29001. In 1996 Habasit was certified according to ISO 9001:1994. Since then we undergo periodically quality audits performed by an independent certification body. In the year 2002 we achieved certification according to the revised standard ISO 9001:2000.

## Services & guarantees

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



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#### United Kingdom and Ireland

Habasit, Silsden Phone: + 44 870 835 9555 www.habasit.co.uk

#### USA

Habasit Belting Inc., Suwanee, Georgia, Phone: +1 800 458 6431 www.habasitusa.com

USA (Seamless belts only) Habasit ABT Inc., Middletown, Connecticut, Phone: +1 860 632 2211

www.habasitabt.com

## Product liability, application considerations

Product liability, application considerations

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

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

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