

# 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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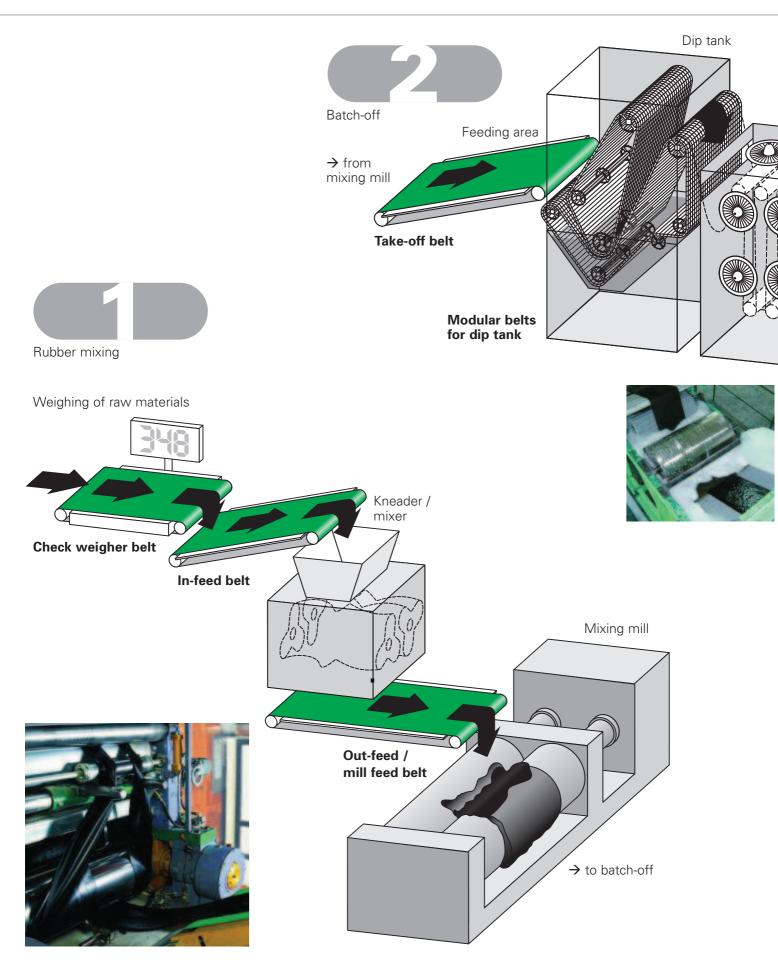
# The Habasit solution

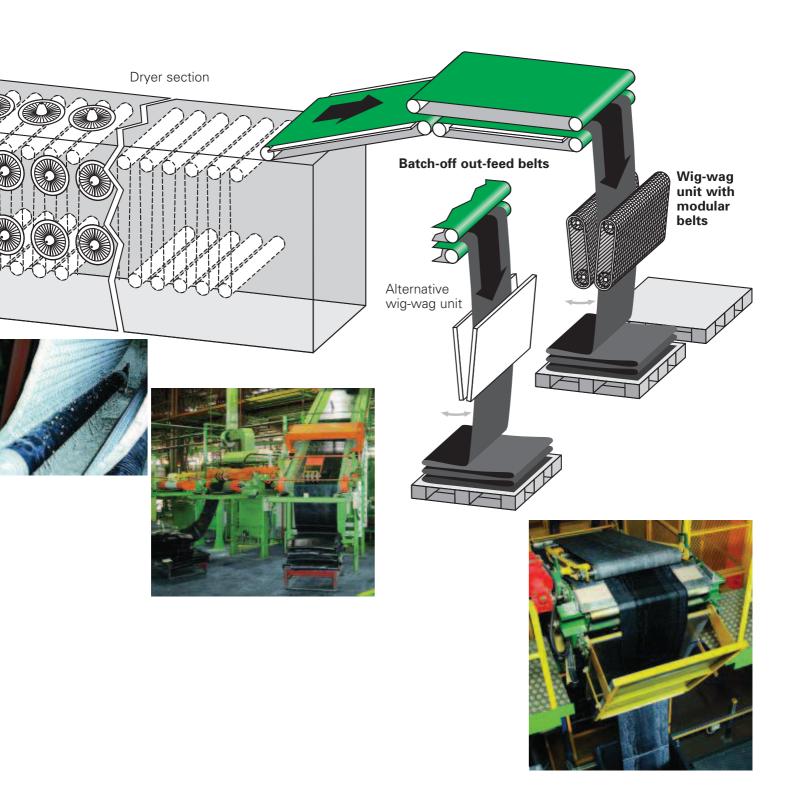
At Habasit we listen. We innovate. And we deliver integrated belting solutions – right first time. To learn more about the world wide presence of Habasit, refer to last page.



# Process / application overview (schematic)

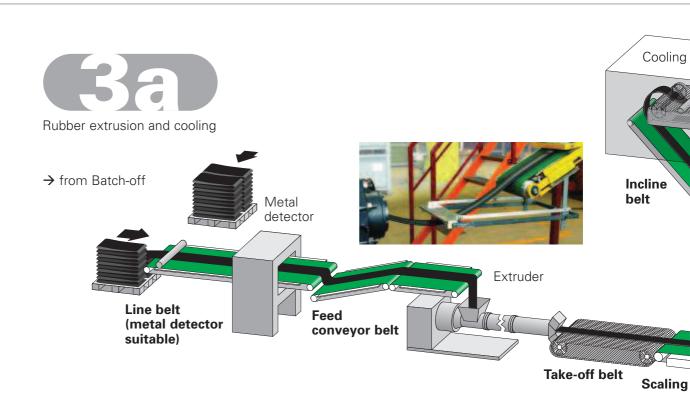
# Rubber mixing and batch-off

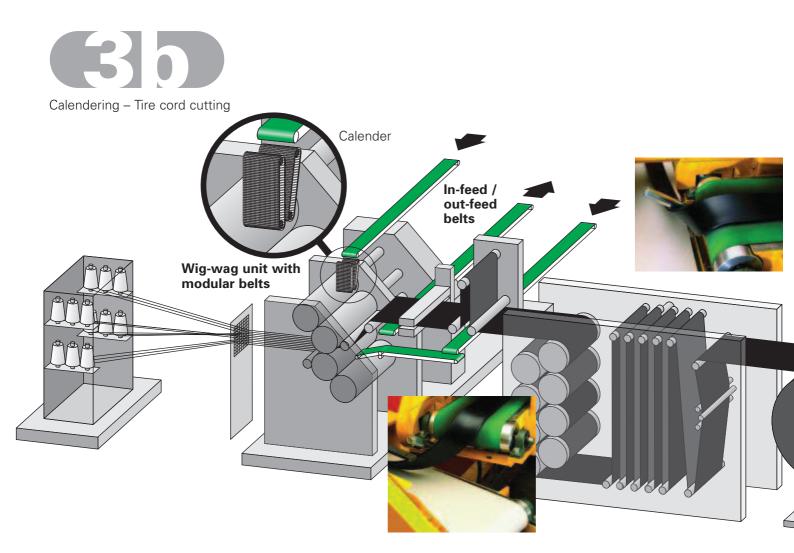




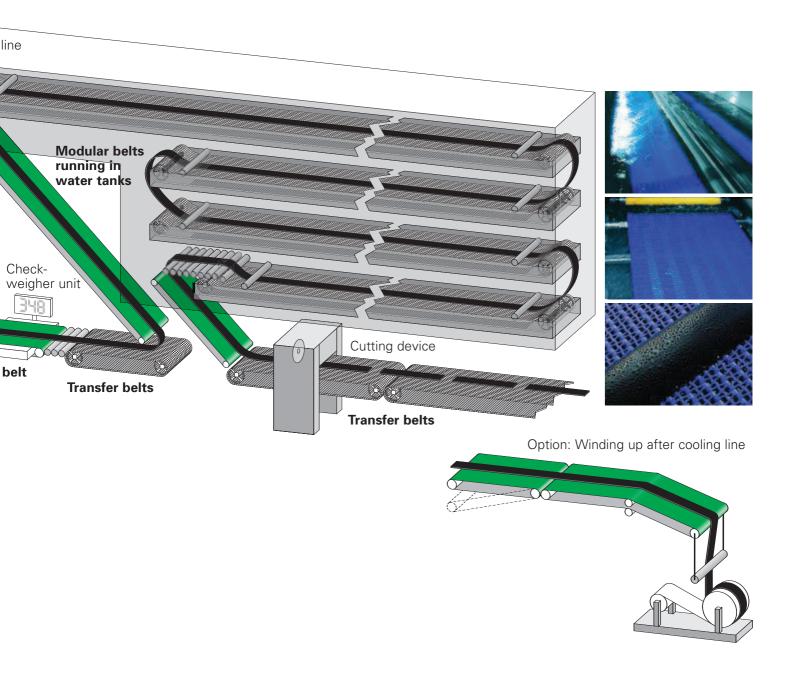
**Remark:** The drawings show schematic examples of selected applications / processes. The drawings don't lay claim to completeness. The belt recommendations (use / application / layout) should be considered as a general example only. Due to the complexity of the various processes and technical requirements 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.

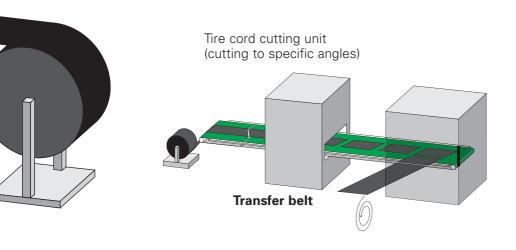
# Rubber extrusion and cooling - Calendering and tire cord c





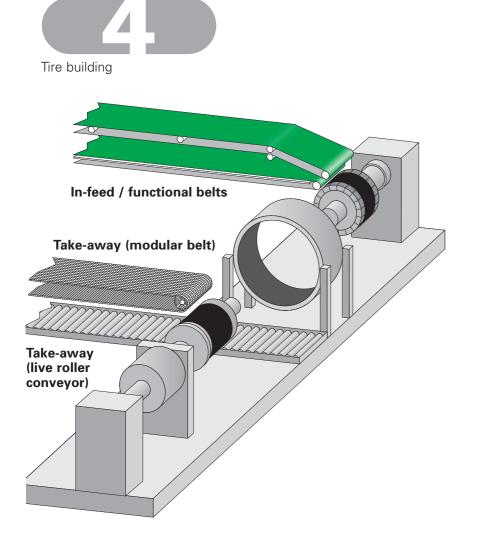
# utting





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

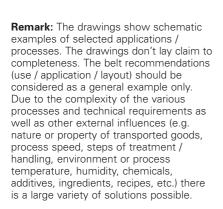


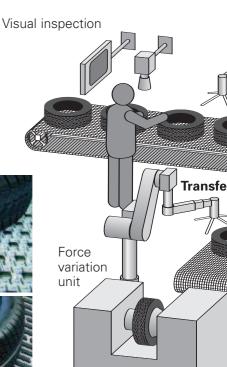




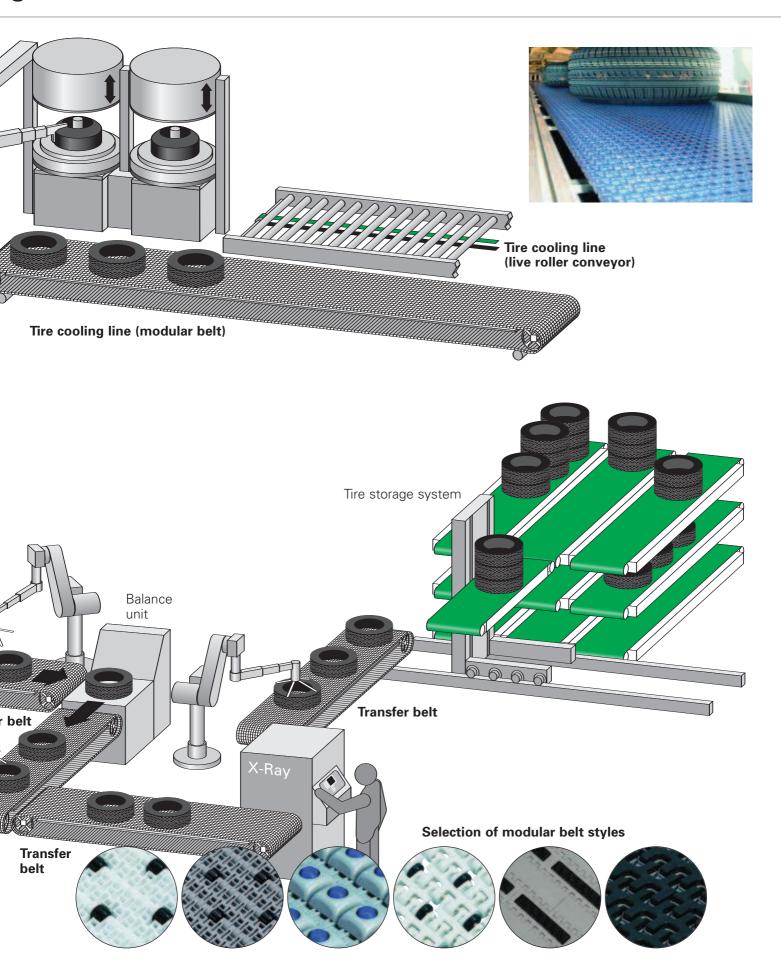
Finished tire handling







# ng



### The right choice

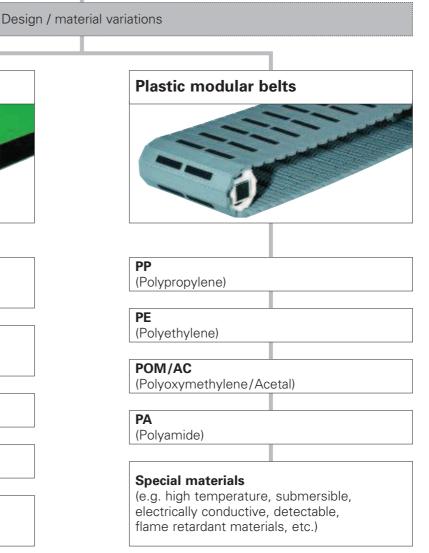
Habasit has developed an extensive variety of solutions that allow customers to choose the best product for their specific application. Habasit is the only belt supplier to manufacture and offer the full package of fabric based belts and plastic modular belts.

# Belting products for the tire industry Fabric based belts Cotton fabric or silicone coated ENR-series • EMB-series **TPU** coated • High duty line F-series Nonwoven • G-series Rubber coated • High duty line **PVC** coated N-Line • Standard line PET fabric or impregnated fabric FNI-series E-series

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

ENI-series

NNT-series



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



For details / further information please consult product brochure 4000 HabasitLINK® plastic modular belts or website

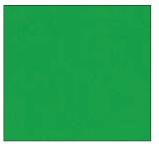
www.HabasitLINK.com

## 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)



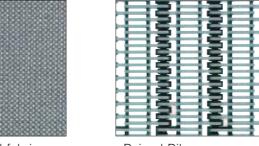
Cotton fabric



(non-adhesive)



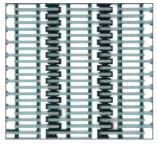
Impregnated fabric (non-adhesive)



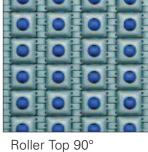
Raised Rib

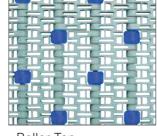
Flush Grid



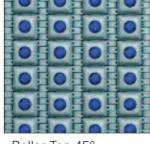


Plastic modular belts





Roller Top



Roller Top 45°



Nonwoven (non-adhesive)

Silicon coated

(non-adhesive)



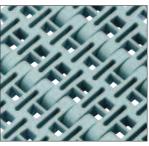
Rubber with textile

impression (adhesive)

Quadrillé structure (adhesive)



GripTop



Flush Grid Heavy

Grip structure (adhesive)

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

								_		
Part A:		Product Cod	le							
Fabric based belts	Conveyor belts and processing belts									
Tabile basea belts		Cotton		Silicone	coated		TPU coa	ato		
		4		_				П		
		ERNC	ERNC	ERRS	ERRS	ERRS	F			
		ENR-15ERNC	ENR-20ERNC	ENR-15ERRS	ENR-20ERRS	EMB-20ERRS	F-2EXWT	1		
Applications		N N	Z Z	N N	Z Z	E E	F-2	i		
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								ш		
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										
Duadrat agratuation / design										
Product construction / design		Cotton (CO)	Cotton (CO)	Silicopo (SI)	Silicone (SI)	Silicone (SI)	TPU			
Conveying side (Material)		Cotton (CO)	Cotton (CO)	Silicone (SI)	Silicone (Si)	Silicorie (SI)	150			
Conveying side (Surface)		Fabric	Fabric	Impregnated fabric	Impregnated fabric	Sand finish	Blank/smooth	ВІ		
Conveying side (Property)		Non- adhesive	Non- adhesive	Non- adhesive	Non- adhesive	Non- adhesive	Medium- adhesive			
Conveying side (Color)		Beige	Beige	Red	Red	Red	White			
Number of fabrics (Plies)		3	4	3	4	3	1			
Product characteristics		Ü		Ü	·	Ü				
Permanently antistatic		No	No	No	No	No	Yes			
Technical key data										
Thickness	[mm]	4.70	5.60	4.70	6.30	3.60	0.70			
	[in]	0.19	0.22	0.19	0.25	0.14	0.03			
Pulley diameter minimum with counter flexion	[mm]	150	200	150	200	150	15			
Tanaila force for 10/ planation /k10/ static) [k20/ static]	[in]	5.9	7.9	5.9	7.9	5.9	0.6			
Tensile force for 1% elongation (k1% static) [k2% static]	[N/mm] [lbs/in]	15 <i>86</i>	20 114	15 <i>86</i>	20 114	20 114	3 17			
Joining system	[IDO/III]	00	114		117	117	,,			
Flexproof		•	•	•	•	•	•			
Thermofix										
Mechanical fastener		•	•	•	•	•				
Alternative joining method								L		

# Legend/remarks

See folding page (flap)

ed			Nonwo	ven		Rubber	coated			PVC coa	ated
FAB-8E	H-4EMDT	HNB-12E	G23/0NNB6E	G24/0NNB6E	G24/0NNI6	HAR-12E	HAT-8P	HAT-12P	SAG-12E	NAB-8EXDV	NAB-10EXAV
			•	•	•				•		
			•	•	•						
			•	•	•						
			•	•	•		•	•			
			•	•	•		•	•			
			•	•	•		•	•			
			•	•	•			•			
•		•					•	•			
			•	•						•	•
	•					•			•		
TPU	TPU	TPU	PET/NBR	PET/NBR	PET/NBR	NBR	NBR	NBR	EPDM	Polyvinyl-	Polyv
ank/smooth	Blank/smooth	Blank/smooth	Nonwoven	Nonwoven	Nonwoven	Rough textile	Rough textile	Rough textile	Grip	chloride (PVC) Blank/smooth	Blank/sr
Adhesive	Medium-	Non-	impr. Non-	impr. Non-	impr. Non-	structure Adhesive	structure Adhesive	structure Adhesive	structure Adhesive	Adhesive	Ma Medi
White	adhesive Dark green	adhesive Green	adhesive Black	adhesive Black	adhesive Ice green	Green	Green	Green	Anthracite	Dark green	adhe: Anthra
		(Habasit green)									
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	<i>0.08</i> 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	1.0
8 <i>46</i>	5 <i>29</i>	20 114	8 [24] <i>46 [137]</i>	8 [24] <i>46 [137]</i>	8 [24] <i>46 [137]</i>	20 114	7 40	10 <i>57</i>	12 <i>69</i>	8 46	8
40	23	114	40 [137]	40[137]	40 [137]	114	40	37	03	40	40
•	•	•	•	•	•	•				•	•
•	•	•				•	•	•	•		
Clipper ICM-36 SP		Clipper UCM-36	Clipper UCM-36 LP	Clipper#3	Clipper#3	Clipper UCM-36 SP	Clipper UCM-36 SP	Clipper UCM-36	Clipper UCM-36		

			PET fab	ric or imp	regnated	l fabric			
	NAB-12EXDV	NAQ-10ELBV	NA N		ENI-10E	NNT-8EFWE	NNT-10ENBU	NNT-12ECDV	NNT-20ECDV
							•	•	•
			•	•	•		•	•	
			•	•	•	•			
			•	•	•	•			
	•	•					•	•	•
inyl- (PVC) mooth, at um- sive	Polyvinyl- chloride (PVC) Blank/smooth Adhesive	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/multifil) Non-adhesive Dark green	PET/PVC impr. Fabric (multifil/multifil) Non-adhesive Dark green
	2	2	2	2	2	2	2	2	3
60 (0 0 6	No 2.80 0.11 60 2.4 12 69	Yes 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	2.40 0.09 80 3.1 12 69	Yes  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
Nonwo	vei	<b>1</b>	=	Web/fleece
Nonwo	vei	n/NBR impr.	=	Nonwoven impregnated/saturated with Acrylonitryle-Butadiene-Rubber
PET/NE	3R		=	Polyester fleece saturated with Acrylonitrile-Butadiene-Rubber
PET/PL	JR i	impr.	=	Polyester fabric impregnated with cross-linked Polyurethane
PET/PV	′C i	mpr.	=	Polyester fabric impregnated with Polyvinylchloride
PET/TP	'U i	mpr.	=	Polyester fabric impregnated with thermoplastic Polyurethane
TPU =		=	Polyurethane thermoplastic	
•	=	applicable		
_	=	not applicabl	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

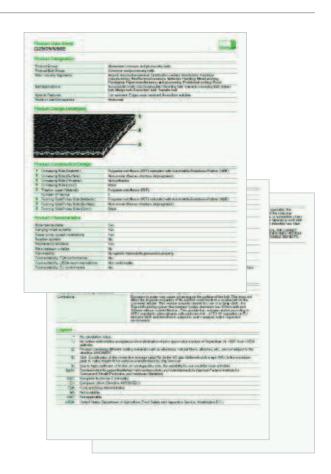
## Product data

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.



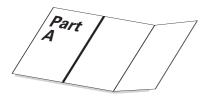
# Tire industry application table / belt selection guide and technical key data (selection only)

Part B:	Product Co	de						
Plastic	Conveyor b	elts and proc	essing belts					
	Modula	ar belts						
modular belts								
HabasitLINK®	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	E Hus	M2	M29 Rais	MZ	M28 Grip	MZ	M20	M29 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			•	•				
110101 01011 011		•					•	
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						•		
Duadrict construction ( desire								
Product construction / design	The fellowing	holt materials	oon be salest	tod donondine	on the anni:	tion: DD Dal-	ropulons DE	Polyothyde
Belt materials available Open area	25%	0%	35%	ted, depending 35%	~ 20%	35%	0%	35%
Available standard colors	White/Gray Natural/Blue	White/Gray Blue	Gray/Dark Gray/Blue	White/Gray Natural/Blue	~ 20% White/Gray Blue	Blue	Dark gray	White/Gra
Antistatic material available	• •	• Bido	• Glay/Blac	•	• Bide	•	•	• Dido
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] [lbs/ft]	18'000 <i>1'233</i>	26′000 <i>1′782</i>	27′000 <i>1′850</i>	22'000 <i>1'507</i>	22′000 1′507	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)

	M2543 Tight Radius	M3840 Radius Flush Grid	M3840 Roller Top	M3843 Tight Radius	M5010 Flat Top	M5020 Flat Top Heavy	M5020 Grip Top	M5131 Raised Rib	M5032 Flush Grid Heavy	M5032 Roller Top Heavy	M5032 Roller Top 90°	M5032 Roller Top 0°
					•	•						
					•	•						
					•	•	•	•	•			
					•	•						
								•	•			
					•	•	•					
					•	•						
	•	•		•					•			
	•	•		•	•	•	•		•			
			•							•	•	•
ne, F	POM/AC=Poly	oxymethylene/	/Acetal, PA=Pc	olyamide and o	ther special ma	aterials						
	35% White/Gray	31% White/Gray	31% White	37% White	0%	0% Gray/Natural Dark gray	0% Gray/ Dark gray	37% Gray	34% Gray/Natural Blue	33% Gray	- Gray/Blue	- Gray/Blue
	•	•	•	•	•	•	•	•	•	•	•	•
	1" 20'000 1'370	1.5" 32'000 2'193	1.5" 25'000 1'713	1.5" 29'000 1'986	2" 30'000 2'056	2" 45'000 3'083	2" 45'000 3'083	2" 36'000 2'467	2" 40'000 2'741	2" 30'000 2'056	2" 38'000 2'603	2" 38'000 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

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or

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• e.g. United Kingdom

**Products** 

• e.g. Conveyor belts

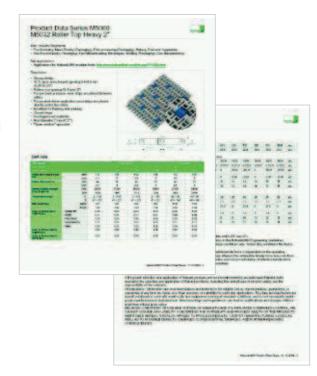
Product data

Overview

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- 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 Benefits** • Excellent rubber → No sticking of rubber release → Process reliability → Extended belt life • High temperature → Long belt life resistance → No downtimes → Lower cost Good fastener → Highly appropriate for mechanical retention joining / lacing • Stable modulus → No re-tensioning → No downtimes of elasticity after → No maintenance running-in Special folded → Improved edge wear properties edge version → No contamination of rubber available $\rightarrow$ 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 Constant → Long belt life coefficient of friction Stable modulus → No re-tensioning of elasticity after → No downtimes → 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>
	<ul> <li>Excellent abrasion resistance</li> </ul>	<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
XE WITH MINING MAN AND	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 $\rightarrow$ No sticking of rubber release properties → Process reliability → Low maintenance cost Longitudinal → Belt can cope with small pulley flexibility diameters, compact design → Smooth and trouble-free product transfer → Long belt life • Stable modulus → No re-tensioning → No downtimes of elasticity after running-in → No maintenance Permanently → No interference with electronic devices antistatic → Less dust and dirt attraction → Process reliability • High grip rubber → Constant coefficient of friction during surface available entire lifetime of belt → Durable and abrasion resistant rubber belt surface → Reliable product flow in acceleration sections or within inclines / declines → Long service live

# **PVC** coated belts

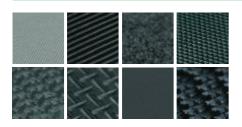
## **PVC** coated belts

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



#### **Features**

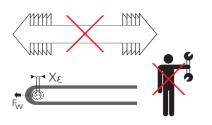
#### **Benefits**



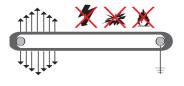
- A wide range of surface types, structures and belt strengths available
- → Selection possibility of the appropriate conveyor belt for a specific application
- ightarrow Cost "friendly" solutions



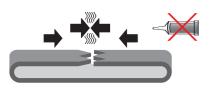
- Longitudinal flexibility
- → Belt can cope with small pulley diameters, compact design
- → Long belt life



- 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
- ightarrow Process reliability



- Simple and fast joining method (Flexproof)
- $\rightarrow$  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.



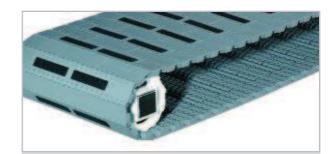
	Features	Benefits
	Excellent rubber release properties	<ul> <li>→ No sticking of rubber</li> <li>→ Constant coefficient of friction over entire belt life</li> <li>→ Process reliability</li> </ul>
	• Excellent abrasion resistance	<ul> <li>→ Reduced belt wear</li> <li>→ Reliable conveying and process flow</li> <li>→ Long belt life</li> </ul>
+	Impregnated fabric surfaces	<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®)

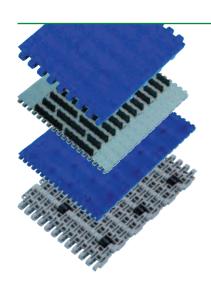
Based on our comprehensive experience and our leadership position in traditional fabric-based belting, Habasit has developed the HabasitLINK® modular belt range. This state-of-the-art product line completes our offer as a single source supplier and partner for your success.

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**



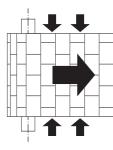
- Large variety of plastic materials and colors available PP = Polypropylene PE = Polyethylene POM/AC = Polyoxymethylene/ Acetal PA = Polyamide and special materials
- Different module styles, sizes and module strengths available

- → 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° ightarrow maintenance free accumulation and separation lines Easy installation → Snap-in assembling method Simple and fast → Replacement of single belt modules assembling → Easy repair

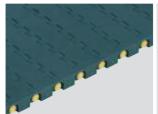
# Successful belt solutions

## **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	No sticking of rubber and excellent belt performance
	Excellent resistance to chemicals and elevated temperature
	Extended helt service life



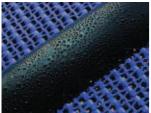
Application	Inclined feed belt for mixing mill
Challenge	Difficult and time consuming maintenance of steel mesh belt
	High power consumption due to heavy steel construction
Solution	Installation of M5010 Flat Top (Modular belt)
and result	Energy savings thanks to light belt design
	Simple maintenance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



Application	Batch-off infeed belt
Challenge	Cut and wear resistance of belt surface
	<ul> <li>Belt which can handle rough environment of rubber processing</li> </ul>
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
Challenge	Rough running conditions leading to reduced belt life
	Intensive belt maintenance
Solution and result	Installation of M5031 Raised Rib (Modular belt)  Improved chemical resistance of high quality belt product  Extended belt service life  No belt maintenance



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	Tire cooling line for finished tires
Challenge	High level of maintenance required with chain driven life roller conveyors
0 1 1:	,
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.

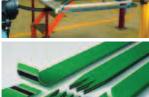


### Belt inspection and analyses

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**



# Designing the future "Partner in Design"

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



#### Testing 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.

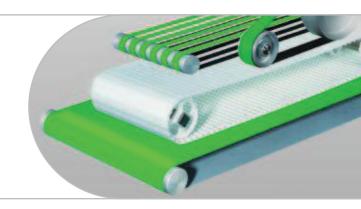
## **Project management**

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)	



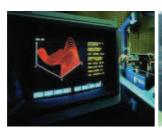






#### Innovation/R&D

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

Founded	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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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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