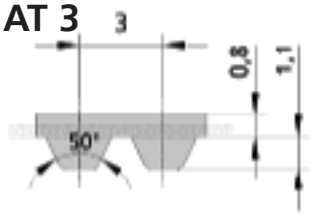
Transport technology

(BRECO M = BRECO open length, joined)
BFX = BRECOFLEX® TIMING BELTS
SFX = SYNCHROFLEX® TIMING BELTS

AT high performance timing belt - joined

BRECO® TIMING BELTS

AT 3

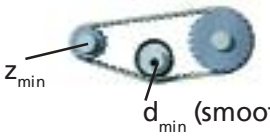
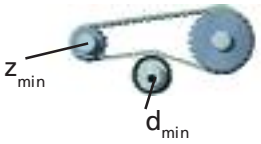


Available versions for AT 3

- **AT 3:** Standard (with E tension member)
- **PAZ:** Nylon tooth facing

Preferred belt width b [mm] 8 10 20 25
In-between widths upon request

Endless joined, minimum length: 880 mm

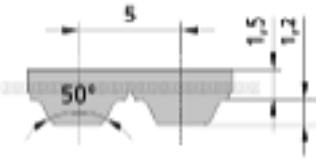
Drive type		AT 3
without contraflexure	z_{min}:	15
	d_{min}:	20
with contraflexure	z_{min}:	20
	d_{min}:	20

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	8	10	20	25
Tension cord strength (V)	F_{Tadm}	[N]	160	200	400	500
Belt weight	AT 3	[kg/m]	0,018	0,022	0,044	0,054

BRECO® TIMING BELTS

AT 5

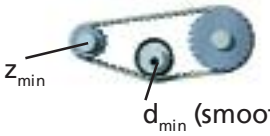
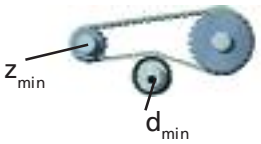


Available versions for AT 5

- **AT 5:** Standard (with E tension member)
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Preferred belt width b [mm] 10 16 25 32 50 75
In-between widths upon request

Endless joined, minimum length: 880 mm

Drive type		AT 5
without contraflexure	z_{min}:	12
	d_{min}:	18
with contraflexure	z_{min}:	20
	d_{min}:	50

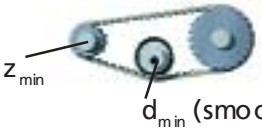
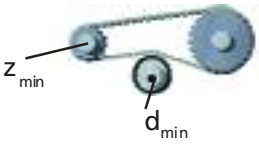
Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	10	16	25	32	50	75
Tension cord strength (V)	F_{Tadm}	[N]	350	560	910	1120	1750	2380
Belt weight	AT 5	[kg/m]	0,033	0,052	0,082	0,105	0,164	0,245

AT high performance timing belt - joined

Preferred belt width b [mm] 25 32 50 75 100 150
In-between widths upon request

Endless joined, minimum length:
880 mm up to a width of: 100
1000 mm for width: 150

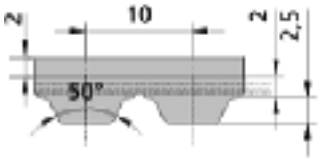
Drive type		AT 10	AT 10-T	AT 10-E
without contraflexure	z_{min}:	15	25	12
	d_{min}:	50	80	50
z_{min} d_{min} (smooth)				
with contraflexure	z_{min}:	25	25	20
	d_{min}:	120	120	80
z_{min} d_{min}				

Tension cord strength
admissible tensile force of the belt cross section

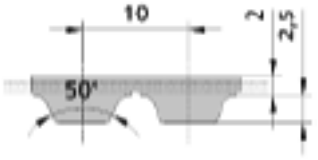
Belt width	b	[mm]	25	32	50	75	100	150
Tension cord strength (V)	F_{Tadm}	[N]	2125	2750	4250	6375	8500	11000
Belt weight	AT 10	[kg/m]	0,158	0,186	0,290	0,436	0,581	0,839
	AT 10-T	[kg/m]	0,205	0,263	0,410	0,616	0,821	-

BRECO® TIMING BELTS

AT 10-T



AT 10

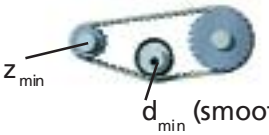
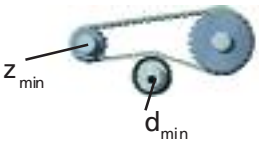


Available versions for AT 10

- **AT 10:** Standard
- **E:** with E tension member
- **PAZ:** Nylon tooth facing
- **PAZ-E:** Nylon tooth facing with E tension member
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport backing available for a belt width up to b_{max} = 100 mm

Preferred belt width b [mm] 32 50 75 100 150
In-between widths upon request

Endless joined, minimum length: 1,000 mm

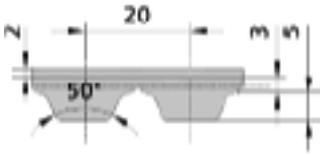
Drive type		AT 20	AT 20-T
without contraflexure	z_{min}:	18	25
	d_{min}:	120	120
z_{min} d_{min} (smooth)			
with contraflexure	z_{min}:	25	25
	d_{min}:	180	180
z_{min} d_{min}			

Tension cord strength
admissible tensile force of the belt cross section

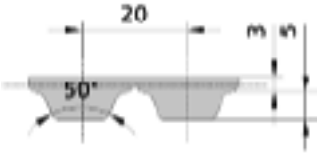
Belt width	b	[mm]	32	50	75	100	150
Tension cord strength (V)	F_{Tadm}	[N]	3600	5600	8400	11200	16000
Belt weight	AT 20	[kg/m]	0,307	0,480	0,720	0,960	1,423
	AT 20-T	[kg/m]	0,384	0,600	0,900	1,200	-

BRECO® TIMING BELTS

AT 20-T



AT 20



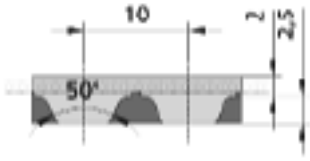
Available versions for AT 20

- **AT 20:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport backing available for a belt width up to b_{max} = 100 mm

Self-guiding timing belts - joined

BRECO® TIMING BELTS

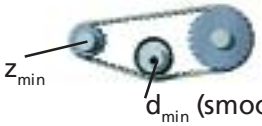
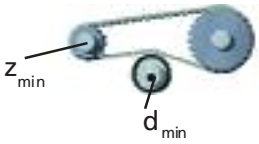
SFAT 10



Available versions for SFAT 10

- **SFAT 10:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Preferred belt width b [mm]	50	75	100
In-between widths upon request			
Endless joined, minimum length:	880 mm		

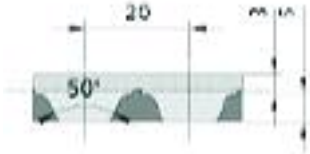
Drive type		SFAT 10
without contraflexure	z_{min}:	25
	d_{min}:	80
with contraflexure	z_{min}:	25
	d_{min}:	120

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	3750	5250	8000
Belt weight	SFAT 10	[kg/m]	0,290	0,436	0,581

BRECO® TIMING BELTS

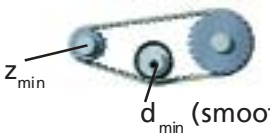
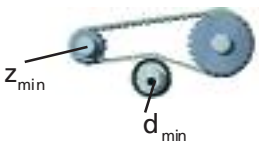
SFAT 20



Available versions for SFAT 20

- **SFAT 20:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Preferred belt width b [mm]	50	75	100
In-between widths upon request			
Endless joined, minimum length:	500 mm		

Drive type		SFAT 20
without contraflexure	z_{min}:	20
	d_{min}:	120
with contraflexure	z_{min}:	25
	d_{min}:	180

Tension cord strength
admissible tensile force of the belt cross section

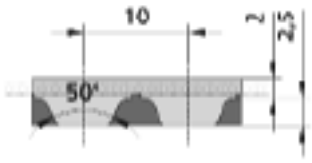
Belt width	b	[mm]	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	5600	8400	11200
Belt weight	SFAT 20	[kg/m]	0,480	0,720	0,960

Preferred belt width b [mm]	25	32	50	75	100
Endless joined, minimum length:	880 mm				

For the BAT, please note page 26

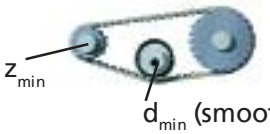
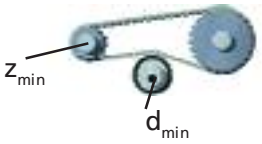
BRECO® TIMING BELTS

BAT 10



Available types for BAT 10

- **BAT 10:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- available for a belt width up to b_{max} = 100 mm

Drive type		BAT 10
without contraflexure	z_{min}:	25
	d_{min}:	80
with contraflexure	z_{min}:	25
	d_{min}:	120

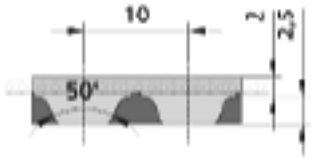
Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	32	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	2500	3750	6000	8500
Belt weight	BAT 10	[kg/m]	0,186	0,290	0,436	0,581

Preferred belt width b [mm]	32	50	75	100	
Endless joined, minimum length:	880 mm				

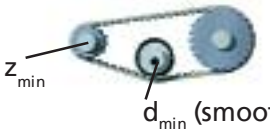
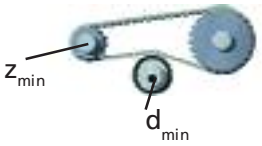
BRECO® TIMING BELTS

BATK 10



Available versions for BATK 10

- **BATK 10:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- available for a belt width up to b_{max} = 100 mm

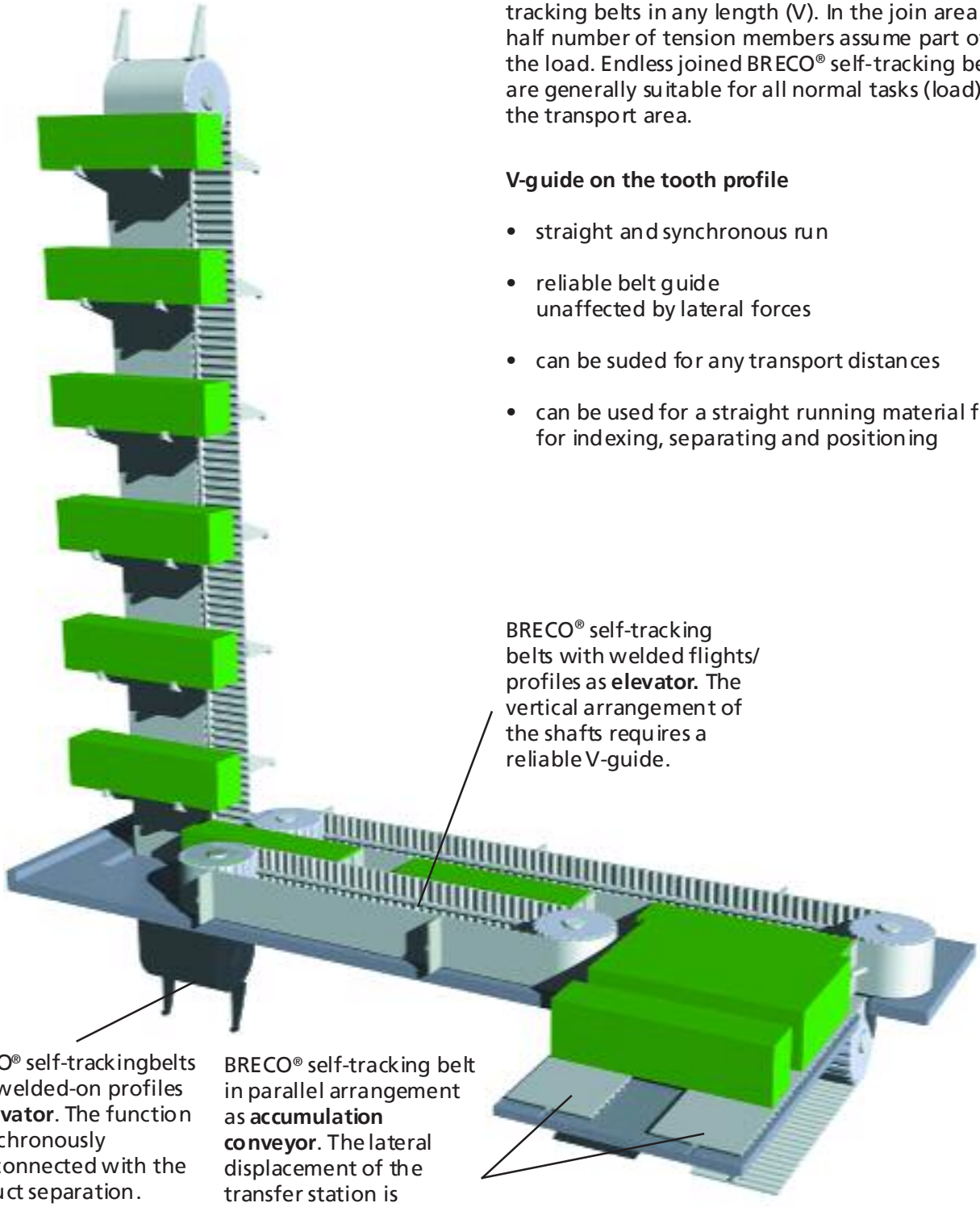
Drive type		BATK 10
without contraflexure	z_{min}:	25
	d_{min}:	80
with contraflexure	z_{min}:	25
	d_{min}:	120

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	32	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	2500	3750	6000	8500
Belt weight	BATK 10	[kg/m]	0,192	0,300	0,450	0,600

Self-guiding timing belts - joined

Application example with BRECO® self-tracking belt



BRECO® self-trackingbelts with welded-on profiles as **elevator**. The function is synchronously interconnected with the product separation.

BRECO® self-tracking belt in parallel arrangement as **accumulation conveyor**. The lateral displacement of the transfer station is eliminated by using the V-guide. Individual tensioning of the belts is necessary.

BRECO® self-tracking belts with welded flights/ profiles as **elevator.** The vertical arrangement of the shafts requires a reliable V-guide.

BRECO® self-tracking belt

BRECO® self-tracking belts are manufactured in open length (M). They can be joined to self-tracking belts in any length (V). In the join area the half number of tension members assume part of the load. Endless joined BRECO® self-tracking belts are generally suitable for all normal tasks (load) in the transport area.

V-guide on the tooth profile

- straight and synchronous run
- reliable belt guide unaffected by lateral forces
- can be suded for any transport distances
- can be used for a straight running material flow for indexing, separating and positioning

BRECO® self-tracking belt

Construction and properties

The combination of timing belts, Vee-belts and steel cord tensin members in one belt construction results in straight running synchronous belts. Their preferred fields of application include the transport and handling technology. The V-guide assures a straight belt run throughout the entire span length. Self-tracking belts are not affected by lateral forces.

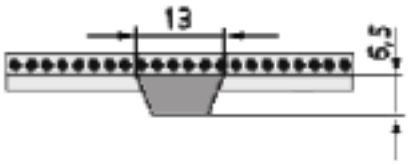
Standard version

The standard version of the self-tracking timing belt is a combined construction of the two materials: wear resistant polyurethane of 92 Shore A and high tensile steel cord tension members.

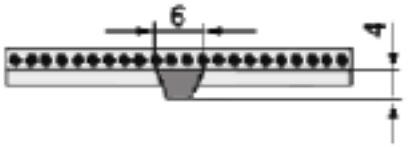
The delivery progam is different in the versions with V-groove and with solid V-groove for pre-assembled belts. Timing belts with solid V-groove have a lower elasticity. To this effect, the minimum diameter of the pulley and the minimum number of teeth must be increased compared to the V-groove. In the standard program for transport technology are exclusively shown versions with V-groove.

V-groove dimensions

ATK10K13, ATK20K13, TK10K13, TK20K13, TK1/2"K13



ATK5K6, ATK10K6, TK5K6, TK10K6

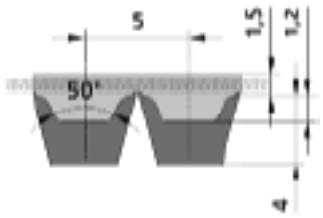


Standard, double-sided (DL)

Self-tracking belts with additional teeth on the back of the belt. This type is only available as BRECOFLEX® type ATK10K6 with V-groove.

Self-guiding timing belts - joined

BRECO® SELF-TRACKING BELTS
ATK5 K6



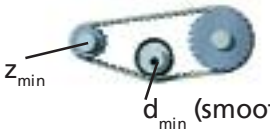
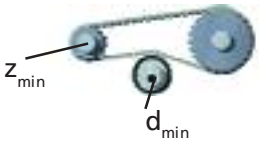
Preferred belt width
b [mm] 32 50

In-between widths upon request

Endless joined minimum length: 1000 mm

Available versions for ATK 5 K6

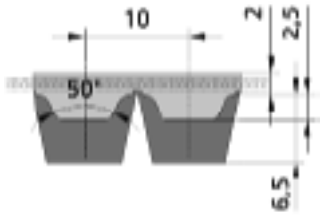
- **ATK5 K6:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Drive type		ATK5 K6
without contraflexure	z_{min}:	25
	d_{min}:	60
with contraflexure	z_{min}:	25
	d_{min}:	60

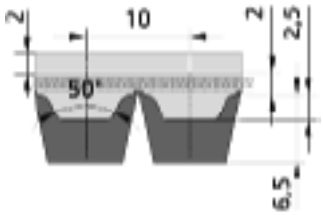
Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	32	50
Tension cord strength (V)	$F_{Ta\,dm}$	[N]	1120	1750
Belt weight	ATK5K6	[kg/m]	0,118	0,177

BRECO® SELF-TRACKING BELTS
ATK10 K13



ATK10 K13-T



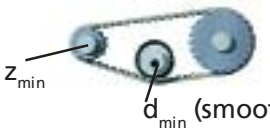
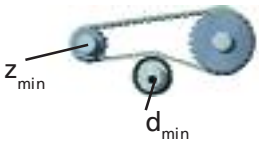
Preferred belt width
b[mm] 32 50 75 100 150

In-between widths upon request

Endless joined minimum length: 1000 mm

Available versions for ATK 10 K13

- **ATK10 K13:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport support available for a belt width up to b_{max} = 100 mm

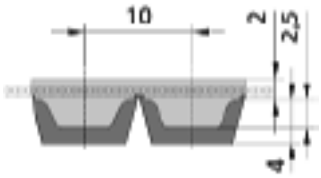
Drive type		ATK10 K13	ATK10K13-T
without contraflexure	z_{min}:	20	25
	d_{min}:	60	80
with contraflexure	z_{min}:	25	25
	d_{min}:	120	120

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	32	50	75	100	150
Tension cord strength (V)	$F_{Ta\,dm}$	[N]	2500	3750	5250	8000	11000
Belt weight	ATK10K13	[kg/m]	0,227	0,331	0,465	0,621	0,889
Belt weight	ATK10K13-T	[kg/m]	0,303	0,451	0,645	0,861	-

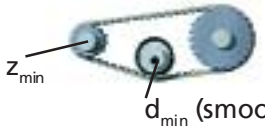
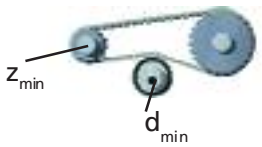
BRECO® SELF-TRACKING BELTS

ATK10 K6



Preferred belt width
b [mm] 50

Endless joined minimum length 1000 mm

Drive type		ATK10 K6
without contraflexure	z_{min}:	20
	d_{min}:	60
with contraflexure	z_{min}:	25
	d_{min}:	120

Available versions for ATK10 K6

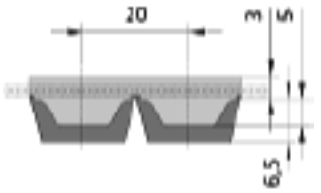
- **ATK10 K6:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	50
Tension cord strength (V)	F_{Tadm}	[N]	3750
Belt weight	ATK10K6	[kg/m]	0,302

BRECO® SELF-TRACKING BELTS

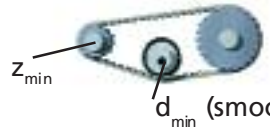
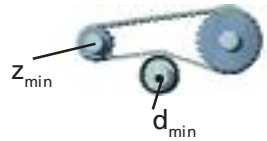
ATK20 K13



Preferred belt width
b [mm] 75 100

In-between widths upon request

Endless joined minimum length: 1000 mm

Drive type		ATK20 K13
without contraflexure	z_{min}:	20
	d_{min}:	120
with contraflexure	z_{min}:	25
	d_{min}:	180

Available versions for ATK 20 K13

- **ATK20 K13:** Standard
- **PAZ:** Nylon tooth facing

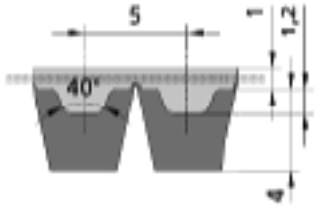
Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	75	100
Tension cord strength (V)	F_{Tadm}	[N]	8400	11200
Belt weight	ATK20K13	[kg/m]	0,730	0,995

Self-guiding timing belts - joined

BRECO® SELF-TRACKING BELTS

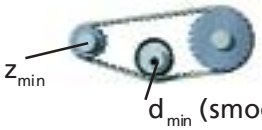
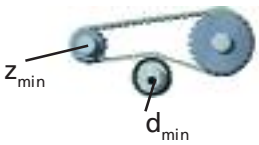
TK5 K6



Preferred belt width b [mm]	25	32	50
In-between widths upon request			
Endless joined, minimum length: 1000 mm			

Available versions for TK 5 K6

- **TK5 K6:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

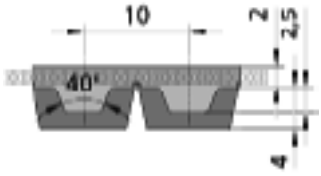
Drive type		TK5 K6
without contraflexure	z_{min}:	25
	d_{min}:	60
with contraflexure	z_{min}:	25
	d_{min}:	80

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	25	32	50
Tension cord strength (V)	F_{Tadm}	[N]	390	480	750
Belt weight	TK 5K6	[kg/m]	0,067	0,082	0,119

BRECO® SELF-TRACKING BELTS

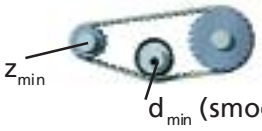
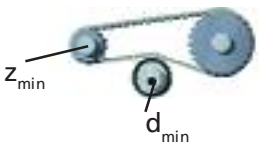
TK10 K6



Preferred belt width b [mm]	25	50
In-between widths upon request		
Endless joined minimum length: 1000 mm		

Available types for TK 10 K6

- **TK10K6:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Drive type		TK10 K6
without contraflexure	z_{min}:	25
	d_{min}:	60
with contraflexure	z_{min}:	25
	d_{min}:	80

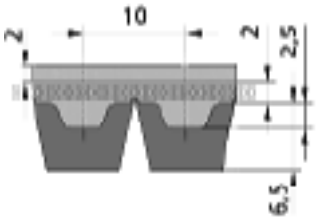
Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	25	50
Tension cord strength (V)	F_{Tadm}	[N]	1200	2100
Belt weight	TK 10K6	[kg/m]	0,129	0,239

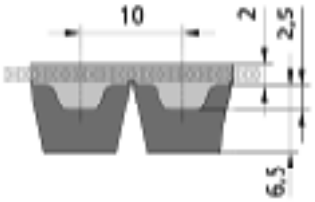
Preferred belt width b [mm]	32	50	75	100
In-between widths upon request				
Endless joined minimum length:	1000 mm			

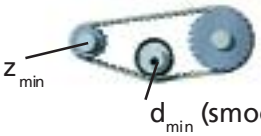
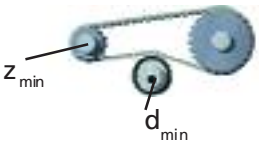
BRECO® SELF-TRACKING BELTS

TK10 K13-T



TK10 K13



Drive type		TK10K13	TK10K13-T
without contraflexure	z_{min}:	25	25
	d_{min}:	80	80
d_{min} (smooth)			
with contraflexure	z_{min}:	25	25
	d_{min}:	80	80

Available versions for TK 10

- **TK10 K13:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport backing

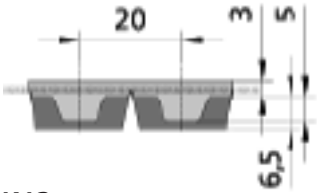
Tension cord strength
admissible tensile force of the belt cross section

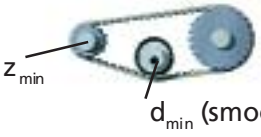
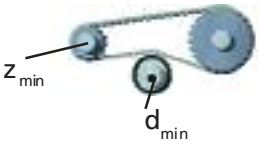
Belt width	b	[mm]	32	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	1300	2100	2600	3300
Belt weight	TK 10K13	[kg/m]	0,205	0,287	0,389	0,495
	TK 10K13-T	[kg/m]	0,282	0,407	0,569	0,735

Preferred belt width b[mm]	75	100	
In-between widths upon request			
Endless joined minimum length:	1500 mm		

BRECO® SELF-TRACKING BELTS

TK20 K13



Drive type		TK20K13
without contraflexure	z_{min}:	18
	d_{min}:	120
d_{min} (smooth)		
with contraflexure	z_{min}:	25
	d_{min}:	180

Available versions for TK20 K13

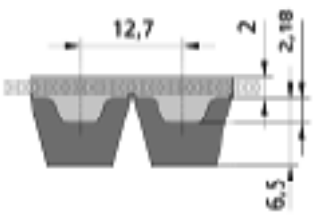
- **TK20 K13:** Standard
- **PAZ:** Nylon tooth facing

Tension cord strength
admissible tensile force of the belt cross section

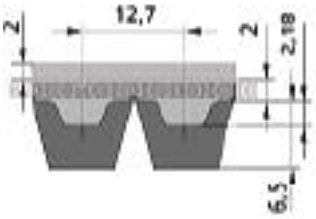
Belt width	b	[mm]	75	100
Tension cord strength (V)	F_{Tadm}	[N]	5250	7000
Belt weight	TK 20K13	[kg/m]	0,587	0,771

BRECO® SELF-TRACKING BELTS

TK1/2"K13



TK1/2"K13-T



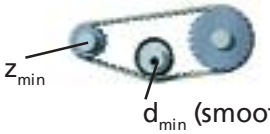
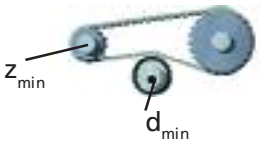
Available types for TK1/2"K13

- **TK1/2"K13:** Standard
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport backing

Preferred belt width	Imperial	150	200	300	400
	b [mm]	38,1	50,8	76,2	101,6

In-between widths upon request

Endless joined minimum length: 1000 mm

Drive type		TK1/2"K13	TK1/2"K13-T
without contraflexure	z_{min}:	18	20
	d_{min}:	80	80
with contraflexure	z_{min}:	20	20
	d_{min}:	120	120

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	38,1	50,8	76,2	101,6
Tension cord strength (V)	F_{Tadm}	[N]	1600	2100	2400	3100
Belt weight	TK1/2"K13	[kg/m]	0,222	0,275	0,368	0,469
	TK1/2"K13-T	[kg/m]	0,253	0,338	0,507	0,676

Ordering information

Ordering a standard dimension using codes guarantees the supply of a product with asserted properties.

Your Mulco sales outlet has further information, e.g. on reduced tolerances.

Information on minimum diameter, minimum number of teeth or stiffness values refer to standard versions.

Timing belts with a thicker back, backing or applications in the extremely low temperature range require a larger synchronising pulley diameter.

Order example

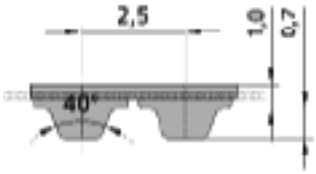
BRECO®-self tracking belt 50 ATK10K6 / 8000 V - PAZ

Belt width in mm
Type / Pitch
Belt length in mm
Endless joined
Nylon facing on the tooth side

T standard timing belts - joined

BRECO® TIMING BELTS

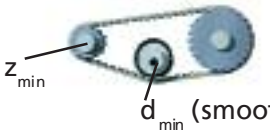
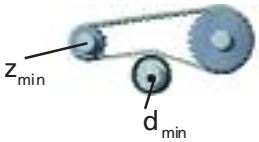
T 2,5



Available versions for T 2.5

- **T 2,5:** Standard, single-sided

Preferred belt width b [mm]			8	10	20
Mininum length, endless joined T2.5:					350 mm

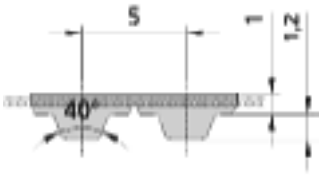
Drive type	T 2,5
without contraflexure	z_{min}: 15
	d_{min}: 15
with contraflexure	z_{min}: 18
	d_{min}: 18

Tension cord strength
admissible tensile force of the belt cross section

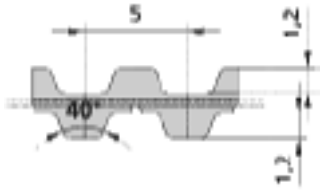
Belt width	b	[mm]	8	10	20
Tension cord strength (V)	F_{Tadm}	[N]	38	49	98
Belt weight	T 2.5	[kg/m]	0,010	0,015	0,030

BRECO® TIMING BELTS

T 5



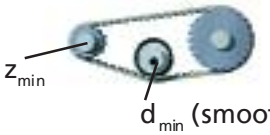
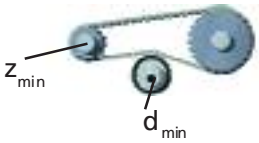
T 5-DL



Available versions for T 5

- **T 5:** Standard, single-sided
- **E:** with E tension member
- **DL:** Standard, double-sided
- **DL-E:** double-sided with E tension member
- **PAZ:** Nylon tooth facing
- **PAZ-E:** Nylon tooth facing and E tension member
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **DL-PAZ:** Nylon facing on double-sided belts, coating is only possible on the inner side
- **T, T-PAZ:** Transport backing, through 1.5 mm thicker back of the belt

Preferred belt width b [mm]			10	16	25	32	50	75
In-between widths upon request								
Endless joined, minimum length T5:								880 mm
Endless joined, minimum length T5-DL:								1000 mm

Drive type	T5	T5-E	T5-DL	T5-DL-E	T5-T
without contraflexure z_{min}:	10	10	15	10	20
 d_{min}:	30	18	30	18	30
with contraflexure z_{min}:	15	12	15	12	20
 d_{min}:	30	18	30	18	60

Tension cord strength
admissible tensile force of the belt cross section

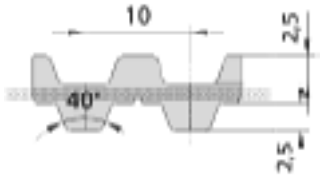
Belt width	b	[mm]	10	16	25	32	50	75
Tension cord strength (V)	F_{Tadm}	[N]	150	270	420	540	840	1260
Belt weight	T 5	[kg/m]	0,021	0,034	0,053	0,068	0,106	0,147
Belt weight	T 5-DL	[kg/m]	0,030	0,044	0,070	0,090	0,139	-
Belt weight	T 5-T	[kg/m]	0,039	0,063	0,098	0,126	0,196	-

Preferred belt width b [mm] 16 25 32 50 75 100 150
In-between widths upon request

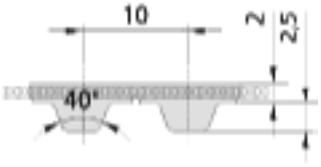
Mininum length, endless joined T10: 880 mm
Endless joined, minimum length T10-DL: 1000 mm
Minimum length for width 150: 1000 mm

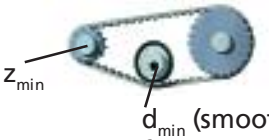
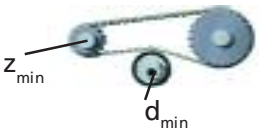
BRECO® TIMING BELTS

T 10-DL



T 10



Drive type		T10	T10-E	T10-DL	T10-DL-E	T10-T
without contraflexure	z_{min}:	12	10	20	10	20
	d_{min}:	60	50	60	50	60
with contraflexure	z_{min}:	20	15	20	15	20
	d_{min}:	60	50	60	50	80

Available versions for T 10

- **T 10:** Standard, single-sided
- **E:** with E tension member
- **DL:** Standard, double-sided
- **DL-E:** double-sided with E tension member
- **PAZ:** Nylon tooth facing
- **PAZ-E:** Nylon tooth facing and E tension member
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **DL-PAZ:** Nylon facing on double-sided belts, coating is only possible on the inner side
- **T, T-PAZ:** Transport backing, through 2 mm thicker back of the belt

Tension cord strength
admissible tensile force of the belt cross section

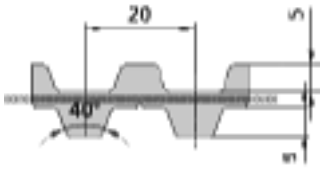
Belt width	b	[mm]	16	25	32	50	75	100	150
Tension cord strength (V)	F_{Tadm}	[N]	700	1100	1400	2200	3300	4400	6600
Belt weight	T 10	[kg/m]	0,073	0,114	0,145	0,227	0,341	0,454	0,681
Belt weight	T 10-DL	[kg/m]	0,094	0,147	0,188	0,293	0,440	0,586	-
Belt weight	T 10-T	[kg/m]	0,109	0,171	0,218	0,341	0,512	0,682	-

Preferred belt width b [mm] 25 32 50 75 100 150
(DL) 25 32 50 75 100 -
In-between widths upon request

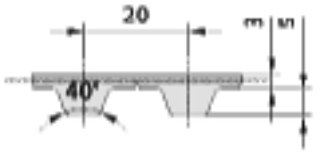
Endless joined, minimum length T20: 1000 mm
Endless joined, minimum length T20-DL: 1200 mm

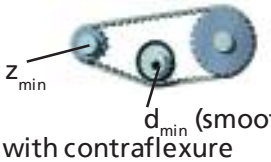
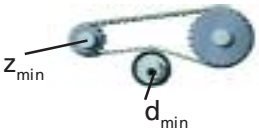
BRECO® TIMING BELTS

T 20-DL



T 20



Drive type		T20	T20-DL	T20-T
without contraflexure	z_{min}:	15	25	15
	d_{min}:	120	150	120
with contraflexure	z_{min}:	25	25	25
	d_{min}:	120	180	180

Available versions for T 20

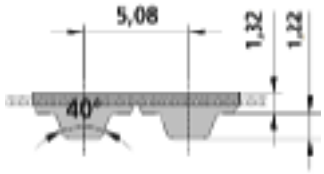
- **T 20:** Standard, single-sided
- **DL:** Standard, double-sided
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **DL-PAZ:** Nylon facing on double-sided belts, coating is only possible on the inner side
- **T, T-PAZ:** Transport backing, through 2 mm thicker back of the belt

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	25	32	50	75	100	150
Tension cord strength (V)	F_{Tadm}	[N]	1750	2250	3500	5250	7000	10000
Belt weight	T 20	[kg/m]	0,184	0,245	0,368	0,552	0,736	1,095
Belt weight	T 20-DL	[kg/m]	0,247	0,316	0,493	0,739	0,986	-
Belt weight	T 20-T	[kg/m]	0,244	0,313	0,488	0,732	0,976	-

Imperial timing belts - joined

BRECO® TIMING BELTS
T 1/5“



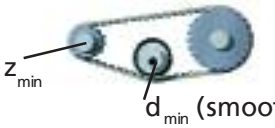
Preferred belt width b					
Imperial code	031	037	050	075	100
b [mm]	7,94	9,53	12,7	19,1	25,4

In-between widths upon request

Endless joined minimum length: 880 mm

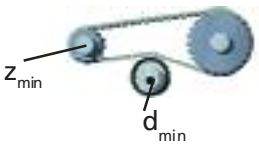
Drive type T1/5“

without contraflexure z_{min}: 25



d_{min}: 60

with contraflexure z_{min}: 25



d_{min}: 60

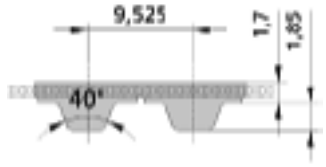
Available versions for T 1/5"

- **T1/5“:** Standard, single-sided
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	7,94	9,53	12,7	19,1	25,4
Tension cord strength (V)	F_{Tadm}	[N]	120	165	195	330	420
Belt weight	T1/5“	[kg/m]	0,019	0,023	0,03	0,046	0,061

BRECO® TIMING BELTS
T 3/8“



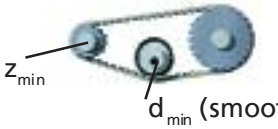
Preferred belt width b						
Imperial code	037	050	075	100	150	200
b [mm]	9,53	12,7	19,1	25,4	38,1	50,8

In-between widths upon request

Endless joined minimum length: 880 mm

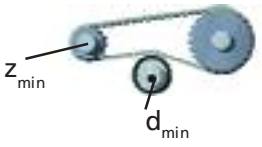
Drive type T3/8“

without contraflexure z_{min}: 20



d_{min}: 60

with contraflexure z_{min}: 25



d_{min}: 80

Available versions for T 3/8"

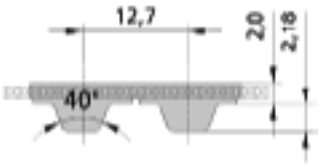
- **T3/8“:** Standard, single-sided
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	9,53	12,7	19,1	25,4	38,1	50,8
Tension cord strength (V)	F_{Tadm}	[N]	315	420	630	840	1260	1750
Belt weight	T3/8"	[kg/m]	0,033	0,044	0,066	0,088	0,133	0,178

BRECO® TIMING BELTS

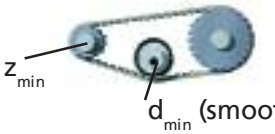
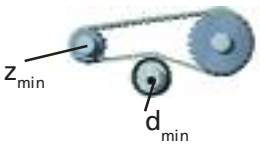
T 1/2“



Preferred belt width b
Imperial

code	050	075	100	150	200	300	400	600
b [mm]	12,7	19,1	25,4	38,1	50,8	76,2	101,6	152,4

In-between widths upon request
Endless joined minimum length: 880 mm
Minimum length for 152.4 width: 1000 mm

Drive type		T1/2“	T1/2“-T
without contraflexure	z_{min}:	14	20
	d_{min}:	60	80
with contraflexure	z_{min}:	20	20
	d_{min}:	80	80

Available versions for T 1/2"

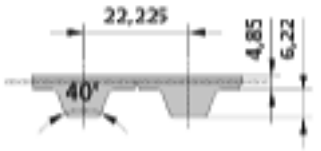
- **T1/2“:** Standard, single-sided
- **PAZ:** Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides
- **T, T-PAZ:** Transport backing, through 2 mm thicker back of the belt

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	12,7	19,1	25,4	38,1	50,8	76,2	101,6	152,4
Tension cord strength (V)	F_{Tadm}	[N]	500	800	1100	1600	2200	3300	4400	6600
Belt weight	T1/2“	[kg/m]	0,053	0,081	0,108	0,161	0,216	0,324	0,432	0,648
Belt weight	T1/2"-T	[kg/m]	0,084	0,127	0,169	0,253	0,338	0,507	0,676	-

BRECO® TIMING BELTS

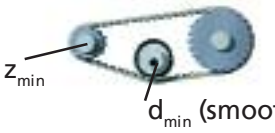
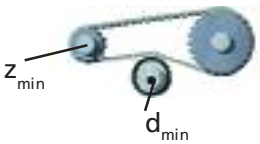
T 7/8“



Preferred belt width b

Imperial code	200	300	400
b [mm]	50,8	76,2	101,6

In-between widths upon request
Endless joined minimum length: 880 mm

Drive type		T 7/8“
without contraflexure	z_{min}:	18
	d_{min}:	150
with contraflexure	z_{min}:	25
	d_{min}:	180

Available versions for T 7/8"

- **T7/8“:** Standard, single-sided
- **PAZ**: Nylon tooth facing
- **PAR:** Nylon facing on the back of the belt
- **PAZ-PAR:** Nylon facing on both sides

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	50,8	76,2	101,6
Tension cord strength (V)	F_{Tadm}	[N]	3500	5250	7000
Belt weight	T7/8"	[kg/m]	0,53	0,795	1,059

The ATN timing belt

ATN

ATN with V-groove

The newest innovation of BRECO is the ATN. The ATN timing belt is especially designed for the application in the transport technology. The flight fastening system in the belt tooth permits fast fitting and replacement of the flights individually manufactured for the conveying application concerned.

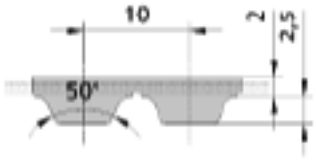
This flexibility provides a great variety of application possibilities, not to be realised up to now, compared to other flight fastening systems, as e.g. welding. If required, it is possible to convey different items in one transport system using the same timing belt, but equipped with different flights.

Convincing advantages

- the belt is part of a modular design containing the ATN timing belt, fastening elements and flights/profiles
- variable profile pitch with a high accuracy
- The application of various profile materials is possible (plastics, metal, ceramics, ...)
- high shearing forces
- fast and easy profile changing when the products to be transported are changing or because of wear and tear
- no belt deinstallation for profile changes
- Alternatively for the chain with all advantages of a timing belt
- Self-alignment of the profile during the mounting
- Application of standard pulleys
- high optical quality
- various fastening possibilities
- Cost effective for the user:
  - Standard belt with a high availability and variability
  - short machine stand still times for profile changes
  - low test costs because of changeability of the profiles (prototypes)
  - low spare parts and mounting costs

BRECO® TIMING BELTS

ATN 10



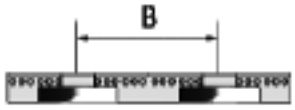
Preferred belt width b [mm] 25 50 75 100
Number of shapes per tooth 1 2 3 4
Space B [mm]: 25
Endless joined, minimum length: 880 mm

Drive type ATN 10

without contraflexure z_{min}: 25

d_{min}: 80

d_{min} (smooth)



Available versions ATN 10

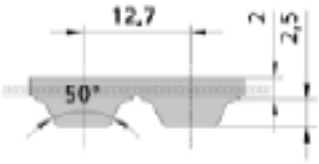
- **ATN 10:** Standard
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	25	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	1000	2000	3000	4000
Belt weight*	ATN 10	[kg/m]	0,120	0,240	0,360	0,480

BRECO® TIMING BELTS

ATN 12.7



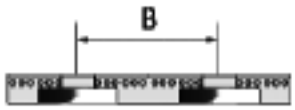
Preferred belt width b [mm] 25 50 75 100
Number of shapes per tooth 1 2 3 4
Space B [mm]: 25
Endless joined, minimum length: 880 mm

Drive type ATN 12.7

without contraflexure z_{min}: 20

d_{min}: 80

d_{min} (smooth)



Available versions ATN 12.7

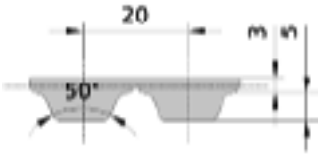
- **ATN 12.7:** Standard
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	25	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	1000	2000	3000	4000
Belt weight*	ATN 12.7	[kg/m]	0,120	0,240	0,360	0,480

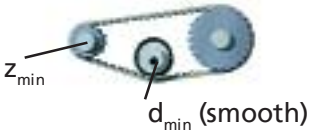
* Belt weight without inset parts, screws and profiles

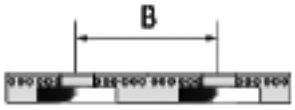
BRECO® TIMING BELTS
ATN 20



Preferred belt width b [mm]			50	75	100
Number of shapes per tooth			2	3	4
Space B [mm]:	25				
Endless joined, minimum length:		1000mm			

Drive type		ATN 20
without contraflexure	z_{min}:	20
	d_{min}:	125





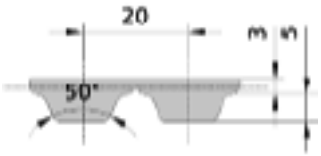
Available versions ATN 20

- **ATN 20:** Standard
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Tension cord strength
admissible tensile force of the belt cross section

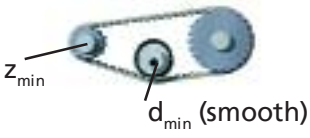
Belt width	b	[mm]	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	2700	4000	5400
Belt weight*	ATN 20	[kg/m]	0,403	0,604	0,806

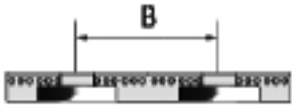
BRECO® TIMING BELTS
ATNS 20



Preferred belt width b [mm]			50	75
Number of shapes per tooth			2	2
Space B [mm]:	32			
Endless joined, minimum length:		1000 mm		

Drive type		ATNS 20
without contraflexure	z_{min}:	25
	d_{min}:	160





Available versions ATNS 20

- **ATNS 20:** Standard with reinforced tension member
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Tension cord strength
admissible tensile force of the belt cross section

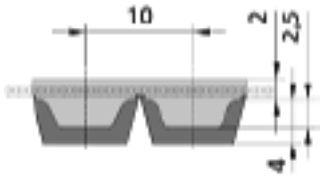
Belt width	b	[mm]	50	75
Tension cord strength (V)	F_{Tadm}	[N]	2700	4000
Belt weight*	ATNS 20	[kg/m]	0,433	0,717

* Belt weight without inset parts, screws and profiles

ATN system (ATN with V-groove)

BRECO® TIMING BELTS

ATN 10 K6

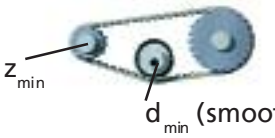


Preferred belt width b [mm]	50	75	100
Endless joined, minimum length:	1000 mm		

Available versions ATN 10K6

- **ATN10K6:** Standard
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Drive type		ATN 10 K6
without contraflexure	z_{min}:	25
	d_{min}:	80

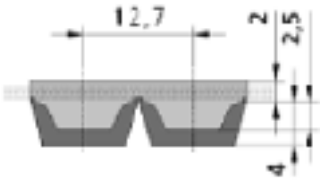


Tension cord strength
admissible tensile force of the belt cross section

Belt width	b	[mm]	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	2000	3000	4000
Belt weight	ATN10K6	[kg/m]	0,245	0,367	0,490

BRECO® TIMING BELTS

ATN 12.7 K6

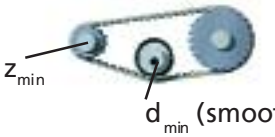


Preferred belt width b [mm]	50	75	100
Endless joined, minimum length:	1000 mm		

Available versions ATN 12.7K6

- **ATN12.7K6:** Standard
- **PAZ:** Nylon tooth facing (white)
- **PAR:** Nylon facing on the back of the belt (green)
- **PAZ-PAR:** Nylon facing on both sides (white-green)
- **TPU-FDA:** Special material for contact with foodstuff
- **TPU-KF1:** Special material for the application in the extremly low temperature range

Drive type		ATN 12.7 K6
without contraflexure	z_{min}:	20
	d_{min}:	80



Tension cord strength
admissible tensile force of the belt cross section

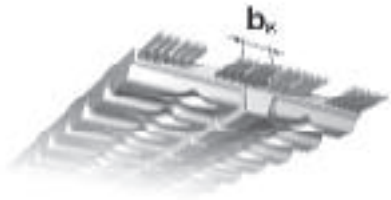
Belt width	b	[mm]	50	75	100
Tension cord strength (V)	F_{Tadm}	[N]	2000	3000	4000
Belt weight*	ATN12.7K6	[kg/m]	0,226	0,340	0,453

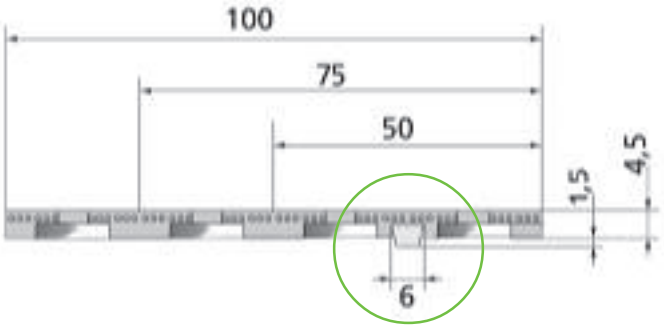
* Belt weight without inset parts, screws and profiles

ATN system (ATN with V-groove)

Information

In the ATN10K6 and ATN12.7K6 the location of the V-groove is only symmetrical in the 50 mm wide belt from the technical feasibility point of view. In the 75 and 100 mm wide belts it is located between the 1st and 2nd forming for the inset parts (figure below). Therefore, the location of the V-groove is to be considered when mounting the pulley and the flights.





Profile fastening (inset parts)

Three different standard materials are available for the connecting elements

Plastic profile fastening

Material: nylon
Application field: small to medium-sized loads, normal temperature

Screw-on types: EJOT Delta PT® screw made of tempering steel according to EJOT® WN 5461 part 2, with tallow-drop and cross ressesion Z according to EJOT® WN 5411

Belt type
ATN 10, ATN 12.7:
- Z40x8
- Z40x12
- Z40x16

ATN 20:
- Z50x12
- Z50x16
- Z50x20

Note: For a high reliability of the screwed connection, we recommend the exclusive application of original EJOT Delta PT® screws according to the above mentioned specification.
This screw types were especially designed for thermoplastic components and provide the required safety and reliability during mounting and use both under static and dynamic load. All screws have a head with Z cross ressesion in size 2. These screws are available from your Mulco partner ex stock.

Attention: The Delta PT® is not equipped with a metrical ISO coarse-pitch thread according to DIN 13, thus, they are only suitable for plastic inset parts.

V2A profile fastening

Material: V2A
Application field: small to medium-sized loads, foodstuff

Screw type: V2A screw according to DIN 7500 shape C
C = tallow-drop according to DIN 7985

Belt type
ATN 10, ATN 12.7:
- M4x12

ATN 20:
- M5x16

Brass profile fastening

Material: MS 58 F 36
Application field: small to medium-sized loads, extremely low temperature

Screw type: Cylinder Allen screw with pressed head according to DIN 7984 and V2A screw, round head according to DIN 7500 shape C.

Belt type

ATN 10, ATN 12.7:
- M4x8
- M4x12
- M4x16

ATN 20:
- M5x12
- M5x16
- M5x20

Note: These screws are exclusively designed for the application in brass inset parts.

ATN timing belt lock

The timing belt lock especially developed for the ATN is a detachable connection and is used where the ATN timing belt can, for constructional reasons, only be connected endless once it is fitted into the transport line.

Connection elements made of high tensile nylon and plates made of spring band steel guarantee a reliable connection of the belt ends.

Further informations, e.g. about various lock versions, are available from your Mulco partner.

Timing belt lock for ATN 10, ATN 12.7, ATN 20 and ATN 10K6, ATN 12.7K6

Material of connecting elements:		high tensile black nylon
Material of the connecting plates:		Spring band steel, hardened and polished
Plate height on the back of the belt:		0,9 mm
Connecting screws	ATN 10, ATN 12.7:	Countersunk head screws M 2.5
	ATN 20:	Countersunk head screws M 3
Minimum number of teeth of the pulley for	ATN 10:	$z_{min} = 25$
	ATN 10 K6:	$z_{min} = 25$
Minimum number of teeth of the pulley for	ATN 12.7:	$z_{min} = 20$
	ATN 12.7 K6:	$z_{min} = 20$
Minimum number of teeth of the pulley for	ATN 20:	$z_{min} = 20$

Available belt widths and admissible tensile forces [N] in the connection

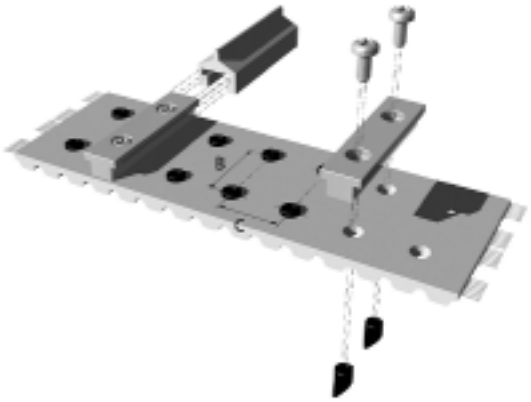
belt width:	25	50	75	100
Tensile forces [N] ATN 10, ATN 12.7:	-	750	1150	1500
Tensile forces [N] ATN 20:	-	1000	1500	2000

For further information about the ATN system, please request for our special brochure.

Order example:

BRECO®-TIMING BELT 50 ATN12.7 / 9525 V 2 - 25 - 12.7

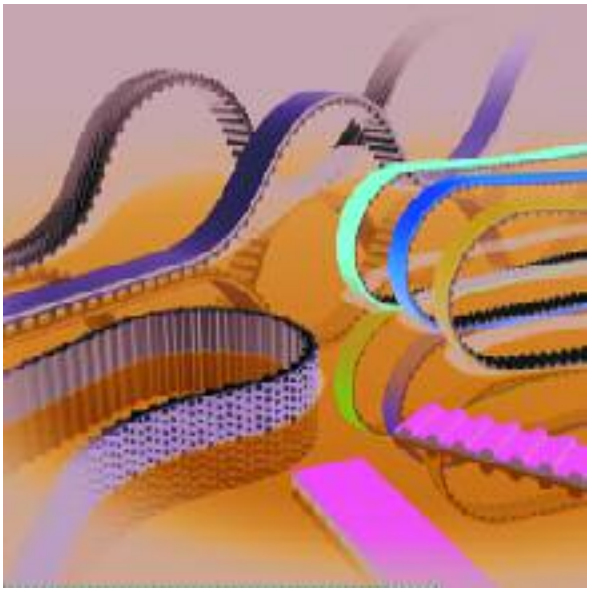
- 50 — Belt width in mm
- ATN12.7 — Type / Pitch
- 9525 — Belt length in mm
- V — Welded
- 2 — Number of indentations/tooth
- 25 — Spacing B
- 12.7 — Spacing C



Order example:

BRECO®-TIMING BELT 75 ATN10 K6 / 10000 V 3 - 25 - 10 PAR

- 75 — Belt width in mm
- ATN10 K6 — Type / Pitch
- 10000 — Belt length in mm
- V — Welded
- 3 — Number of indentations/tooth
- 25 — Spacing B
- 10 — Spacing C
- PAR — Nylon facing on the belt back



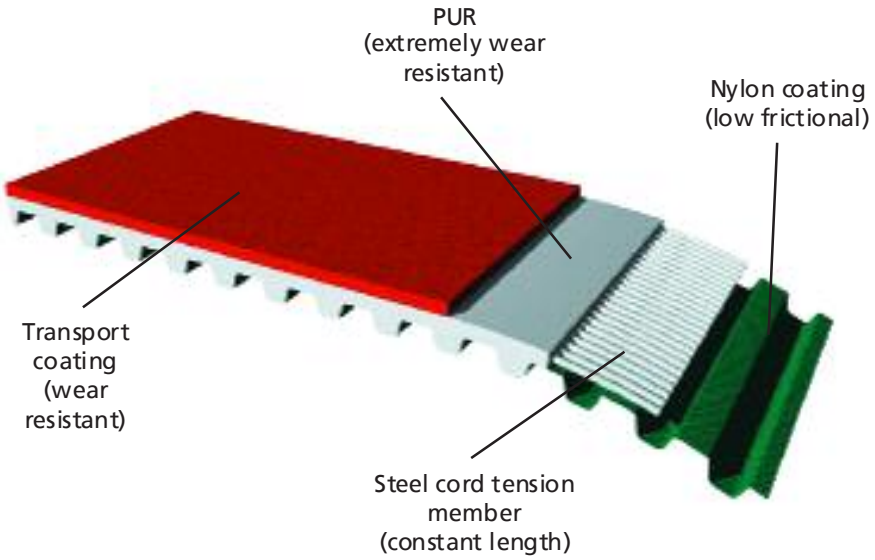
Coated timing belts

BRECO®, BRECOFLEX® and SYNCHROFLEX® TIMING BELTS consist of wear resistant polyurethane (PUR) and high tensile steel cord tension members. The coating of the timing belts with various materials provides a variety of application possibilities in the transport technology.

The selection of the correct coating depends on the transport item properties and the required grip. High friction for a good carrying effect, low friction to reduce the power transmission performance, soft for sensitive items or hard for sharp-edged items are the determining factors.

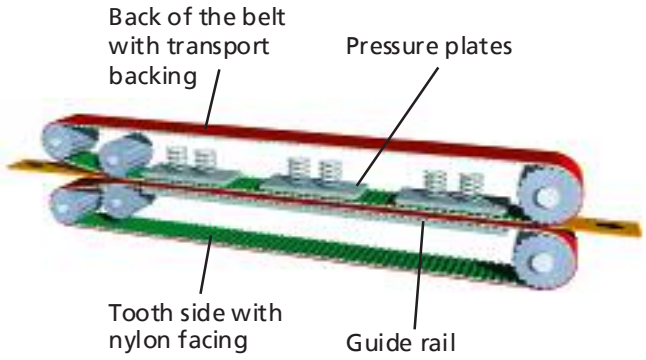
Every material involved assumes its task according to its specific property.

To meet specific transport applications, the tooth side and/or the transport side can be mechanically reworked. In this manner, the flexibility of the entire belt can be restored by making incisions in thick coatings.



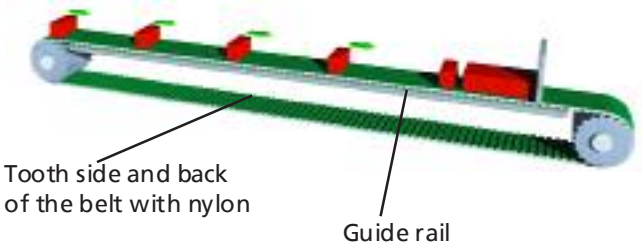
Application example, discharging belt

Coated BRECO® and/or BRECOFLEX® TIMING BELTS providing an extreme wear resistance and a high friction are applied for the discharging belt with high friction. The tooth side is coated with nylon. Thus, only low friction occurs with guide rails.



Application example, accumulation conveyor

BRECO® and/or BRECOFLEX® TIMING BELTS must be equipped with coatings on the back of belt providing a low frictional value. In this case also the coating with nylon on the tooth side has a low friction effect with guide rails.



Coated polyurethane timing belts

Resistance

Depending on the application the resistance of each material part of the coated timing belt is to be viewed separately. The material resistance depends, among others, on the pH value, the concentration, the temperature and the influencing time of the medium. Simple oils generally have no damaging effect on the belt. Additives in the oil and temperatures over approx. 40°C can reduce the longevity.

Friction

The friction of the belt on a support produces heat. This increases the more the belt is loaded by the items to be transported. The bed support must be selected such that the friction value of the transport belt in contact with the material of the bed plate results in a minimum value. The bed plate should guarantee good heat dissipation under high pressure forces.

The friction value changes temperature dependent. It increases as the temperature rises and reduces at temperatures below zero (frost).

Information

You should ask for advice for coatings over 75 mm wide and approx. 2 mm thick because of the different processing properties.

Drives with contraflexure

Generally, coated timing belts are suitable for drives with contraflexure. Very smooth coatings (e.g. Sylomer) must be adjusted with reduced pre-tension.

Temperature influence

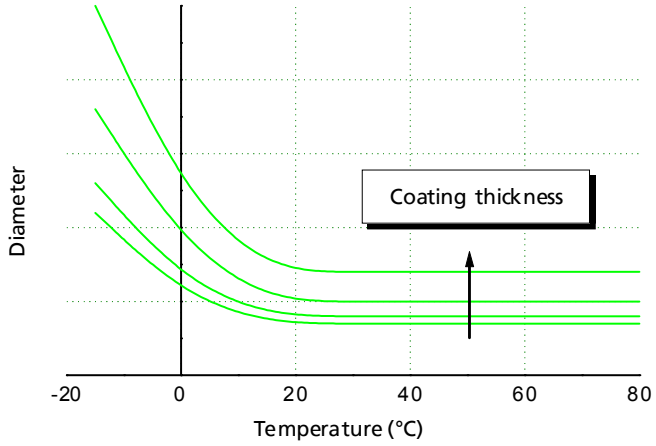
If hot items (above approx. 80°C) are transported, ensure that the contact time is as short as possible to avoid heating of the belt substructure to over 80°C. A coated belt can resist a thermally higher load over short distances or a short period, prerequisite that being sufficient cooling for the remaining circulation.

The tooth shear strength is slightly reduced in a temperature range of over approx. 60°C. An additional security is only required with strong tooth load.

The flexibility of the coating is reduced with low ambient temperatures. To this effect, select higher synchronising pulley diameters compared to normal temperatures (see diagram). The flexibility of the timing belt is also reduced with low temperatures. Your Mulco partner offers the corresponding advice.

The stated minimum diameters are standard values. They are valid with the ambient temperature of 20°C and a speed of 1m/s. A low load of the goods to be transported is presumed. Reducing the diameters is possible with precise knowledge of the application. Relevant advice can be obtained from your Mulco partner.

Synchronising pulley diameter depending on the temperature



Mechanical rework

Coated BRECO® and BRECOFLEX® TIMING BELTS can be mechanical reworked depending on the coating properties for special function features.

Transport belts with thick coatings have a lower flexibility. Therefore, larger synchronising pulley diameters are required for application. The flexibility is increased by cross grooving or incisions of the coating. Milled grooves are, in as much as they are possible from the technical feasibility point of view, used to improve safe loading and secure positioning of the products.

Perforated BRECO® TIMING BELTS are applied in the vacuum transport technology. Also available for this purpose are BRECOFLEX® TIMING BELTS. The BRECO® TIMING BELTS are preferably manufactured with areas without tension members. The teeth are cut in longitudinal direction in relation to the hole size.

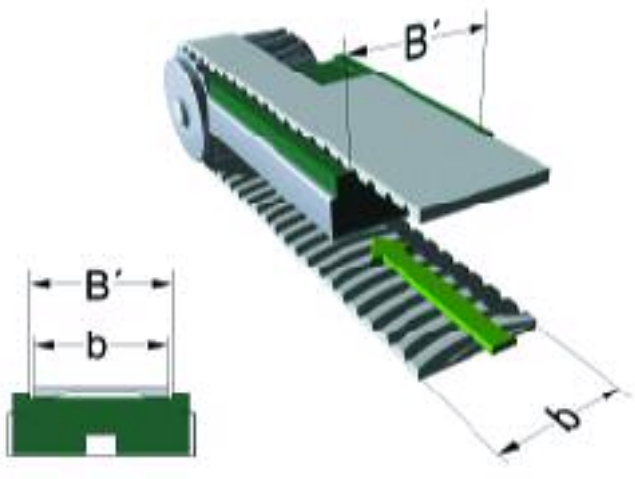
During mechanical processing, take the larger dimensional tolerances into account occuring as a result of the material elasticities.

Examples of mechanical rework

Sylomer (blue)
Groove milled

Linatex
cross milled

PU - yellow
Square milled
with bore holes



Timing belt guide on bed plates

Especially in the field of transport technology guide rails are often applied. The timing belt must be centred in the lateral guide of these guide rails to eliminate abrasion. **To achieve this, it is important to respectively adjust the guide rails.**

For the widhts B' and b the following informations are valid:

B' A minimum backlash of 0.5 mm should exist between the largest measure b and the smallest measure B'.

b The tolerance of the belt width can be reduced depending on the required accuracy.

MULCO
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Version T
(extruded)

Material designation:	polyurethane
Colour:	transparent
Hardness:	85 Shore A
Available thickness:	1.5 mm (T 5), 2 mm (T 10, T20, AT 10, AT 20, imperial profile)
Minimum diameter:	80 mm
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	high wear resistance,
Application fields:	Transport of mechanically aggressive parts, glas industry, woodworking and sheet fabricating industry, general transport tasks

NP 385

Material designation:	polyurethane
Colour:	transparent
Hardness:	85 Shore A
Available thickness:	4 mm
Minimum diameter:	120 mm
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	noppen tip contact with the product to be transported
Application fields:	Transport with oil influence, sheet transport, elevator, brick making, glas industry

FG 385

Material designation:	polyurethane
Colour:	transparent
Hardness:	85 Shore A
Available thickness:	4 mm
Minimum diameter:	120 mm
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	linear contact of the product to be transported
Application fields:	Transport with oil influence, sheet transport, elevator, brick making, glas industry

PUR 385

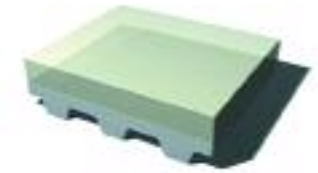
Material designation:	polyurethane
Colour:	transparent
Hardness:	85 Shore A
Available thickness:	3 4 5 6 mm
Minimum diameter:	80 120 150 180 mm
Temperature resistance:	-20°C to +50°C
Resistances:	Resistant to petrol, ozone, simple fats and oils
Properties:	high resistance to wear, high coefficient of friction
Application fields:	Transport of parts showing a coarse surface or burrs, woodworking and sheet fabricating industry, glas industry, Cardboard transport

HV1 film

Material designation:	polyurethane
Colour:	transparent, shining
Hardness:	88 Shore A
Available thickness:	1 mm
Minimum diameter:	60 mm
Melting range:	approx. 166°C
Resistances:	resistant to some cleaning agents
Properties:	good wear resistance, adhesive
Application fields:	Foodstuff industry, glas and woodworking industry, sheet fabricating industry, cardboard transport

Polythane D15

Material designation:	polyurethane
Colour:	transparent/yellowish
Hardness:	70 Shore A
Available thickness:	2 3 to 6 mm
Minimum diameter:	60 80 mm
Temperature resistance:	80°C
Resistances:	resistant against simple oils and fats
Properties:	wear resistant
Application fields:	general transport tasks, woodworking and glas industry, sheet fabricating industry



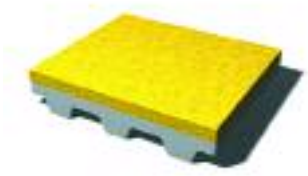
Compound coating

Material designation:	e.g. PUR/silicone
Colour:	white
Hardness:	60 / 50 Shore A
Available thickness:	2.4 mm
Minimum diameter:	60 mm
Temperature resistance:	in accordance with the materials used, Silicone: short-term 180°C
Resistances:	in accordance with the materials used
Properties:	non-stick
Application fields:	light weight transport tasks, air filter transport, textile and wood industry

PVC white

Material designation:	PVC
Colour:	white
Hardness:	approx. 40 Shore A
Available thickness:	2 mm (more thicknesses on request)
Minimum diameter:	60 mm
Temperature resistance:	-15C° to +90°C
Resistances:	top covering layer is resistant against acid, salts and bases
Properties:	FDA approval for contact with foodstuff
Application fields:	Foodstuff industry, film processing, pharmaceutic and packaging industry

PU yellow



Material designation:	polyurethane
Colour:	yellow
Hardness:	approx. 55 ± 7 Shore A
Available thickness:	2 3 4 5 6 8 10 mm
Minimum diameter:	60 60 80 100 100 100 120 mm
Temperature resistance:	-10°C to +60°C
Resistances:	resistant against simple oils and fats
Properties:	good wear resistance, very good to rework
Application fields:	Vacuum transport belts subject to high loads, paper industry, textile industry, glas and wood industry

Porol

Material designation:	cellular rubber
Colour:	black
Density, hardness:	190 g/dm³, approx. 15 Shore A
Available thickness:	3 5 10 mm
Minimum diameter:	40 60 80 mm
Temperature resistance:	-40°C to +70°C
Resistances:	Resistance to some simple fats and oils
Properties:	smooth foam quality, high coefficient of friction
Application fields:	transport of sensitive parts, paper industry, textile industry, cardboard transport

Celloflex

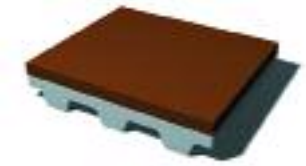
Material designation:	microcellular elastomeric polyurethane
Colour:	yellow-brown
Density:	350 g/dm³
Available thickness:	1 2 3 4 5 mm
Minimum diameter:	40 40 60 60 80 mm
Temperature resistance:	-30°C to +80°C
Resistances:	Resistance to some simple fats and oils
Properties:	highly flexible, high damping ratio
Application fields:	Transport of sensitive items, film and packaging industry, textile transport

Linatex

Material designation:	natural rubber
Colour:	red
Hardness:	approx. 40 Shore A
Available thickness:	1.5 2.4 3 5 6.4 8 10 12 20 mm
Minimum diameter:	25 30 40 40 40 40 60 80 80 mm
Temperature resistance:	-40°C to +70°C
Resistances:	resistant to some oils and abrasion when wet
Properties:	wear resistant to a limited extent, high coefficient of friction, high resistance to rupture, is still flexible with lowtemperatures, please request for advice for coating thicknesses over 2.4 mm
Application fields:	Transport or haul-off belts subject to high friction, Wood, paper, textile industry, transport with a high acceleration

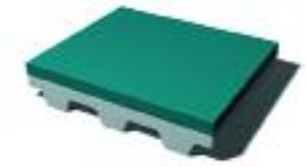
Sylomer

Material designation:	Elastomeric PUR			
Colour:	Blue (R)	Green (L)	Brown (M)	
Density:	220	300	400	g/dm³
Available thickness:	3-25	3-25	3-25	mm
Minimum diameter:	80 - 120	80 - 120	80 - 120	mm
Temperature resistance:	-30°C to +70°C			
Resistances:	resistance to some oils and fats			
Properties:	good wear resistance, not suitable for sharp-edged items			
Application fields:	Transport of light weight parts, paper and textile industry, haul-off belts, pressure belts			



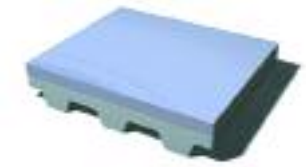
PVC blue

Material designation:	PVC
Colour:	blue
Hardness:	approx. 40 Shore A
Available thickness:	1 mm
Minimum diameter:	30 mm
Temperature resistance:	-15°C to +90°C
Resistances:	top covering layer is resistant against acid, salts and bases
Properties:	high coefficient of friction
Application fields:	Paper, film, wood and sheet transport, pharmaceutic and packaging industry, application in card reading units



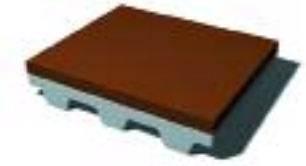
Chrome-leather

Material designation:	leather
Colour:	grey-blue
Hardness:	-
Available thickness:	2 3 mm
Minimum diameter:	80 100 mm
Temperature resistance:	60°C
Resistances:	resistant against simple oils and fats
Properties:	good friction even with oiled surfaces of items to be transported, good wear resistance behaviour
Application fields:	Transport of fatty or oily parts, sheet and tube industry, transport of sensitive products, caterpillar pull-offs in the cable industry, transport of lacquered parts



Correx

Material designation:	Para rubber
Colour:	brown
Hardness:	approx. 35 to 40 shore A
Available thickness:	6 10 mm
Minimum diameter:	80 120 mm
Temperature resistance:	up to approx. 70°C
Resistances:	resistant to some oils and fats
Properties:	wear resistant quality, good carrying behaviour
Application fields:	general transport tasks, sheet and tube transport, cardboard transport



PVC herringbone

Material designation:	PVC
Colour:	white
Hardness:	approx. 40 Shore A
Available thickness:	3 mm
Minimum diameter:	60 mm
Temperature resistance:	-10°C to +110°C
Resistances:	resistant to some oils and fats
Properties:	FDA approval for contact with foodstuff
Application fields:	Foodstuff industry, elevators, transport of glas in wet areas

Viton

Material designation:	FKM mix
Colour:	black
Hardness:	75 ± 5 Shore A
Available thickness:	2 4 mm
Minimum diameter:	80 100 mm
Temperature resistance:	-10°C to +275°C
Resistances:	high heat resistance, resistant against simple oils and fats, petrol, acids, lyes, ozone
Application fields:	short-term transport of parts with high residual heat, belts with glue and adhesive contact, metal part and glas transport

Linatrile

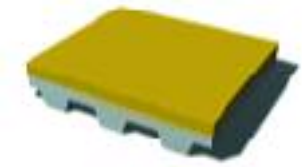
Material designation:	Vulcanized material based on nitrile
Colour:	orange
Hardness:	55 Shore A
Available thickness:	3-6 mm (more thicknesses on request, max. 25 mm)
Minimum diameter:	depending on the selected thickness, the thicker the coating the larger the diameter must be selected
Temperature resistance:	-20°C to +110°C
Resistances:	resistant against oil, fat and other chemicals
Properties:	good wear resistance, ageing stability, fatigue resisting
Application fields:	haul-off belts in the textile area, transport of waxy materials

TT 60

Material designation:	Polyester fleece
Colour:	black
Available thickness:	2 mm
Minimum diameter:	120 mm
Temperature resistance:	-10°C to +120°C
Resistances:	resistance to oils and fats
Properties:	electro-static properties
Application fields:	Glas industry as transport belt in the hot area

RP 400

Material designation:	Rubber
Colour:	yellow
Hardness:	35 Shore A
Available thickness:	2 3 4 5 6 mm (more thicknesses on request, max. 30 mm)
Minimum diameter:	30 40 40 60 60 mm
Temperature resistance:	-10°C to +80°C
Resistances:	resistant to some oils and fats
Properties:	very high resistance against wear and tear
Application fields:	Glas and steel industry, abrasive material up to a size of 40 mm



NBR

Material designation:	Nitributadien rubber
Colour:	black
Hardness:	65 ± 5 Shore A
Available thickness:	1,5 3 mm
Minimum diameter:	60 80 mm
Temperature resistance:	-20°C to +70°C
Resistances:	well resistant against oils, resistant to a limit extent against petrol, acid and lyes
Application fields:	general transport tasks

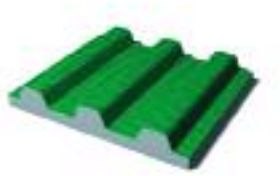
PVC Minigrip

Material designation:	PVC
Colour:	green/blue
Hardness:	approx. 65 Shore A
Available thickness:	1,5 mm
Minimum diameter:	30 mm
Temperature resistance:	-10°C to +110°C
Resistances:	resistant to some oils and fats
Properties:	high coefficient of friction
Application fields:	Transport of humid parts, good carrying behaviour due to profiled surface

Supergrip green/blue

Material designation:	PVC	
Colour:	green	blue
Hardness:	approx. 40 Shore A	approx. 40 Shore A
Available thickness:	4 mm	4 mm
Minimum diameter:	60 mm	60 mm
Temperature resistance:	-15°C to +90°C	-15°C to + 90°C
Resistances:	resistant against simple oils and fats	not resistant to oil
Properties:	high resistance to wear, high coefficient of friction	
Application fields:	well suitable for inclined conveying, transport of light weight items, elevators in the wood and paper industry	

PAZ



Material designation:	Nylon
Colour:	green
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	low coefficient of friction
Application fields:	with bed plate application

PAR

Material designation:	Nylon
Colour:	green
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	low coefficient of friction
Application fields:	light weight accumulation conveyors

PAZ-PAR

Material designation:	Nylon
Colour:	green
Temperature resistance:	-20°C to +50°C
Resistances:	resistant against simple oils and fats
Properties:	low coefficient of friction
Application fields:	Supported transport timing belts used as accumulation conveyors

Flighted timing belt

The timing belt

A high material value gives the basis for the BRECO-, BRECOFLEX-TIMING BELT. It is constructed of a wear resistant polyurethane and a high tensile steel cord tension member.
Additionally, in conjunction with a tooth side facing with polyamide the timing belt has a low coefficient of friction in the guide rail area. The BRECO TIMING BELT is available in unlimited lengths and with any number of teeth.

The flighted timing belt

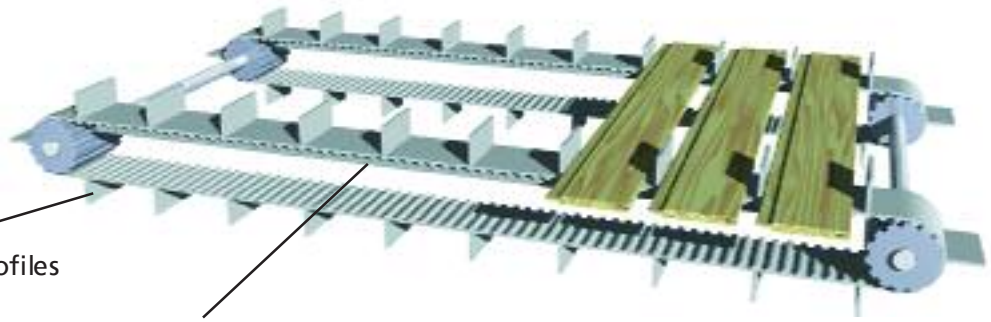
For whatever transport purpose the flighted timing belt is to be used - the back of the belt can be equipped with any number and order of welded-on flights. Adhere to the design regulations according to the „Design features".

The manufacture of timing belts, the production of flights and their welding on the flighted belt are performed in our company.

The profile

These flights are made of polyurethane, the same high quality materials as is used for the timing belt itself. The selection of the standard measures at profiles are contained in the current catalog.

Further special profiles are available. Depending on the customer's requirements and within the framework of our production means, the flight shape can be freely adapted to the product to be transported and the special purpose.



Construction features

How to proceed

At first, the basis for the selection of belt type, belt length and the depending pulleys is the surrounding construction.
All belt types of our manufacturing range can be equipped with flights/profiles.
Timing belts together with bed plates enable a reduced friction transportation.
BRECO®, BRECOFLEX® TIMING BELTS in the version PAZ are alternatively available.

Profile selection

The material to be transported and the transport purpose influence the selection of the flight. Following possibilities of flight versions are available:

Extract of more than 2000 available flight shapes

Flights are manufactured as polyurethane moulded part.

Depending on their dimensions, standard flights can be reworked by mechanical processes (drilling, milling). If necessary, explain design requirements by means of a drawing.

Profiles/Flights of sheet material

Depending on the quantity, flights will possibly be cut from pre-fabricated PUR sheets. The following board thicknesses are available:
1.5; 2; 3; 4; 5; 6; 7; 8; 10; 11; 15; 20 mm

Profiles/Flights of new tool

Within the framework of our production possibilities, there are practically no limitations for new design requirements as far as the shape of injection moulded flights are concerned. Costs for tools and moulds might apply.

Flight material

PUR approx. 92 Shore, same material as for BRECO®, BRECOFLEX® TIMING BELTS.

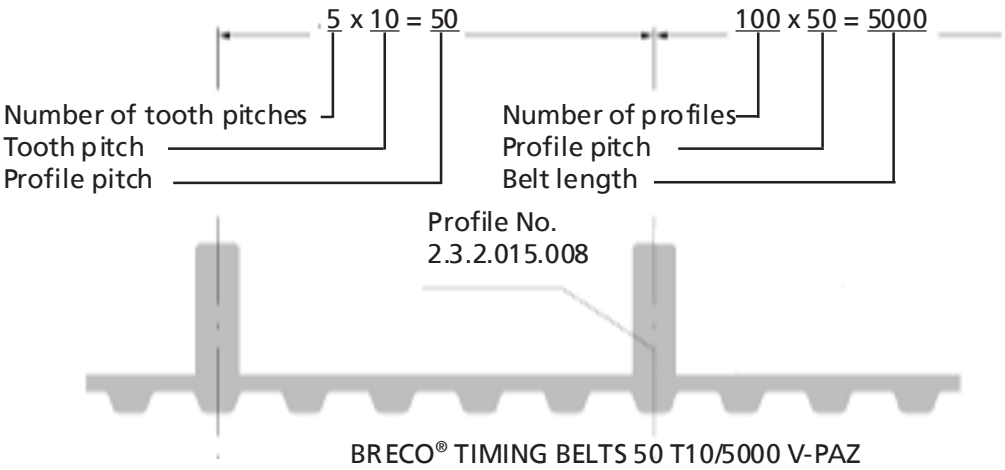
Profile position opposite tooth

The belt flexibility of timing belts is located mainly in the tooth gap area. To retain the timing belt flexibility around the pulley, the profile position „opposite the tooth“ is to be preferred.

Profile pitch
Tooth pitch

We recommend to select a flight pitch which is an integral multiple of that of the tooth. Flight pitches other than the integral multiple of the tooth pitch can be supplied, it has, however, to be noted, that a uniform offset of the flight position in relation to the tooth position will accumulate.

Ordering examples
Measurements



The equipping of the timing belt with profiles is always made as a multiple of the tooth pitch, i.e. the welded on flight position follows exactly the belt tooth pitch. For this reason, a cumulative error from profile pitch to tooth pitch will not occur.

Tolerances

The reached profile position of each individual profile is ± 0.5 mm of the intended set point position. A tolerance of - 0.5 mm is to be taken into account for the profile height.

Ordering code
ordering text

For the required flighted timing belt the order should preferably be accompanied by a dimensional drawing.
The flighted timing belt can also be defined and transmitted by the order text.
Example: BRECO® TIMING BELTS 50 T 10/5000 V-PAZ with welded-on flights, flight no. 2.3.2.015.008, number of flights 100, flight pitch 50, flight position opposite the tooth.

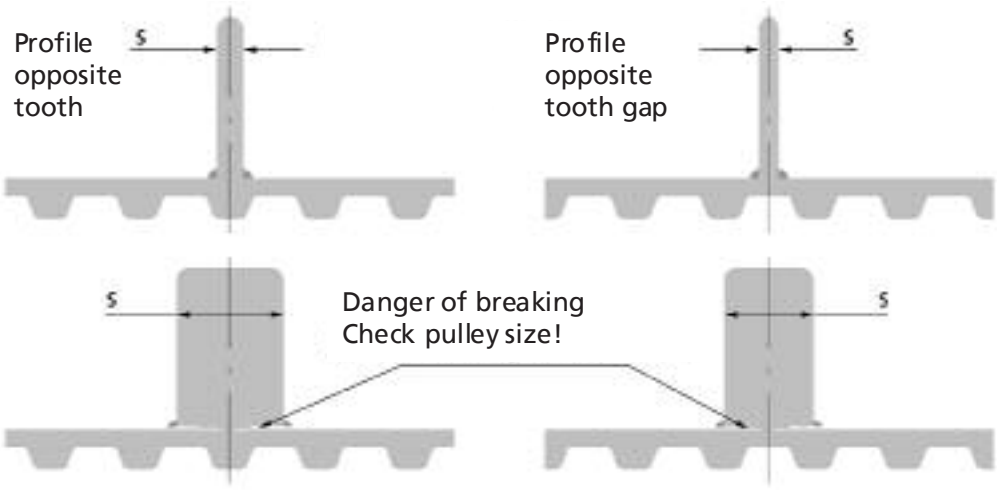
Flash

A flash builds up between flight and back of the belt. A polyurethane overhang with a 0.5 to 1 mm radius could form.

Should the flash impair the intended function, ask for „clean up flash“ in your order information.

Construction features

Profile thickness s



The timing belt flexibility can be influenced by the welded-on flight. Note as a rule that the flight thickness s is to be selected as thin as possible. The table below shows the individually recommended maximum profile thickness s in mm in relation to the selected number of pulley teeth.

Max. profile thickness s in mm

Max. profile thickness in mm when welded on position is opposite tooth
Max. profile thickness in mm when welded on position is opposite tooth gap

Number of pulley teeth

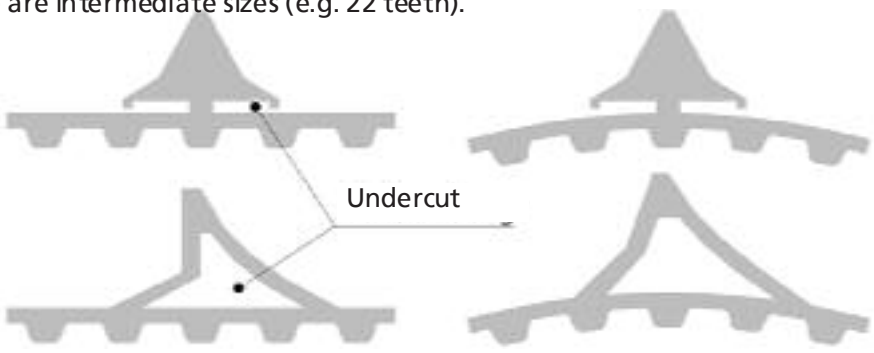
Pitch	20	25	30	40	50	60	100
T 5	5 (2)	6 (2)	6 (3)	8 (4)	9 (6)	10 (8)	12 (10)
T 10	8 (3)	9 (4)	10 (4)	12 (6)	14 (9)	15 (12)	20 (20)
T 20	12 (5)	13 (5)	15 (6)	18 (8)	20 (12)	23 (20)	30 (30)
AT 5	5 (2)	6 (2)	6 (3)	8 (4)	9 (6)	10 (8)	12 (10)
AT 10	8 (3)	9 (4)	10 (4)	12 (6)	14 (9)	15 (12)	20 (20)
AT 20	12 (5)	13 (5)	15 (6)	18 (6)	20 (12)	23 (20)	30 (30)
XL	5 (2)	6 (2)	6 (3)	8 (4)	9 (6)	10 (8)	12 (10)
L	6 (3)	7 (3)	8 (4)	10 (5)	12 (7)	13 (10)	16 (16)
H	8 (4)	9 (5)	10 (6)	12 (7)	14 (10)	15 (12)	20 (20)
XH	13 (5)	14 (5)	15 (6)	18 (8)	20 (12)	23 (20)	30 (30)

Example for the calculation of the profile thickness s for a BRECO® TIMING BELT with pitch T 10, which is running around a pulley with 20 teeth:

- When the profile position is „opposite the tooth“, profile thickness s ≤ 8 mm,
- When the profile position is „opposite the tooth gap“, profile thickness s ≤ 3 mm.

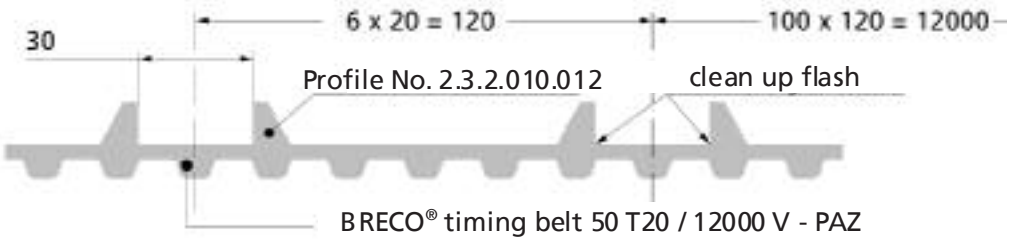
Remark: We recommend to select the next smaller size as profile thickness when there are intermediate sizes (e.g. 22 teeth).

Profiles with undercut



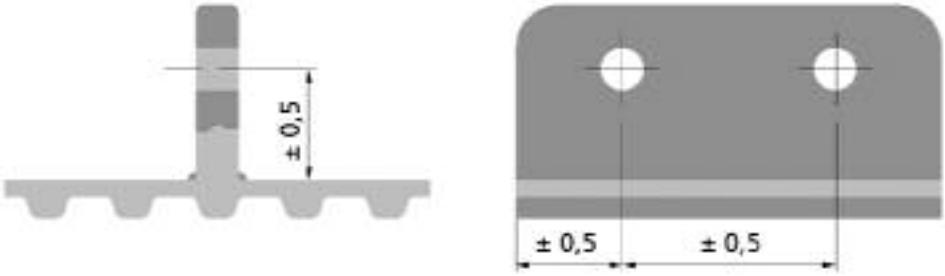
The timing belt flexibility is assured, when there are planned corresponding undercuts.

Profile pair



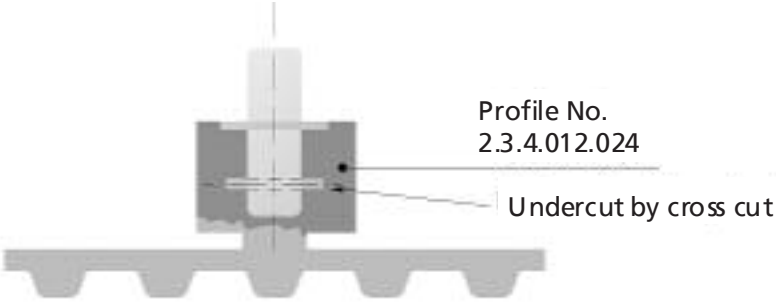
Profile pairs (flight chambers, flight pockets) are preferred in the transport technology for parts positioning and for so-called inset procedures. For the clearance between the profiles, the production tolerance amounts to ± 0.5 mm.
Indicate a tolerance reduced to ± 0.2 mm separately, while taking make-ready and/or tool costs into consideration.

Profiles with bore holes



It is possible to ask for boreholes for special profile attachments. Tolerances are to be considered.

Profiles with moulded inserts

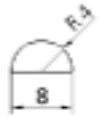


Profiles with moulded inserts can be manufactured for special functional characteristics. To shape moulded inserts (steel, aluminium or similar) please ensure the existence of appropriate undercuts.
Remark: The orderer has to make available a sufficient number of moulded-in inserts with an approx. 5 % surplus for the manufacture of samples.

Joined version

Joining is made by welding the full profile fitting surface on the back of the belt.

Flights from existing moulds (partial)



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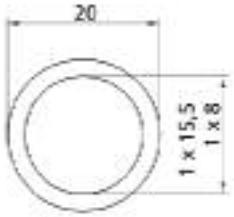
2.3.1.008.004



50 lg
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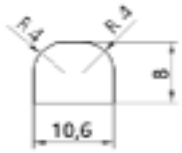

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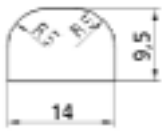
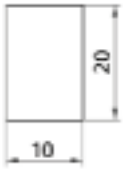


64 und 100 lg
2.3.2 .009.014



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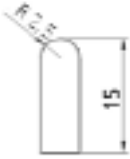

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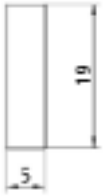
100 lg
2.3.2.020.005



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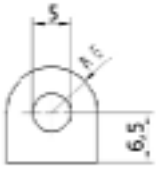
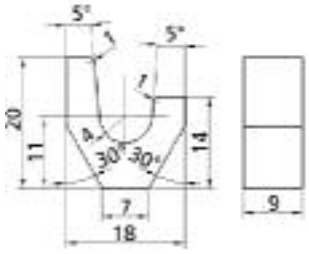


50 lg
2.3.2.012.012



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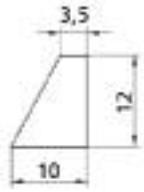
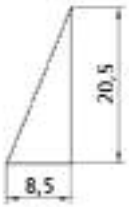


130 lg
2.3.2.010.012



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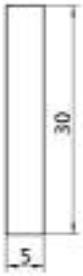

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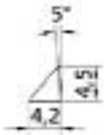

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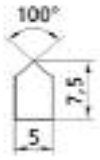

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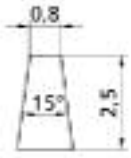

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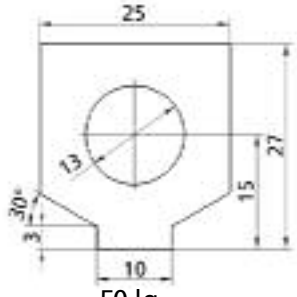

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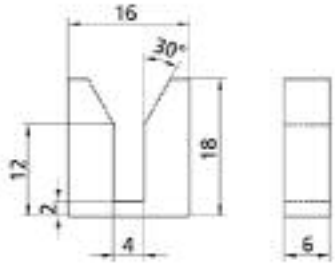
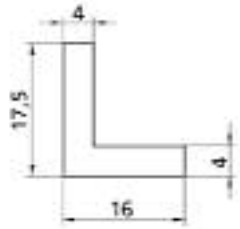
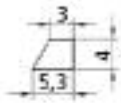


2.3.2.016.018

Flights from existing moulds (partial)



48 lg
2.3.3.017.016



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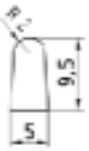

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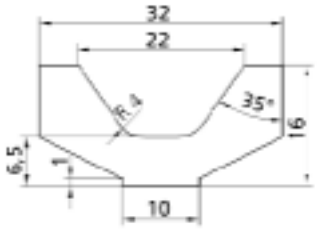

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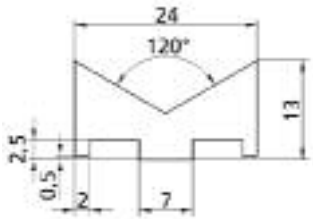

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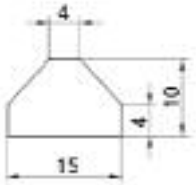

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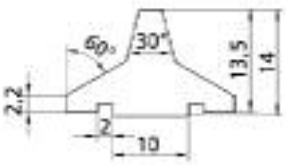

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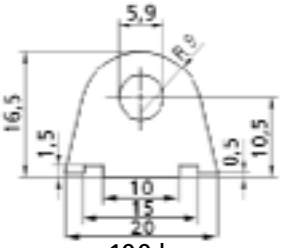

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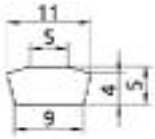

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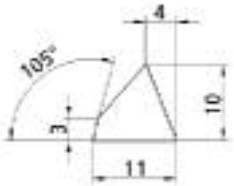

98 lg
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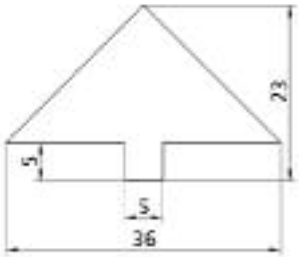

100 lg
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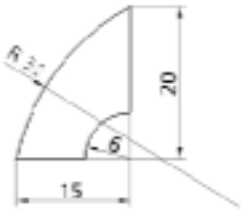

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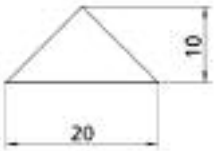
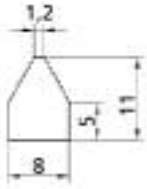


100 lg
2.3.3.020.010

70 lg
2.3.3.007.020



10 lg
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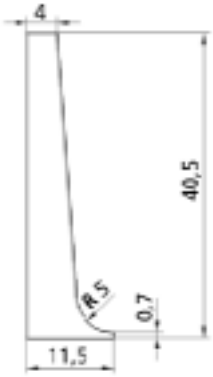
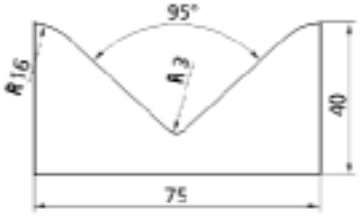


2 x 24 lg
1 x 28 lg
2.3.3.040.008



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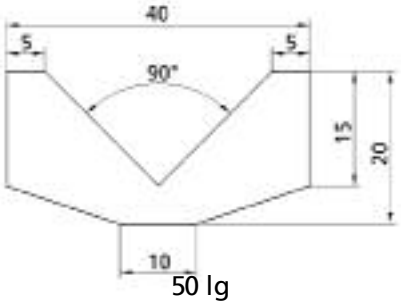
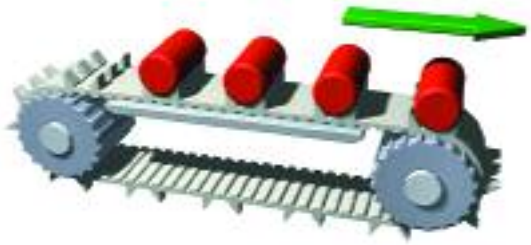


50 lg
2.3.3.020.040

SYNCHROFLEX® TIMING BELTS with cast flights/ profiles:

Special possibilities for the technical designer provide SYNCHROFLEX® TIMING BELTS with special profiles, for example with profiles or flights on the back of the belt. This type of belt is to be recommended for conveying, supply or positioning tasks.

Assembly belt



Maximum precision is achieved by the manufacture in one operating step using a timing belt mould. Customer wishes with regard to the shape of the flights and their number can be taken into consideration at the time of producing a new mould. Best flight centre distance tolerance achievable: +/- 0.05 mm.

Examples of flighted SYNCHROFLEX® TIMING BELTS from one mould:


1


2


3


4


5


6

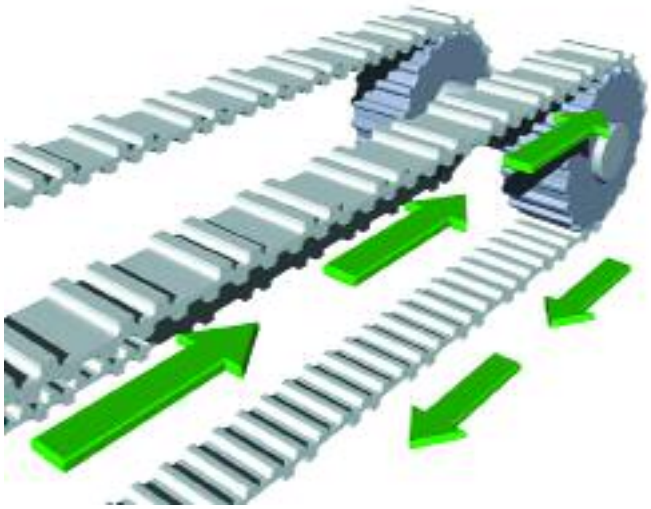

7


8

Applications:
Synchronising technology to achieve maximum precision

- EDP equipment
- Office machinery
- Fine mechanical technology
- Packaging machinery
- Indexing systems
- Synchronous conveyors
- Handling technology
- Transport technology

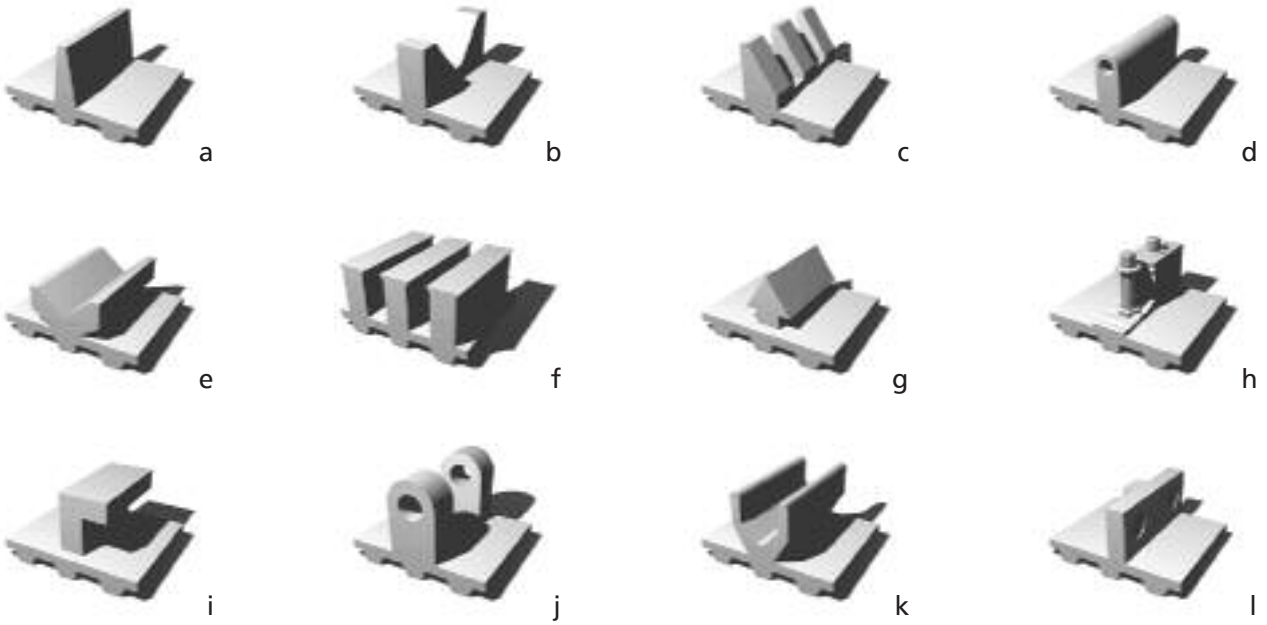
Please contact us for technical advice if you require more detailed information on special belt dimensions (existing timing belt moulds).



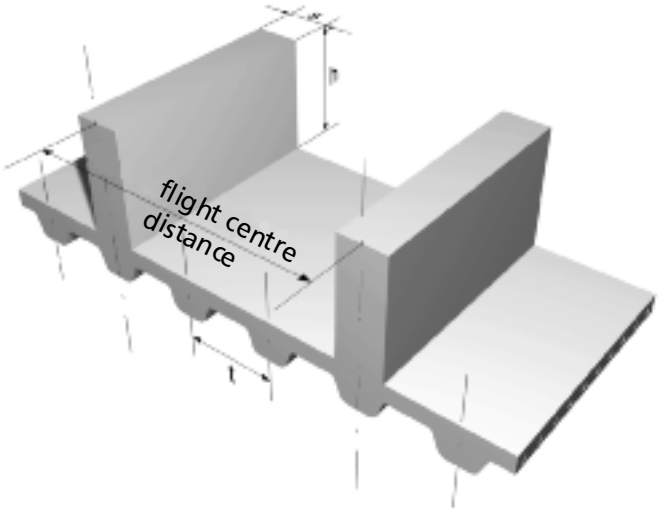
Application example

SYNCHROFLEX® TIMING BELTS with welded flights/profiles:
All SYNCHROFLEX® TIMING BELTS as from pitch T 2.5 can be retrofitted with flights. In line with the customer's drawing, the desired number of flights are thermally butt-welded to the back of the belt. The reachable weld-on tolerance of each individual flight is ± 0.5 mm. Various hundreds shapes of flights are available. Please ask for additional information. For special customer requirements new flights can be manufactured.

Examples of possible flight shapes requiring mechanical re-work:



The various shapes of flights allow an adaptation of the transport timing belt to the envisaged practical function. The flight pitch is freely selectable. The flights can be manufactured with moulded inserts. Profile attachments can be retrofitted (positioned). The welding point itself and the maximum bending stress are subject to special parameters.
Please contact us for technical advice.



Applications:
General transport technology

- Conveying/transporting
- Separation
- Positioning
- Indexing
- Supplying

Order example:

SYNCHROFLEX®-TIMING BELT 25 T 10 / 1960 - FN 49

Belt width in mm
Type / Pitch
Belt length in mm
Number of profiles

Brush timing belts

CONTITECH®
SYNCHROFLEX®

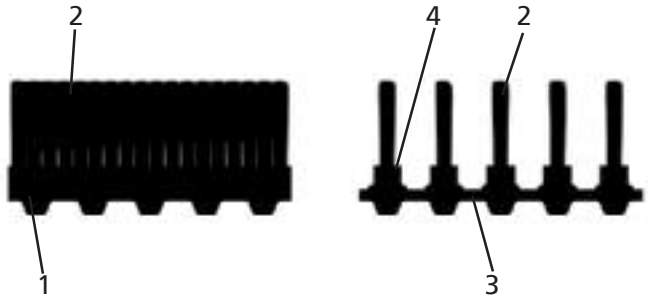
A solution for almost every application

To complement standard applications in power transmission, linear and transport technology, we offer the SYNCHROFLEX® BRUSH TIMING BELT for special applications.

Construction

The timing belt is either equipped with a stronger back with brush or - to meet the individual application - with brush flights. The thickness of the back is between 10 and 20 mm, depending on the fibre thickness and cutting length. Flight centre-distance, fibre density and type are individual matched to each application.

1. Timing belts with reinforced back
   (the necessary flexibility is achieved by notches in the back of the belt).
2. Brushes/fibres
3. Standard timing belt
4. Profile



Versatile application

Conveying:

- Transport of sensitive parts
  for example: glass, ceramics, paper
- Conveying of materials featuring delicate surfaces
- Accumulation conveying due to the extremely low coefficient of friction
- Larger contact surface resulting from the fanned fibre arrangement
- Reduced conveying noise
- Dirt and chips cannot accumulate on the contact surface
- Combination with all transport flights

Cleaning:

- Dry and wet application
- Surface treatment

Product range

Brush timing belts are available in any length offered in our product range and in the following pitches:

T 5, T 10, T 20, AT 5, AT 10, AT 20

Please contact us for more detailed information on fibre materials, data on chemical resistances and admissible temperature ranges.

Natural fibres and hair
(max. cutting length 30 mm)

Horsehair, soft

Horsehair mix, semi-hard

Calcutta bristles, semi-hard

Plant fibres
(cutting length 10 to 75 mm)

Mex. fibre, semi-hard

Arenga, hard

Coconut fibre, hard

Artificial bristles
(any cutting length)

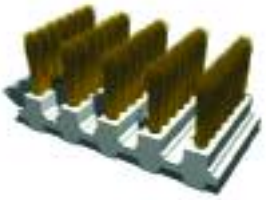
Mypren 0.20 mm dia.

Nylon 6 Ø 0.15 to 0.5mm straight or corrugated

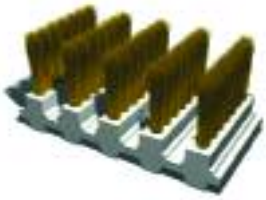
Nylon 6.6.
Ø 0.15 - 0.5 mm
straight or corrugated

Wire
(any cutting length)

Steel wire
Ø 0.15 - 0,4 mm
straight or corrugated



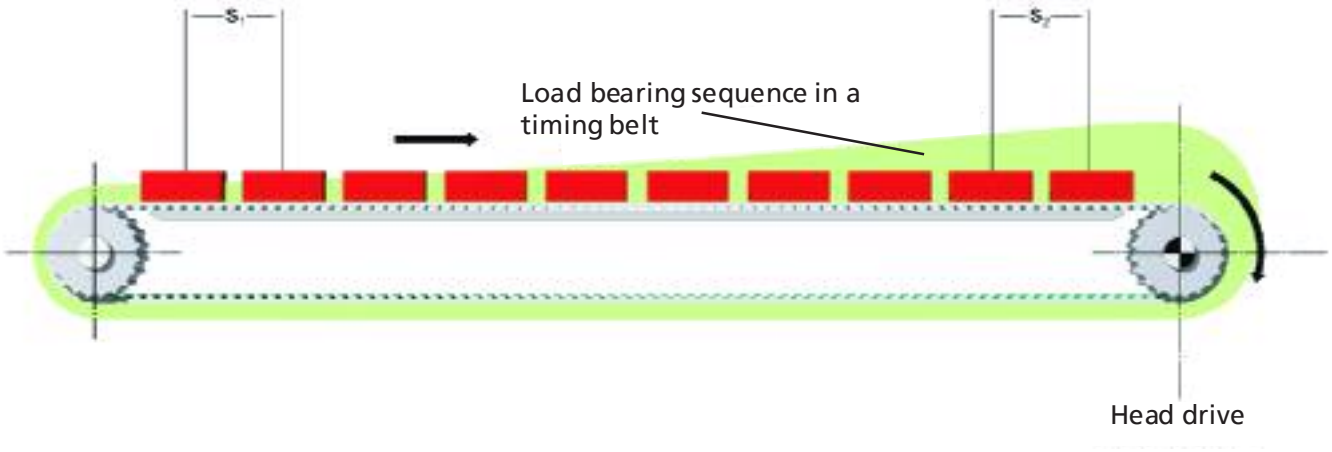
Brass wire
Ø 0,1 - 0,4 mm
straight or corrugated



Phosphate bronze
Ø 0,1 - 0,4 mm
straight or corrugated

BRECO®, BRECOFLEX® and SYNCHROFLEX® TIMING BELTS used for transportation

Transport timing belts are to be designed preferably as head drive. The goods to be transported can consist of one or more individual loads. A lot of individual loads can be seen as line load.



Calculation of the Circumferencial force F_U

From the overall transport load, the required haul-off force or the circumferential force F_U for the drive pulley assemblies can be derived:

$$F_U = 9.81 \cdot m \cdot \mu$$

Circumferential force in the drive pulley station	F_U [N]
Mass of the items to be transported	m [kg]
Friction factor of the timing belt in relation to the bed plate	μ

As friction factor μ (slide friction), the following values can be assumed:

Steel/PUR 92 Shore A	0,6 - 0,7
Steel/PAZ	0,2 - 0,4
PE/PUR	0,3 - 0,4

In general, friction factors show large ranges. Trials should be carried out, if necessary. Information without obligation.

Information on the force/elongation behaviour

The grid surface in the picture shows the force/elongation behaviour in the timing belt under operating conditions. The individual spacing between the transported products increase towards to the drive pulley assembly.

Space $s_1 < s_2$

Pre-tension force

We recommend to set the pre-tension force in the transport timing belt such that a residual pre-tension force is always maintained on the slack span side under operating conditions. the following pre-tension force is required:

$$F_V > 0.5 \cdot F_U$$

Calculation of the belt width b

$$b = \frac{F_U}{z_e \cdot F_{Uspec}} \qquad F_U\ [N]$$

F_U: circumferencial force (calculated)

F_{Uspec}: specific load of the belt teeth

z_e: number of teeth in mesh for endless joined belts: $z_{e\,max} = 6$

mechanical rework

BRECO®, BRECOFLEX® and SYNCHROFLEX® TIMING BELTS can be mechanically reworked to meet special functional features. Timing belts with a thick backing are especially suited for mechanical rework. They offer further reaching design possibilities for the designer.

Available types:

- BRECO®, BRECOFLEX®: Version T, type series DR and coatings/coverings
- SYNCHROFLEX®: Version FA and coatings/coverings

Please note that the flexibility of timing belts with a thicker back is reduced and therefore, requiring larger pulley diameters.
Belt flexibility can be improved by cross grooving or incisions.

Back cross milling

Cross grooves on the belt back enhance the flexibility of the belt. Milled grooves are, in as much as they are possible from the technical feasibility point of view, used to improve safe loading and secure positioning of the products on the belts.

Back longitudinal milling

Independent on the belt pitch, the belt back shaping offers a wide range of design variants for customised solutions. In this manner, belt guiding can be achieved by a trapezoidal back profile, or a round section supported and moved by means of a prism shaped cross section. Dimensions are to be indicated as depth measure x in relation to the belt back.

Back grinding

The backs of all BRECOFLEX® TIMING BELTS are ground as standard. For reasons of precision or in order to obtain a roughened surface, all other timing belts of the CONTITECH and BRECO delivery range can be ground. Here the overall thickness x must not fall below a minimum thickness, otherwise the tension members could be damaged.

Edge grinding

Particularly accurate belt width tolerances can be achieved by grinding the belt edges. Edge grinding might become necessary, especially with BRECO® TIMING BELTS running on bed plates.

Removing individual teeth

The removal of individual teeth or groups of teeth is possible and practical due to the high dimensional precision meshing, when the remaining teeth are to serve as precise position load areas.

Longitudinal milling of teeth

BRECO® TIMING BELTS with a longitudinally milled tooth profile are frequently used in combination with sections not being equipped with tension members for applications in the vacuum transport technology. Especially for applications in this field, BRECO® TIMING BELTS offer a wide range of products. Laying out the tooth profile is significant for SYNCHROFLEX® TIMING BELTS, which are protected from running off laterally for instance by bed plates. The processing depth x is indicated as measured from the tooth head.

Perforated timing belts

The use of perforated BRECO® and BRECOFLEX®TIMING BELTS is preferred for areas without tension members (to a limited degree also available as BRECOFLEX® TIMING BELTS) and areas with teeth removed in the longitudinal direction, if they are to be employed as suction belts in the vacuum transport technology. The multitude of design possibilities of BRECO® TIMING BELTS as vacuum timing belts as well as our extensive experience especially in this field includes the transport of delicate films up to sheet bars of several square meters in size. Aramid tension members are to be used preferable with SYNCHROFLEX® TIMING BELTS.