BEHAbelt®

Made in Germany

Weldable Round- and V-belts Special profiles

Product overview, Applications, Features and Accessories

FDA USDA

“ Behabelt specializes in designing and extruding a high quality line of thermoplastic profiles. Our portfolio includes round and V profiles, with and without reinforcement as well as a wide variety of special profiles. Customer specific custom profiles can be produced efficiently and at a low cost due to an in house tool shop and state-of-the-art extrusions lines.“

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Extruded thermoplastic profiles in conveying and material handling

Many products large and small are manufactured, packaged and shipped on highly automated Industrial processing equipment. Efficient and reliable material flow through the manufacturing processes requires a wide range of conveying solutions.

Round and V-profiles from Behabelt can be ordered in rolls and fabricated to the final dimensions or mounted and welded on site with our own dedicated tools. Our complete line of Behabelt welding tools are quick and easy to use minimizing down time on repairs.

BELT PROFILES AND SPECIAL CHARACTERISTICS FOR YOUR APPLICATION

Behabelt processes high-grade PU and TPE materials that guarantee optimal performance and longevity in demanding applications. This includes FDA/EU compliant compounds in a broad spectrum of shore hardness. Each material composition can be enhanced with special features in order to optimize your product for the requirements of your specific process. We use brand names to identify the special properties of profiles.

PU soft

describes a highly flexible, non-slip and wear resistant compound for profiles with a hardness of 65° Shore A. Perfectly suited for applications that require smallest pulley diameters. PUsoft is often used as a silicone alternative.

PU plus

is a special material composition for elevated load capacity and reduced elongation with the same product design and unchanged pulley diameters, compared to products made of standard PU compounds.

PU safe

identifies metal and X-ray detectable conveyor belts and profiles. The food industry is increasingly using detectable profiles and belts as additional safety measure to prevent contamination of foodstuff with foreign objects.

INDUSTRIES AND APPLICATIONS

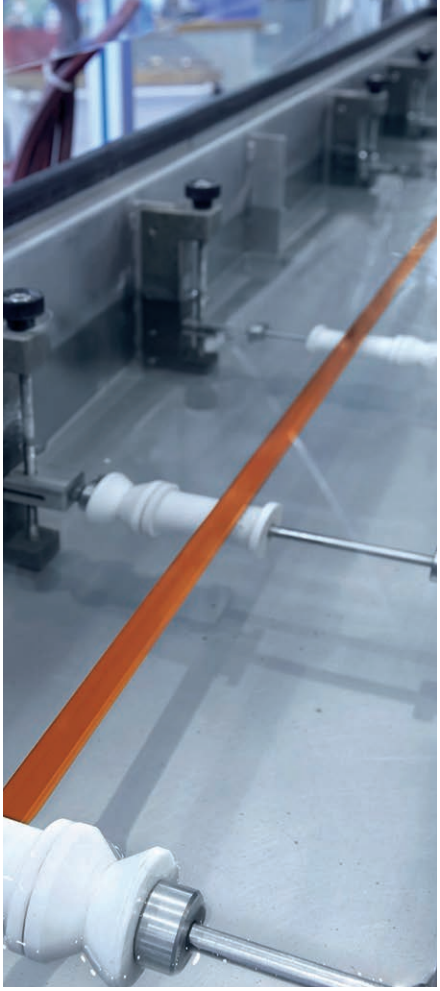
A few common industries and applications that work with round belts, V-belts or special profiles are listed in the table below:

INDUSTRIES	APPLICATIONS
Food (Pizza, sliced Meat or Cheese, processing of Dough, Confectionery)	Conveying of sliced goods
Packaging (Food and Non-Food packaging machines)	Pizza Topping lines
Wood- and Furniture	Spreader belts in Confectionery machines
Paper / Printing	Feeder belts in Packaging machines
Logistics	Paper cutting and processing machines
Material Handling	General conveying
Construction materials	Live-roller drive belts
	and many others

Materials and special features

BEHAbelt offers a broad spectrum of belting profiles made of PU and TPE.
Our products are available in various shore-hardness grades to ensure optimal performance and longevity in power transmission and conveying applications.

At BEHAbelt you get extruded Round belts, V-belts and special profiles with smooth or rough surfaces as following:



OVERVIEW

- PU - from 65° to 95° Shore A
- TPE - from 40° to 63° Shore D
- different color variants - e.g. white, various blue colors, red, orange, green, beige, transparent and many more
- Round belts - from 2 mm to 20 mm diameter
- V-profiles - from 6 x 4 mm to 32 x 20 mm
- Special profiles like ridge top- or parallel V-belts, Profiles in U- or Rectangular shape and much more
- Profiles reinforced with Polyester, Aramid, Steel and weldable glass fiber

MATERIAL CHARACTERISTICS

The following special features can be integrated into almost every product or are available as standard:

FDA/EC conformity for structured surfaces.
FDA/EC/USDA conformity for smooth surfaces.

By adding special additives, electrostatic charge is automatically dissipated via the sliding base.

Metal detectable belts for utmost food safety.
These products are part of the PU SAFE product line

X-ray detectable belts for utmost food safety.
These products are part of the PU SAFE product line

Hydrolysis-resistant belt profiles for use in warm, humid and wet environments

Microbe-resistant belt profiles provide no breeding ground for microorganisms.

Special additives increase the resistance of the belt profiles to UV-C waves, e.g. in disinfection processes

The unique “PUplus” material compound optimizes the elongation behavior of the belt profiles, i.e. the dimensional stability, in critical applications.

Belt profiles with this property are retained in low-temperature or deep-freeze applications their flexibility and product properties.

The 2-component production enables the combination of different material hardnesses, properties and colours.

BEHAbelt is offering a broad spectrum of possible and even individual color options.

Customized profiles

BEHAbelt offers the exclusive and fast understanding of your tailor-made profile.

If a standard profile does not fit to your application, BEHAbelt is ready to develop customer specific profiles - based on your input and design requirements!

- According to your specifications and design!
- **No minimum purchase quantities.**

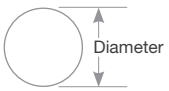
REALISATION IN ONLY 4-8 WEEKS

- Many years of experience, in-house tool-shop, individual consultation
- Development of customer specific profiles, belts and coatings
- Optimized for your application
- Based on your design

ECONOMICAL ADVANTAGES

- Exclusivity / Protect the After Sales Market and Sparepart Business
- Special material combinations possible
- Optimize your application through tailor-made profile geometry
- Increased longevity and functionality
- Dedicated welding technology

Round belts



The broad portfolio of BEHAbelt PU and TPE round belts enables the optimal selection of the most suitable product for conveying or power-transmission applications.

Product		PU60A SOFT		PU70A		PU75A		PU75A PLUS	PU80A		PU80A SAFE	PU80A		
Hardness / Shore		65°A		76°A		80°A		80°A	84°A		84°A	84°A		
Pretension		5...max. 10%		4...max. 8%		4...max. 8%		3...max. 6%	4...max. 8%		3...max. 6%	(0,5)...max. 2%		
approx. CoF (steel) - µ		0,90		0,75		0,70		0,70	0,55 / 0,65 / 0,65 / 0,65		0,65	0,65		
Surface		smooth		smooth		smooth		matt	slightly rough / smooth		smooth	smooth		
FDA/EC		yes*		yes		yes	no	no	yes		yes	yes		
Colors		BL		UB		HI	RO	OR	UB UB	TR OR	CB	OR		
Special feature						HY, low temperature		low elongation	HY		metal detectable			
Reinforcement												Polyester		
Belt ∅		Pulley ∅	Fmax/ Belt	Pulley ∅	Fmax/ Belt	Pulley ∅	Fmax/ Belt	Fmax/Belt	Pulley ∅	Fmax/ Belt	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)
mm	inch	mm	kg	mm	kg	mm	kg	kg	mm	kg	kg	mm	kg	kg
2,0	5/64					10	0,8	0,9	15	1,1	0,6			
3,0	1/8	10	0,9	15	1,4	20	1,8	1,8	25	2,1	1,6			
4,0	5/32	20	1,5	25	2,5	30	3,1	3,6	30	4,1	2,9			
4,8	3/16			30	3,5	35	4,5	5,2	40	5,8	4,0			
5,0	1/5	30	2,2	35	3,6	40	4,9	5,7	45	6,2	5,6			
6,0	7/32	35	3,4	45	5,6	50	7,3	8,1	55	9,0	6,4	55 (75)	9,0	(18,9)
6,3	1/4					55	8,0	8,9	60	10,1	6,9	60 (80)	10,1	(21,2)
7,0	9/32					60	9,8	11,1	65	12,4	9,3	65 (85)	12,4	(25,4)
8,0	5/16	45	6,0	55	9,9	65	12,9	14,4	75	16,1	12,0	80 (105)	16,1	(33,8)
9,5	3/8	60	8,5			75	18,0	20,4	90	22,7	17,0	90 (120)	22,7	(47,7)
10,0	7/16	65	9,4			80	19,6	22,6	95	25,3	18,9	100 (130)	25,3	(53,1)
12,0	15/32					90	29,4		110	36,4	27,2	110 (145)	36,4	(76,5)
12,5	1/2					100	31,4		115	39,4	29,4	115 (150)	39,4	(82,8)
14,3	9/16								130		37,0	130 (165)	49,4	(104,0)
15,0	19/32					120	45,1		140	56,7	42,4			
18,0	3/4						64,7		170	81,5				
20,0	25/32						80,4		180	100,6		190 (245)	100,6	(211,5)

Product		PU85A			PU90A		PU90A			PU95A			TPE40D	
Hardness/Shore		88°A			92°A		92°A			95°A			40°D/95°A	
Pretension		(0,5)...max. 2%			3...max. 5%		0,5...max. 2%			0,5...max. 2%			2...max. 4%	
approx. CoF (steel) - µ		0,60 / 0,45			0,50		0,50			0,35			0,50	
Surface		smooth / rough			smooth		smooth			smooth / slightly rough			smooth	
FDA/EC		no			no		no			no			yes	
Colors		GR			WE		WE			RO			BG	
Special feature														
Reinforcement		Aramid					Polyester			Aramid				
Belt ∅		Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt
mm	inch	mm	kg	kg	mm	kg	mm	kg	kg	mm	kg	kg	mm	kg
2,0	5/64				20	1,9							20	1,9
3,0	1/8				30	3,4							30	4,1
4,0	5/32				40	5,9							40	7,6
4,8	3/16				50	8,5							50	10,8
5,0	1/5	50	7,1	-	55	9,3							55	11,7
6,0	7/32	60 (80)	10,4	(23,0)	70	13,3	70 (90)	13,4	(22,5)				70	17,0
6,3	1/4	65 (85)	11,4	(25,2)	75	14,6	75 (100)	14,8	(26,3)				75	18,7
7,0	9/32	70 (90)	14,1	(31,1)	85	18,3	85 (110)	18,4	(37,5)				85	23,0
8,0	5/16	80 (110)	18,4	(40,5)	90	23,8	90 (115)	24,0	(48,8)				90	30,1
9,5	3/8	95 (125)	25,9	(57,2)	105	33,3	105 (135)	33,6	(56,3)	175 (228)	35,5	(210,0)	105	42,8
10,0	7/16	100 (130)	28,6	(63,0)	110	37,3	110 (145)	37,6	(60,0)	185 (241)	39,3	(210,0)	110	47,1
12,0	15/32	120 (155)	40,8	(90,0)	130	53,3	130 (170)	53,8	(101,3)	220 (286)	56,6	(210,0)	130	67,9
12,5	1/2	125 (165)	44,9	(99,0)	135	58,0	135 (175)	58,6	(108,8)	230 (300)	61,6	(210,0)	135	74,0
14,3	9/16	145 (180)	59,0	(130,1)										
15,0	19/32	150 (195)	64,9	(143,1)	165	83,6	165 (215)	84,5	(172,5)				165	106,5
18,0	3/4	190 (245)	92,8	(204,8)	200	119,8	200 (260)	121,0	(225,0)				200	151,4
20,0	25/32	200 (260)	115,3	(254,3)	220	148,3	220 (290)	-	-				220	188,2

General Advise:
*Limited EC conformity for greasy products | Data and specifications valid for round belts: Temperature range 20°C (±10°C) | Indication of minimal pulley diameter applies to neutral layer of the belt (for products with overlap-welding +30%) | Pre-tension: for products with overlap-welding the indicated min.-value applies | „HY“ in field „Special Feature“ stands for ‚Hydrolysis and microbial resistance‘

Extruded round belts are available in various shore-hardness grades and diameters. We are offering food compliant products and belts with special features for demanding applications.

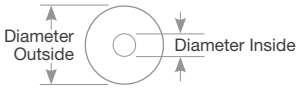
Round belts can be quick and reliable welded on-site with our dedicated BEHAbelt welding tools.

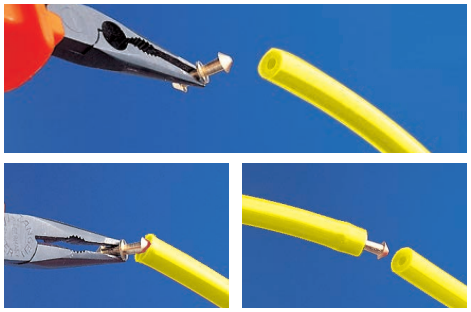
Product		PU85A						PU85A PLUS	PU85A		PU85A		PU85A		
Hardness/Shore		88°A						88°A	88°A		88°A		88°A		
Pretension		4...max. 8%				3...max. 6%		3...max. 6%	(0,5)...max. 2%		(0,5)...max. 2%		(0,5)...max. 2%		
approx. CoF (steel) - µ		0,60	0,60	0,45	0,45	0,60		0,45	0,60		0,60 / 0,45		0,45		
Surface		smooth	smooth	rough	rough	smooth		rough	smooth		smooth / rough		rough		
FDA/EC		yes	no	no	yes	no		no	yes		no		yes		
Colors		SB	GR	GR	UB	SM	SW	UB	SB		UB		UB		
Special feature		HY				antistatic		low elongation	HY		weldable reinforcement				
Reinforcement									Polyester		Glass fibre PU		Aramid		
Belt ∅		Pulley ∅	Fmax/Belt			Fmax/Belt		Fmax/Belt	Pulley ∅	Fmax/ Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt Standard	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)
mm	inch	mm	kg			kg		kg	mm	kg	kg	mm	kg	mm	kg	kg
2,0	5/64	15	1,2					1,3								
3,0	1/8	25	2,7			2,3		3,0								
4,0	5/32	35	4,7			4,1		5,3								
4,8	3/16	45	6,7					7,5								
5,0	1/5	50	7,1			6,2		8,1						55	7,1	-
6,0	7/32	60	10,4			9,1		11,7	60 (80)	9,7	(21,6)			60 (80)	10,4	(23,0)
6,3	1/4	65	11,4					12,8	65 (85)	10,7	(23,9)			65 (85)	11,4	(25,2)
7,0	9/32	70	14,1					16,0	70 (90)	13,1	(29,3)			70 (90)	14,1	(31,1)
8,0	5/16	80	18,4					20,7	80 (110)	17,2	(38,3)	85	19,8	80 (110)	18,4	(40,5)
9,5	3/8	95	25,9					29,3	95 (125)	24,4	(54,5)	100	28,1	95 (125)	25,9	(57,2)
10,0	7/16	100	28,6					32,5	100 (130)	26,9	(59,9)	105	31,0	100 (130)	28,6	(63,0)
12,0	15/32	120	40,8					46,5	120 (155)	38,8	(86,4)	125	44,7	120 (155)	40,8	(90,0)
12,5	1/2	125	44,9					51,2	125 (165)	42,2	(94,1)	130	48,6	125 (165)	44,9	(99,0)
14,3	9/16											150	63,4			
15,0	19/32	150	64,9					74,0	150 (195)	60,8	(135,5)	155	69,9	150 (195)	64,9	(143,1)
18,0	3/4	180	92,8									195	n/a			
20,0	25/32	200	115,3									205	n/a			

Product		TPE55D		TPE55D			TPE55D	TPE55D		TPE63D		TPE63D
Hardness/Shore		55°D/100°A		55°D/100°A			55°D/100°A	55°D/100°A		63°D/>100°A		63°D/>100°A
Pretension		2...max. 4%		(0,5)...max. 2%			(0,5)...max. 2%	max. 0,5%		(0,5)...max. 2%		(0,5)...max. 2%
approx. CoF (steel) - µ		0,35		0,35			0,35	0,35		0,30		0,30
Surface		smooth		smooth			smooth	smooth		smooth		smooth
FDA/EC		yes		yes			yes	yes		yes		yes
Colors		BG		BG			HI	BG		SI	BG	BG
Special feature										UV-beständig		
Reinforcement				Polyester			Aramid	Steel		Polyester		Aramid
Belt ∅		Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt (CRIMP)	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)
mm	inch	mm	kg	mm	kg	kg	kg	mm	kg	mm	kg	kg
2,0	5/64	30	2,4									
3,0	1/8	40	5,6									
4,0	5/32	50	9,9									
4,8	3/16	60	14,4									
5,0	1/5	65	15,7									
6,0	7/32	80	22,4	80 (105)	22,4	(45,0)						
6,3	1/4	85	24,8	85 (110)	24,8	(48,8)						
7,0	9/32	95	30,4	95 (125)	30,4	(60,0)						
8,0	5/16	110	40,0	110 (145)	40,0	(71,3)						
9,5	3/8	135	56,0	135 (175)	56,0	(90,0)	(225,0)	380	(225,0)	190 (247)	59,4	(225,0)
10,0	7/16	145	62,9	145 (190)	62,9	(97,5)	(225,0)	380	(225,0)	200 (260)	67,0	(225,0)
12,0	15/32	170	90,6	170 (225)	90,6	(127,5)	(225,0)	380	(225,0)	255 (332)	96,0	(225,0)
12,5	1/2	180	97,6	180 (235)	97,6	(135,0)	(225,0)	380	(225,0)	270 (350)	102,8	(225,0)
14,3	9/16											
15,0	19/32	210	140,8	210 (275)	140,8	(206,3)						
18,0	3/4	250	203,2	250 (325)	203,2	(243,8)						
20,0	25/32	300	251,2	300 (390)	-	-						

BL blue · UB ultramarine blue · SB sapphire blue · HI sky blue · CB capri blue · SW black · GR green · SM emerald green · RO red · OR orange · BG beige · SI silver · WE white

Hollow round belts



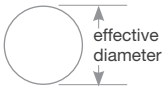


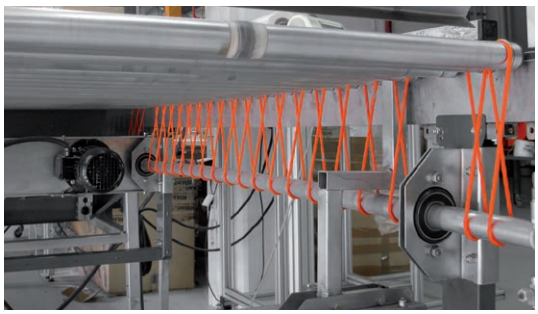
Hollow round belts should be generally installed with welded joining. However, in case of emergency repairs, they can be fixed with fitting-connectors to reduce downtime.

Product		PU75A		PU85A			PU90A	
Hardness/Shore		80°A		88°A			92°A	
Pretension welded: Fitting connector:		4...max. 8% max. 3...6%		4...max. 8% max. 3...6%			3...max. 5% max. 2...4%	
approx. CoF (steel) - µ		0,70		0,60 / 0,45		0,60	0,50	
Surface		smooth		smooth / rough		smooth	smooth	
FDA/EC		yes	no	no		yes	no	
Colors								
Special feature		low temperature, HY				HY		
Diameter ∅ mm		Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt	Fmax/Belt	Pulley ∅	Fmax/Belt
Outside	Inside	mm	kg	mm	kg	kg	mm	kg
4,8	1,8	30	3,7	35	5,3	5,1	45	8,6
6,3	2,5	45	6,7	55	9,4	9,0	60	12,4
8,0	3,2	55	10,8	65	15,3	14,4	75	19,0
9,5	3,8	65	15,3	75	20,4	20,6	85	28,5
12,5	5,2	85	26,1	100	36,7	35,0	115	47,5
15,0	5,2	100	39,6	120	57,1	53,5	140	72,3

Brass fitting

Twisted round belt (with hook joint)





Twisted round belts with hook joint are applicable as live roller drive belts, whereas several belts are installed on on shaft. The mechanical hook joint enables quick and easy assembling. Twisted round belts are available in fabricated length from 250mm to 710mm.

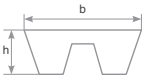
Further dimensions on request.

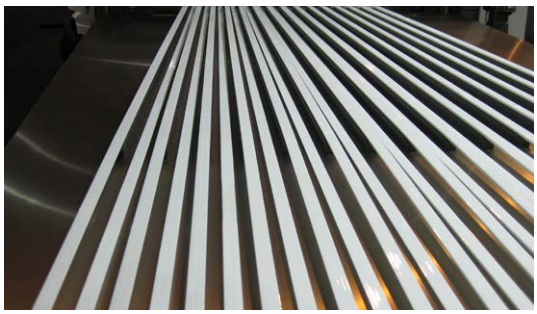
Product		PU70A		PU75A PLUS	
Hardness/Shore		76°A		80°A	
Pretension		8...max. 10%		6...max. 8%	
approx. CoF (steel) - µ		0,75		0,70	
Surface		smooth		smooth (matt)	
FDA/EC		yes		no	
Colors					
Special feature				low elongation	
Belt ∅		Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt
mm	inch	mm	kg	mm	kg
5,0	1/5	40	2,5	40	3,8

Measure the correct belt length tip to tip (production length Lf), without the hook

General Advise:
Data and specifications valid for round belts at temperature of 20°C (±10°C) | Indication of minimal pulley diameter applies to neutral layer of the belt | „HY“ in field „Special Feature“ stands for ‚Hydrolysis and microbial resistance‘

Twin-V-belts



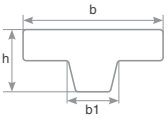


Twin-V-belts are an ideal solution for the reliable conveying of product strands e.g. on spreader applications in Food (Bakery or Confectionery) processing. Our portfolio includes various design and shore hardness options as well as reinforced products.

General Advise:
Data and specifications valid for Twin-V-belts at temperature of 20°C (±10°C)
Indication of minimal pulley diameter applies to neutral layer of the belt (for products with overlap-welding +30%)
Pre-tension: for products with overlap-welding the indicated min.-value applies

Product	PU75A		PU80A			PU85A			PU95A	
Hardness/Shore	80°A		84°A			88°A			95°A	
Pretension	3...max. 6%		3...max. 6%		0,5...max. 2%	0,5...max. 2%			3...max. 5%	
approx. CoF (steel) - µ	0,70		0,65			0,60			0,45	
Surface	smooth		smooth			smooth			smooth	
FDA/EC	no		yes			no			yes	
Colors										
Special feature										
Reinforcement					Polyester	Polyester				
Profile dimension w x h	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt	Fmax/Belt Standard / Overlap	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt
mm	mm	kg	mm	kg	kg	mm	kg	kg	mm	kg
24 x 6,8			60	28,8					100	62,1
21 x 8	60	23,0	80	28,8	28,8 / 58,4					
30 x 8	60	45,5	80	45,6	45,6 / 90,6	100 (130)	69,8	(102,6)		

T-Profiles

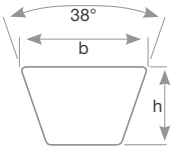


T-profiles are a very good solution to convey different light-weight goods and food product. On such conveyors there are usually several T-profile belts installed parallel to each other.
The V-guide on the running side ensures a straight and precise movement. BEHAbelt offers T-profiles in various geometries, shore-hardness and color combinations.

Product	PU70A	PU65A	PU80A	PU85A	PU80A	PU60A	PU65A	PU80A	PU75A	PU85A		PU85A
Hardness/Shore	76°A	72°A	84°A	88°A	84°A	65°A	72°A	84°A	80°A	88°A		88°A
Pretension	4...8%	4...8%	4...8%	3...6%	4...8%	4...8%			4...8%	3...6%		3...6%
approx. CoF (steel) - µ	0,70	0,65	0,65	0,65	0,65	0,90	0,75	0,65	0,70	0,60		0,60
Surface	smooth	smooth			smooth	smooth			smooth	smooth / ribbed	smooth / embossed	smooth
FDA/EC	yes	yes			yes	yes			yes	yes	no	yes
Colors												
Special feature		HY		HY			HY		HY	HY		HY
Reinforcement												
Profile dimension / mm	9 x 4	9,5 x 3,5			10 x 4,5	15 x 5			8 x 5	25 x 5		20 x 8
Pulley ∅ / mm	25	20	30	50	40	25	30	40	30	50		100
Fmax/Belt / kg	4,5	2,9	5,2	6,0	8,1	4,5	8,1	9,6	6,0	15,2	16,0	21,4

General Advise:
Data and specifications valid for T-profiles at temperature of 20°C (±10°C) | Indication of minimal pulley diameter applies to neutral layer of the belt |
„HY“ in field „Special Feature“ stands for ‚Hydrolysis and microbial resistance‘

V-belts



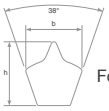
V-belts can be found in serveral power-transmission and conveying applications.

Extruded V-belts are often applied as guiding profile on the running side of conveyor belts. BEHAbelt offers high quality materials, on request even with special features like UV-C resistance, detectable or antistatic.

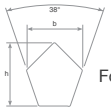
Product	PU75A		PU75A		PU75A		
Hardness/Shore	80°A		80°A		80°A		
Pretension	4...8%		0,5...2%		0,5...2%		
approx. CoF (steel) - µ	0,70		0,70		0,70		
Surface	smooth		smooth		smooth		
FDA/EC	yes / no		no		no		
Colors	HI RO		OR		GW		
Special feature		HY	Weldable reinforcement				
Reinforcement			Glass fibre PU		Polyester		
Profile dimension	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)
mm	mm	kg	mm	kg	mm	kg	kg
6 x 4 (Y)	35	4,9					
8 x 5 (M)	40	8,2					
10 x 6 (Z)	50	12,2					
13 x 8 (A)	75	20,6	110	25,3	75	20,6	(41,2)
17 x 11 (B)	100	37,2	140	45,0	100	37,2	(83,8)
22 x 14 (C)	140	60,8	180	66,2	140	60,8	(127,5)
32 x 20 (D)	210	127,4					

Product	PU85A		PU90A		PU90A			PU95A			TPE40D	
Hardness/Shore	88°A		92°A		92°A			95°A			40°D/95°A	
Pretension	0,5...2%		3...5%		0,5...2%			0,5...2%			2...4%	
approx. CoF (steel) - µ	0,60		0,50		0,50			0,45			0,50	
Surface	smooth		smooth		smooth			smooth			smooth	
FDA/EC	no		no		no			yes			yes	
Colors	UB		WE		WE *			BG *			BG	
Special feature	Weldable reinforcement											
Reinforcement	Glass fibre PU				Polyester			Polyester				
Profile dimension	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt Standard	Fmax/Belt (Overlap)	Pulley ∅	Fmax/Belt
mm	mm	kg	mm	kg	mm	kg	kg	mm	kg	kg	mm	kg
6 x 4 (Y)												
8 x 5 (M)			60	15,4	65	15,4	(30,0)				60	19,3
10 x 6 (Z)			80	23,0	85	23,0	(45,0)				80	28,9
13 x 8 (A)	125	32,8	105	38,4	110	38,4	(67,5)	130	40,0	(67,5)	105	49,4
17 x 11 (B)	180	55,4	140	69,1	150	69,1	(120,0)	175	72,0	(120,0)	140	87,7
22 x 14 (C)	220	92,4	200	115,2	210	115,2	(202,5)	250	120,0	(202,0)	200	144,5
32 x 20 (D)			320	240,0								

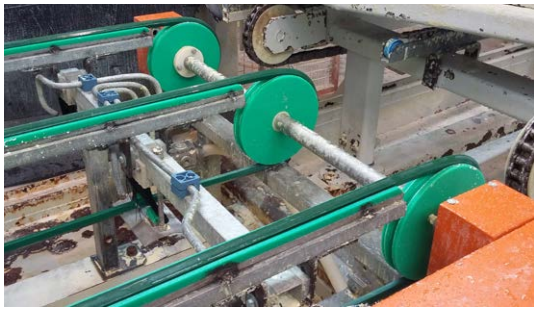
Ridge-top-V-belts



Form 1



Form 2



Ridge-top-V-belts by BEHAbelt are made of weldable PU or TPE. They are specially suitable for demanding conveyor applications in tile processing and production of construction materials. This product range is made of durable compounds in different shore-hardness-grades.

Product	PU80A		PU80A		PU85A	
Hardness/Shore	84°A		84°A		88°A	
Pretension	3...6%		0,5...2%		3...6%	
approx. CoF (steel) - µ	0,65		0,65		0,60	
Surface	smooth (Form 2)		smooth (Form 2)		smooth (Form 1)	
FDA/EC	no		no		no	
Colors						
Special feature						
Reinforcement			Polyester			
Profile dimension	Pulley ∅	Fmax/Belt	Pulley ∅	Fmax/Belt Standard	Pulley ∅	Fmax/Belt Standard
mm	mm	kg	mm	kg	mm	kg
17 x 19	160	51,3	160	51,3	180	53,8
22 x 25	210	87,6	210	87,6	220	90,0

General Advise:
Data and specifications valid for V-belts at temperature 20°C (±10°C) | Indication of minimal pulley diameter applies to neutral layer of the belt | with horizontal overlap welding, the pulley diameter is not affected | Pre-tension: for products with overlap-welding the indicated min.-value applies | „HY“ in field „Special Feature“ stands for ‚Hydrolysis and microbial resistance‘

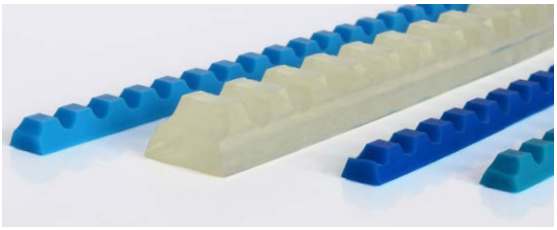
PU80A SAFE		PU80A		PU80A			PU85A		PU85A PLUS		PU85A			PU85A		
84°A		84°A		84°A			88°A		88°A		88°A			88°A		
3...6%		4...8%		0,5...2%			4...8%		3...6%		0,5...2%			0,5...2%		
0,65		0,65		0,65			0,60		0,60		0,60			0,60		
smooth		smooth		smooth			smooth		matt		smooth			smooth		
yes		yes		yes			yes	no	no		no			yes		
CB		TR OR	UB	OR			SB	GR	BL		GR			SB		
metal detectable			HY				HY		low elongation					HY		
				Polyester							Aramid			Polyester		
Pulley ∅ mm	Fmax/ Belt kg	Pulley ∅ mm	Fmax/ Belt kg	Pulley ∅ mm	Fmax/ Belt Standard kg	Fmax/Belt (Overlap) kg	Pulley ∅ mm	Fmax/ Belt kg	Pulley ∅ mm	Fmax/ Belt kg	Pulley ∅ mm	Fmax/ Belt Standard kg	Fmax/Belt (Overlap) kg	Pulley ∅ mm	Fmax/ Belt Standard kg	Fmax/Belt (Overlap) kg
40	4,6	40	6,2				45	6,5	45	7,9						
45	7,7	45	10,3	50	10,3	(21,6)	50	10,9	50	13,2	60	11,6	(25,7)			
55	11,5	55	15,4	60	15,4	(32,4)	65	16,6	65	19,9	70	17,5	(37,5)			
85	19,7	85	26,3	85	25,9	(54,5)	95	28,1	95	33,8	100	30,0	(63,8)	95	28,1	(60,1)
110	35,0	110	46,9	110	46,9	(98,6)	120	50,1	120	60,3	140	53,0	(112,5)	120	50,1	(105,3)
150	57,6	150	77,0	150	77,0	(150,0)	165	82,4	165	99,3	180	87,7	(187,5)	165	82,4	(175,1)
		220	160,5	220	154,0	(n/a)	250	195,8	250	206,8	275	193,8	(n/a)			

TPE55D		TPE55D		
55°D/100°A		55°D/100°A		
2...4%		0,5...2%		
0,35		0,35		
smooth		smooth		
yes		yes		
BG BL		BG		
		Polyester		
Pulley ∅ mm	Fmax/Belt kg	Pulley ∅ mm	Fmax/Belt Standard kg	Fmax/Belt (Overlap) kg
80	25,6			
105	38,4	110	48,0	(70,0)
130	64,0	135	80,0	(110,0)
175	116,8	190	146,0	(180,0)
250	192,0	260	240,0	(300,0)

Notched design

*The minimum pulley diameter is reduced by 25%.

On request we can offer all V-belts in notched design.



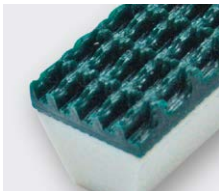
Coatings for V-belts

The use of coatings on V-belts allows certain material properties to be achieved, e.g. better grip, accumulation operation or better release of the conveyed material.

PUtex (Alternative for Linatex), red, 55° and 65° Shore A

PU transversal grooves (TGA), ultramarine blue, 84° Shore A, FDA

Supergrip PVC white 65° Shore A, FDA



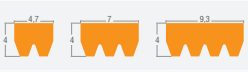
Supergrip PVC green, 40° Shore A

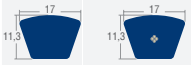
PU85A		PU85A		PU85A		PU85A		PU95A		PU95A	
88°A		88°A		88°A		88°A		95°A		95°A	
3...6%		0,5...2%		0,5...2%		0,5...2%		3...5%		3...5%	
0,60		0,60		0,60		0,60		0,45		0,45	
smooth (Form 2)		smooth (Form 2)		smooth (Form 1)		smooth (Form 2)		smooth (Form 1)		smooth (Form 2)	
no		no		no		no		no		no	
				Weldable reinforcement							
		Polyester		Glass fibre PU							
Pulley ∅ mm	Fmax/Belt kg	Pulley ∅ mm	Fmax/Belt Standard kg	Pulley ∅ mm	Fmax/Belt Standard kg	Pulley ∅ mm	Fmax/Belt Standard kg	Pulley ∅ mm	Fmax/Belt kg	Pulley ∅ mm	Fmax/Belt kg
190	59,0	190	59,0	240	78,0	260	85,2	200	97,5	210	106,5
240	100,7	240	100,7	280	130,4	300	146,0	250	163,0	260	182,5

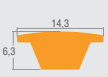
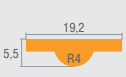
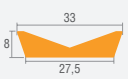
Special profiles

BEHAbelt specializes in customized profiles made of PU and TPE.

Our in house tool shop combined with our technical expertise allows for quick turn around from inception to design and production.

Product	PU75A, PJ2 / PJ3 / PJ4			PU85A PLUS, PJ2 / PJ3 / PJ4			PU75A	PU80A	PU85A	PU80A	PU85A	PU80A	
Hardness/Shore	80°A			88°A			80°A	84°A	88°A	84°A	88°A	84°A	
Pretension	3...6%			3...6%			4...8%			3...6%	0,5...2%	4...8%	
approx. CoF (steel) - µ	0,70			0,60			0,70	0,65	0,60	0,65	0,60	0,65	
Surface	smooth			smooth			smooth			smooth	smooth	smooth	
FDA/EC	no			no			yes			yes	yes	yes	
Colors													
Special feature	low temperature, low elongation			low elongation			vaulted top, HY			additional height		3 ribbed	
Reinforcement											Aramid		
Profile dimension / mm	4,8 x 4 (PJ2)	7 x 4 (PJ3)	9,3 x 4 (PJ4)	4,8 x 4 (PJ2)	7 x 4 (PJ3)	9,3 x 4 (PJ4)	8 x 6,5 (M)			10 x 8		17 x 11 (B)	22 x 14 (C)
Pulley ∅ / mm	30			40			40	50	55	80	85	110	150
Fmax/Belt / kg	7,2	10,5	14,4	10,3	15,0	20,6	10,0	11,0	13,2	18,6	19,9	43,8	72,0

Product	PU80A	PU85A	TPE55D	TPE55D blueprower		TPE55D		PU85A	PU95A	3L T-Top PU80A
Hardness/Shore	84°A	88°A	55°D/100°A	55°D/100°A		55°D/100°A		88°A	95°A	84°A
Pretension	3...6%		2...4%	2...4%		2...4%		4...8%	3...5%	3...max. 6%
approx. CoF (steel) - µ	0,65	0,60	0,35	0,35		0,35		0,60	0,45	0,65
Surface	smooth		smooth	smooth		smooth		smooth	smooth	smooth
FDA/EC	no		yes	yes		yes		yes	yes	yes
Colors										
Special feature	Double V-belt		additional height	vaulted top		with chamfer		HY		
Reinforcement					Polyester		Polyester			
Profile dimension / mm	17 x 13,5		22 x 16	16,35 x 11,3		17 x 11,4		15 x 10	12 x 8	14,3 x 7,5
Pulley ∅ / mm	150	160	280	175	180	175	180	100	120	80
Fmax/Belt / kg	61,6	69,7	299,5	119,2	119,2 / (150,0)	116,0	116,0 / (150,0)	41,0	32,7	17,3

Product	Crown Top PU80A	Wing Top PU80A	T-Profile PU80A	T-Profile PU80A	Corn belt PU80A	Pear Profile PU80A	PU85A (French fries)		Rectangle PU85A
Hardness/Shore	84°A	84°A	84°A	84°A	84°A	84°A	88°A		88°A
Pretension	3...6%	3...6%	3...6%	3...6%	3...6%	0,5...2%	3...6%		4...8%
approx. CoF (steel) - µ	0,65	0,65	0,65	0,65	0,65	0,65	0,60		0,60
Surface	smooth	smooth	smooth	smooth	smooth	smooth	smooth		smooth
FDA/EC	yes	yes	yes	yes	yes	yes	yes		no
Colors									
Special feature			half round	half round	w/o/with serration		HY		
Reinforcement						Polyester			
Profile dimension / mm	14,3 x 6,3	17 x 11 x 16,5	19,2 x 5,5	12,7 x 5,5	33 x 8	28 x 29	11,8 x 11,8	18 x 11,8	22 x 8
Pulley ∅ / mm	80	125	40	40	50	350	120	120	95
Fmax/Belt / kg	13,9	35,1	15,6	11,2	45,6	163,6	35,9	43,9	63,8

General Advise:
Data and specifications valid for special profiles at temperature 20°C (±10°C) | Indication of minimal pulley diameter applies to neutral layer of the belt | with horizontal overlap welding, the pulley diameter is not affected | Pre-tension: for products with overlap-welding the indicated min.-value applies | „HY“ in field „Special Feature“ stands for ‚Hydrolysis and microbial resistance‘

Pulley shapes

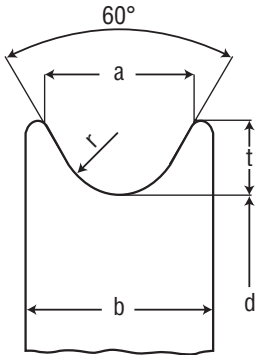
“What impact has the pulley diameter on the belt?”

The minimum pulley diameters are to be selected according to the values given in the tables. These have been chosen according to the material quality (Shore hardness) due to the relatively low transport speed - from experience less than 2 m per second. Since the goods are pulled, the drive pulley should be provided at the end of the transport path.

The geared motors should always be equipped with a soft start or frequency converter.

The diameter of the pulley has a significant effect on the life (service life) of the belt. The specified minimum pulley diameters in mm should not be undercut, but rather chosen somewhat larger. Pulley diameters that are too small always have a detrimental effect on the service life, as extreme bending cycles lead to material fatigue. The specified minimum pulley diameters always refer to a wrap angle of 180°. The wrap angle indicates how many degrees the belt is guided around the pulley.

Recommended pulleys for round belts

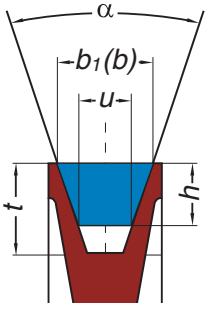


Belt ∅ mm	2	3	4	4,8	5	6	6,3	7	8	9,5	10	12	12,5	15	18	20
a	4,5	5,5	7	8	8	10	10	11	12	14,5	15	18	18,5	23	28	30
b	6,5	8	10	12	12	14	14	15	16	19	19	22	23,0	27	32	36
t	2,5	3	3,5	4	4	5	5	5,5	6	7	7,5	9	9	12	14	15
r	1,4	1,9	2,5	3	3	3,5	3,5	4	4,5	5,5	5,5	6,5	7	8	9,5	11

Please select the appropriate minimum pulley diameter according to the different PU/Polyester qualities. The best qualified materials for pulleys are steel, high-alloyed steel, aluminium or Polyamid when it comes to plastic. Please keep in mind the low friction coefficient μ when using plastic material.

Pulleys for V-belts

Profile according to DIN 2215	6	8	10	13	17	22	32
Global standard acc. to ISO 4184	Y	M	Z	A	B	C	D
Upper width b (mm)	6	8	10	13	17	22	32
Height h (mm)	4	5	6	8	11	14	20
Lower width u (mm)	3,3	4,55	5,9	7,5	9,4	12,35	18,25
Pulley angle α	∠ 34 - 38°						
Groove width b1	6	8	10	13	17	22	32
	→ depending on how much the profile should stick out above the upper pulley edge						
Groove depth t (mm)	h +2,0 mm						



For BEHAbelt V-belts according to DIN 2215 / ISO 4184 pulleys for V-belts according to DIN 2217/ISO 4183 have to be used.

Belt pulleys / Guide rails

Design of pulleys for belt profiles

Considering the pairing of belts and pulleys it is generally recommended to work with materials and/or surface that create sufficient friction to PU/TPE e.g. Aluminium or Steel. This is important to ensure proper power transmission. Beware that Aluminium can lead to discoloration (blackening) of belts. All other pulleys, guiding elements or slider beds should be made of low-friction materials for example PE or HDPE.

Grooved pulleys for round belts

In practice, V-belt pulleys are often used for round belt applications. You should know that this is not an optimal geometry pairing and should therefore be changed to a special round belt pulley if possible.

In addition to typical faster wear of the belt in the flank contact points, a V-belt pulley in this case can also cause the round belt to jam between the flanks of the pulley, which in turn can lead to additional stretching as well as „fluttering or jumping“ of the belt. Under these conditions, the service life of the belt is basically reduced. If V-belt pulleys are nevertheless used, the pulleys must be dimensioned so that the belt also makes contact with the base of the pulley.

Pulleys for T-Profiles

The power-transmission of such belts takes place on the flat area of the belt reverse side. This means the V-guide is not an element to transmit power but has guiding purpose only.

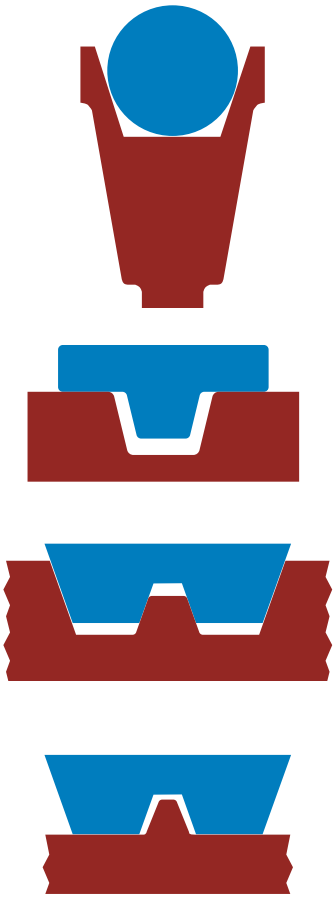
Hence, the guide should run free in the groove with little space and must never be clamped!

Pulleys for Twin V-belts

With twin V-belts, a distinction is made between the use as a drive conveyor belt or as spreader belt.

In the case of a drive, the pulley design must be in such a way that the power is transmitted by the flanks.

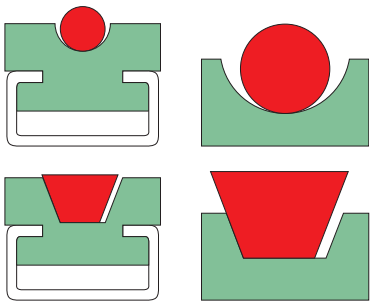
In spreading table applications, it has proved to be a good idea to guide the belt exclusively by the central groove and drive it by the underside of the profile.



Guide rails and supporting rollers

Grooved pulleys, supporting rolls and guide rails are recommended to keep the belting in position to carry the load. When guiding V-belts, the V belt groove should be designed so that the belt is being supported on the bottom of the groove and is only allowed to touch one side of the groove at a time to avoid jamming.

The diameter and number of the required supporting rolls depends on the length of the conveyor as well as on the weight and dimensions of the goods to be conveyed. Supporting guide rails with a smooth surface can be grooved to support transport belts. The dimensions of the groove are to be designed in a width that prevents the belt from jamming. The guiding rails should be made of materials with good sliding qualities (PE – HDPE). If you are looking for a supplier please contact us, we can give you a recommendation.



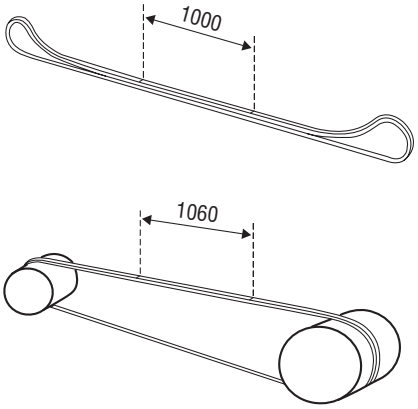
Pretension

In order to ensure a functionally reliable operation of the transport system, sufficient pre-tensioning of the belts is required.

We therefore recommend a pretension factor of approx. 0.5 - 10 %, depending on the belt quality (Shore hardness), belt construction (with/without reinforcement), splicing technique (splice/overlap) and belt length.

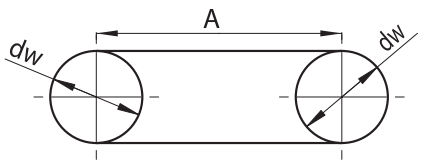
In order to calculate the pre-tension in the belt, it has proven useful in practice to mark the belt in a tension-free state and to measure the change in length of the markings.

For example, a mark of 1000 mm changes under a pretension of 6 % to the mark distance of 1060 mm.



Calculations

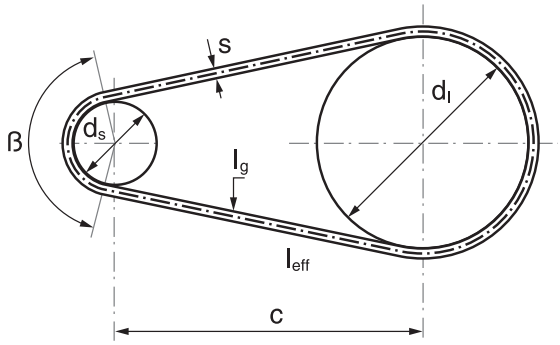
Calculation of belt length



L_{f1} = dw x π + 2 x A

dw = effective diameter (position of the neutral fiber of belt)
A= center distance
for round belts:
dw = bottom of groove + diameter of belt

The recommended pretension has to be considered in addition!

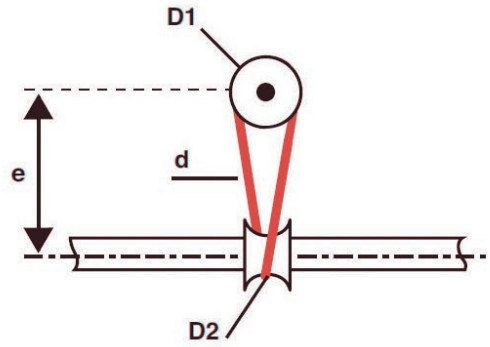


$$l_{eff} = 2c \cdot \sin\left(\frac{ß}{2}\right) + \frac{\pi}{2}\left[d_s + d_l + 2s + \frac{(d_l - d_s)(180 - ß)}{180}\right] \text{ [mm]}$$

$$ß = 2 \arccos\left(\frac{d_1 - d_s}{2c}\right) [°]$$

c = center distance [mm]
d_s = Diameter of the small pulley [mm]
d_l = Diameter of the big pulley [mm]
ß = Wrapping angle on small pulley

The recommended pretension has to be considered in addition!



Lineshaft conveyor belts (semi-crossed)

$L_{f3} = [(D1 + d) + (D2 + d)] \times \pi / 2 + 2 \times \sqrt{[(D1+d)^2 / 4 + e^2]}$

recomm. center to center distance (e): 4 x D1

D1 : pulley diameter at bottom of groove
D2 : inner diameter of diabolo roller
d : diameter of belt
e : center distance

The recommended pretension has to be considered in addition!

Auxiliary table / Quick reference for V-belts

Profile according to DIN 2215		6	8	10	13	17	22	32
Profile according to ISO 4184		Y	M	Z	A	B	C	D
Upper width b (mm)		6	8	10	13	17	22	32
Height h (mm)		4	5	6	8	11	14	20
Calculation of the belt length La and Lw if Li is determined or known	La = Li +	25	31	38	50	69	88	126
	La = Lw +	10	12	16	20	29	30	51
La = outside length Lw = effective length / cut length Li = inside length	Lw = Li +	15	19	22	30	40	58	75
	Lw = La -	10	12	16	20	29	30	51

The recommended pretension has to be considered in addition!

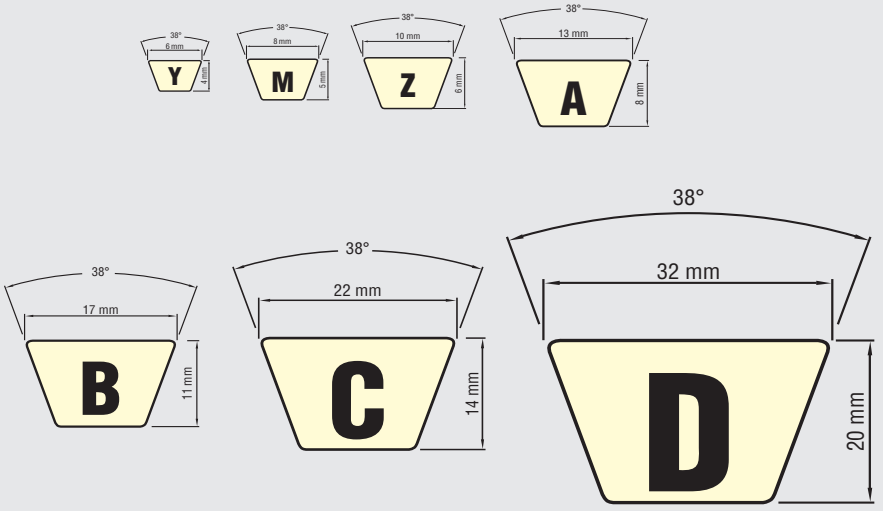
Coefficient of friction

Coefficient of friction μ for smooth surfaces (G)

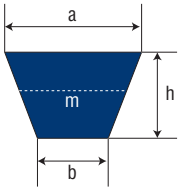
Quality	Alu	Steel	Glass	Wood (veneer)	PE	HDPE
PU40A	1,35	1,30	1,10	1,10	0,85	0,80
PU60A	0,95	0,90	0,75	0,80	0,55	0,50
PU65A	0,90	0,85	0,65	0,70	0,50	0,45
PU70A	0,85	0,75	0,60	0,70	0,40	0,35
PU75A	0,85	0,70	0,50	0,65	0,40	0,35
PU80A	0,80	0,65	0,45	0,60	0,35	0,30
PU85A	0,75	0,60	0,40	0,50	0,35	0,30
PU85A rough	0,55	0,45	0,45	0,45	0,30	0,25
PU90A	0,70	0,50	0,30	0,50	0,30	0,25
PU95A	0,65	0,45	0,25	0,45	0,25	0,20
TPE40D	0,70	0,50	0,30	0,45	0,25	0,20
TPE55D	0,45	0,35	0,30	0,35	0,20	0,15
TPE63D	0,45	0,35	0,30	0,35	0,20	0,15

V-belt dimensions according to DIN 2215 and ISO 4184

All V-belts are produced with a small radius at the edges

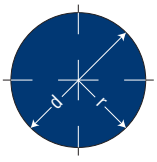


Calculation of round belt and V-belt cross section



$$A_{cm^2} = \frac{a+b}{2} \times h = m \times h$$

$$m = \frac{a+b}{2}$$



$$A_{cm^2} = \frac{\pi}{4} \times d^2 \approx 0{,}785 \times d^2$$

$$U = \pi \times d$$

Welding tools for PU and TPE

A profile is only as good as its splice. That is why we develop special welding technology for welding PU and TPE profiles or belts. Depending on the application requirements, you can choose between classic paddle welding tools, the unique friction welding machine or hot presses for professional overlap or butt welding.

PADDLE WELDING

BEHAbelt EErgo together with Guide clamp

- Reaches melting temperature in less than five minutes.
- LED indicator tells you when it is ready to use.
- Built in protection to lay down on working table.
- FZ02/3 and FZ01 Vario: Robust and precise guide clamps for almost all profiles; special designs possible..

FRICTION WELDING

BEHAbelt RS02 and RS02 AKKU

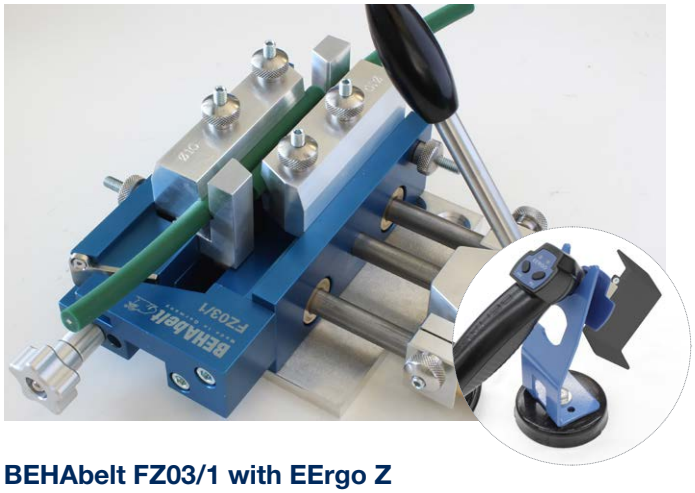
- Aligns profile edges perfectly with special holding clamps.
- Makes perfect welds every time in seconds using friction to generate heat.
- Also available as cordless version.

HOT PRESS

BEHAbelt HP01

- Controller guided hot press for perfect butt and overlap welds of PU and TPE profiles as well as flat belts and timing belts up to a width of 50 mm.

OVERLAP WELDING SET



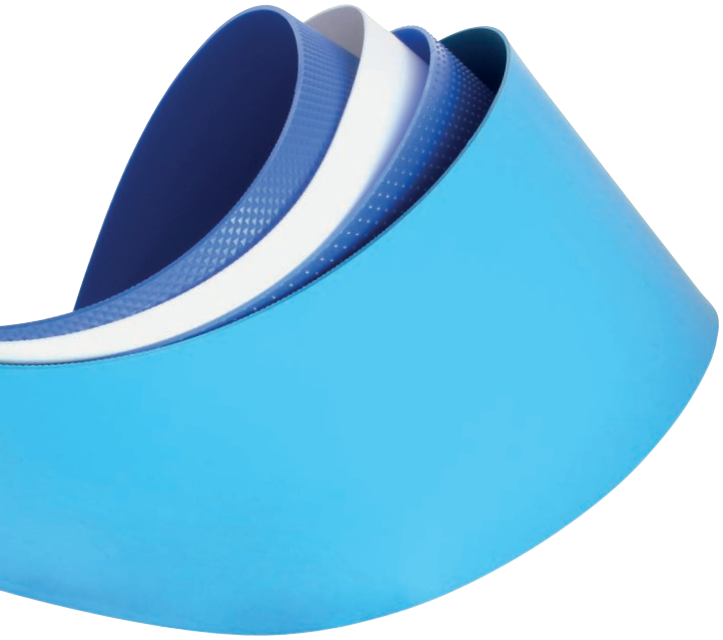
BEHAbelt FZ03/1 with EErgo Z

- Professional and easy to use guide clamps for overlap welding of reinforced profiles.
- Application range for round belts from 6 - 20 mm and for V-belts from 8 x 5 mm to 32 x 20 mm.
- EErgo Z with special Z-paddle for overlap welding with guide clamp FZ03/1.

BEHAbelt offers much more

Corresponding to our slogan “Smart conveying” BEHAbelt develops and supplies innovative conveying and power-transmission solutions since 1974. Please see here an overview about additional products in our portfolio.

For further details, please check our website www.behabelt.com or contact our sales/customer service team.

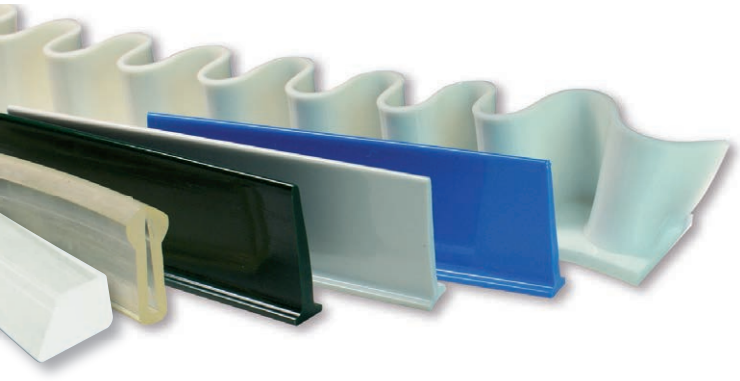


ELASTIC MONOLITHIC CONVEYOR BELTS

- Our elastic conveyor belts are made of solid PU (in practice often described as ‘monolithic’). There are no fabric layers or cords as reinforcement in the products. Therefore, these belts have a certain elasticity, depending on the actual shore hardness of the material.
- Thanks to the monolithic design, the belts are very easy to handle during further processing. For example, when cutting, welding or finishing.
- BEHAbelt is one of the leading manufacturers of belts when it comes to the variety of combinations in terms of surface structures, material properties and colours. A special feature is the unique surface finish „MICROclean“, which is only available from BEHAbelt.
- In particular, the monolithic belts are used in the food and packaging in the food and packaging industry as well as in the logistics sector.

COATINGS FOR TIMING BELT AND V-BELTS

- High-quality coating belts made of solid PU with excellent weldability for the individual coating of timing and V-belts or other products. The monolithic conveyor belts are also excellent coating materials.
- The coating materials provide better grip, allow for accumulation operation or better release of the conveyed material with low abrasion. The „PUtex“ coating is THE alternative to Linatex (rubber).



V-GUIDES AND WELDABLE PROFILES FOR CONVEYOR BELTS

- BEHAbelt offers the following PU weld-on profiles for the finishing of conveyor belts:
  - Sidewalls
  - cleats
  - belt edges
  - V-guides and other weld-on profiles.
- The excellent weldability of the materials ensures robust and durable connections. For some weld-on profiles, a raw material quality is available that allows PU profiles to be welded onto PVC.

The specifications
in this brochure are based on our current knowledge and experience. They do not acquit the processor from testing our products at its own due to the plenty of possible effects during processing application of our products. The legally binding confirmation of certain properties or of the qualification for a certain purpose can not be derived from our specifications. Possible trade mark rights as well as existing laws and regulations are to be followed by recipient of our products at his own responsibility.

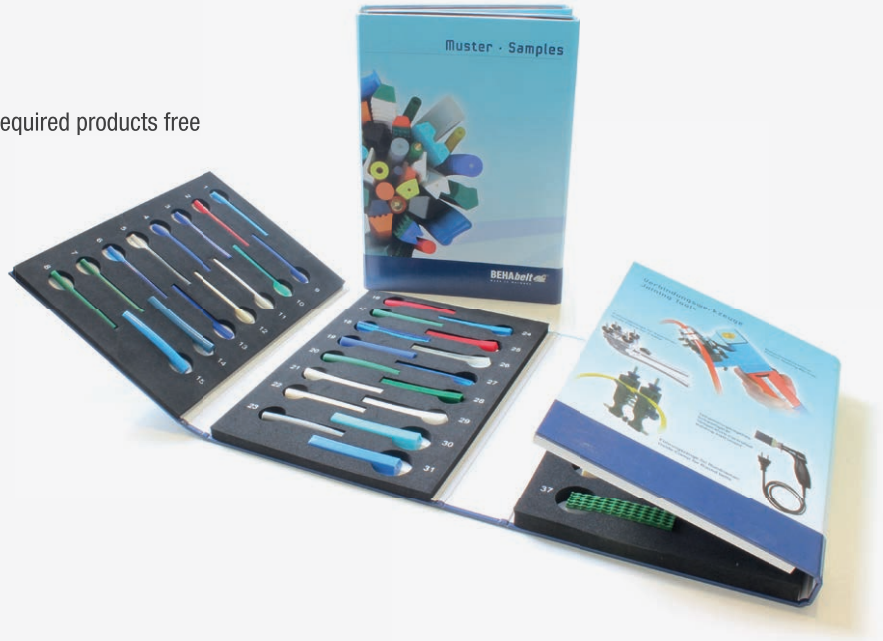
Changes
for the benefit of technical enhancements respectively adoption to modified standards or provisions are provided.

Pictures
in this brochure are examples of types and are not binding for the type at the time of delivery.

GET YOUR SAMPLES

We are happy to provide you with samples of your required products free of charge. We are looking forward to your message.

Phone: +49 7684 907 0



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