

# Weldable Round- and V-belts Special profiles

Product overview, applications, features and accessories



**“ 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 2mm to 20mm diameter
- V-profiles - from 6x4mm to 32x20mm
- 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 direct contact with food.



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



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



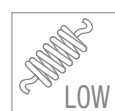
Hydrolysis-resistant belt profiles for use in warm, humid and wet environments.



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.



Exclusive use of raw materials of non-animal origin.



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

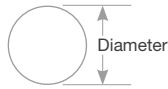
- Many years of experience, in-house tool-shop, individual consultation
- Development of customer specific profiles, belts and coatings
- Optimized for your application
- Based on your design

## 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 BEHbelt PU and TPE round belts enables the optimal selection of the most suitable product for conveying or power-transmission applications.














Product		PU60A SOFT		PU65A		PU70A		PU75A		PU75A PLUS		PU80A		PU80A SAFE	
Hardness / Shore		65° A		72° A		76° A		80° A		80° A		84° A		84° A	
Pretension		5...max. 10%		4...max. 8%		4...max. 8%		4...max. 8%		3...max. 6%		4...max. 8%		3...max. 6%	
approx. CoF (steel) - $\mu$		0,90		0,85		0,75		0,70		0,70		0,55 / 0,65 / 0,65 / 0,65		0,65	
Surface		smooth		smooth		smooth		smooth		matt		slightly rough / smooth		smooth	
FDA/EC		yes		yes		yes		yes	no	no		yes		yes	
Colors															
Special feature								HY, cold flexible		low elongation		HY		metal/x-ray detect.	
Reinforcement															
Belt $\varnothing$		Pulley $\varnothing$	Conveyance Belt Standard	Pulley $\varnothing$	Conveyance Belt Standard	Pulley $\varnothing$	Conveyance Belt Standard	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Standard	
mm	inch	mm	kg	mm	kg	mm	kg	mm	kg	kg		mm	kg	kg	
2,0	5/64							10	0,8	0,8		15	1,0	0,8	
3,0	1/8	10	1,0			15	1,2	20	1,7	1,8		25	2,1	1,8	
4,0	5/32	20	1,8	22	2,0	25	2,2	30	3,0	3,2		30	3,8	3,2	
4,8	3/16					30	3,2	35	4,3	4,6		40	5,5	4,6	
5,0	1/5	30	2,7	32	3,1	35	3,5	40	4,7	4,9		45	6,0	4,9	
6,0	7/32	35	4,0	40	4,5	45	5,0	50	6,8	7,1		55	8,6	7,1	
6,3	1/4							55	7,5	7,9		60	9,5	7,9	
7,0	9/32							60	9,2			65	11,7		
8,0	5/16	45	7,0			55	8,8	65	12,1	12,7		75	15,3	12,7	
9,5	3/8	60	9,9					75	17,0	17,9		90	21,5	17,9	
10,0	7/16	65	11,0					80	18,8	19,8		95	23,9	19,8	
12,0	15/32							90	27,1			110	34,4	28,5	
12,5	1/2							100	29,5			115	37,3	30,9	
14,3	9/16											130		40,5	
15,0	19/32							120	42,4			140	53,7	44,5	
18,0	3/4							150	69,2			170	85,5		
20,0	25/32							170	85,5			180	105,5		








Product		PU85A			PU85A			PU90A		PU90A			PU95A		
Hardness / Shore		88° A			88° A			92° A		92° A			95° A		
Pretension		(0,5)...max. 2%			(0,5)...max. 2%			3...max. 5%		0,5...max. 2%			0,5...max. 2%		
approx. CoF (steel) - $\mu$		0,45			0,60 / 0,45			0,50		0,50			0,35		
Surface		rough			smooth / rough			smooth		smooth			smooth / slightly rough		
FDA/EC		yes			no			no		no			no		
Colors															
Special feature															
Reinforcement		Aramid			Aramid					Polyester			Aramid		
Belt $\varnothing$		Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley $\varnothing$	Conveyance Belt Standard	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt (Overlap)
mm	inch	mm	kg	kg	mm	kg	kg	mm	kg	mm	kg	kg	mm	kg	kg
2,0	5/64							20	1,4						
3,0	1/8							30	3,3						
4,0	5/32							40	5,8						
4,8	3/16							50	8,8						
5,0	1/5	55	7,9	(34,6)	50	7,9	-	55	9,0						
6,0	7/32	60 (80)	11,3	(35,2)	60 (80)	11,3	(35,2)	70	13,0	70 (90)	13,0	(34,3)			
6,3	1/4	65 (85)	12,5	(35,5)	65 (85)	12,5	(35,5)	75	14,3	75 (100)	14,3	(35,1)			
7,0	9/32				70 (90)	15,4	(36,0)			85 (110)	17,7	(46,4)			
8,0	5/16	80 (110)	20,1	(58,7)	80 (110)	20,1	(58,7)	90	23,1	90 (115)	23,1	(49,6)			
9,5	3/8	95 (125)	28,4	(60,2)	95 (125)	28,4	(60,2)	105	32,6	105 (135)	32,6	(55,3)	175 (228)	35,4	(65,5)
10,0	7/16	100 (130)	31,4	(60,8)	100 (130)	31,4	(60,8)	110	36,1	110 (145)	36,1	(57,4)			
12,0	15/32	120 (155)	45,2	(63,4)	120 (155)	45,2	(63,4)	130	52,0	130 (170)	52,0	(138,4)			
12,5	1/2	125 (165)	49,1	(64,1)	125 (165)	49,1	(64,1)	135	56,5	135 (175)	56,5	(141,1)	230 (300)	61,4	(130,4)
14,3	9/16				145 (180)	69,8	(125,1)								
15,0	19/32	150 (195)	70,7	(125,2)	150 (195)	70,7	(125,2)	165	81,3	165 (215)	81,3	(205,7)			
18,0	3/4				190 (245)	101,8	(131,0)	200	117,1	200 (260)	117,1	(227,1)			
20,0	25/32				200 (260)	125,7	(135,5)	220	144,5	220 (290)	144,5	(243,6)			

**General advice:** Information on the transport weight is based on the assumption  $\mu=0.5$  | Data and specifications valid for belts: Temperature range 20°C ( $\pm 10^\circ\text{C}$ ) | 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“

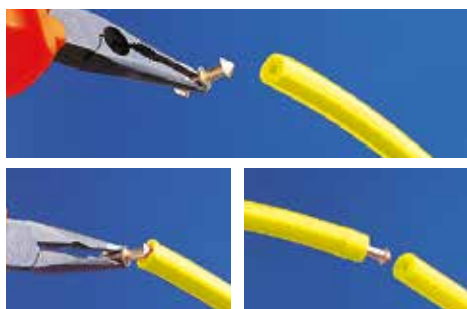
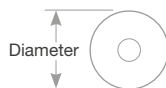
Extruded round belts are available in various shore-hardness grades and diameters. We are offering food compliant products and belts with special features for demanding applications.

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







Product		PU80A			PU85A					PU85A PLUS	PU85A			PU85A	
Hardness / Shore		84° A			88° A					88° A	88° A			88° A	
Pretension		(0,5)...max. 2%			4...max. 8%				3...max. 6%	3...max. 6%	(0,5)...max. 2%			(0,5)...max. 2%	
approx. CoF (steel) - μ		0,65			0,60	0,45	0,45	0,60	0,60	0,45	0,60			0,60 / 0,45	
Surface		smooth			smooth	rough	rough	smooth	smooth	rough	smooth			smooth / rough	
FDA/EC		yes			no		yes	yes	no		no			yes	
Colors															
Special feature							HY		antistatic		low elongation			HY	
Reinforcement		Polyester											Polyester		
Belt 		Pulley 	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley 	Conveyance Belt Standard					Pulley 	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley 	Conveyance Belt Standard
mm	inch	mm	kg	kg	mm	kg	kg	kg	kg	kg	mm	kg	kg	mm	kg
2,0	5/64				15	1,3	1,2	1,2	1,1	1,2					
3,0	1/8				25	2,8	2,6	2,6	2,5	2,7					
4,0	5/32				35	5,0	4,6	4,6	4,5	4,8					
4,8	3/16				45	7,2	6,7	6,7		6,9					
5,0	1/5				50	7,9	7,2	7,2	7,1	7,5					
6,0	7/32	55 (75)	9,5	(39,3)	60	11,3	10,4	10,4	10,2	10,9	60 (80)	10,4	(39,7)		
6,3	1/4	60 (80)	10,5	(39,7)	65	12,5	12,5	11,5		12,0	65 (85)	11,5	(40,1)		
7,0	9/32	65 (85)	12,9	(40,6)	70	15,4	14,2			14,8	70 (90)	14,2	(41,1)		
8,0	5/16	80 (105)	16,9	(42,1)	80	20,1	18,5	18,5		19,3	80 (110)	18,5	(42,7)	85	19,8
9,5	3/8	90 (120)	23,8	(44,7)	95	28,4	26,1	26,1		27,2	95 (125)	26,1	(45,5)	100	28,1
10,0	7/16	100 (130)	26,4	(45,6)	100	31,4	28,9	28,9		30,2	100 (130)	28,9	(46,6)	105	31,0
12,0	15/32	110 (145)	38,0	(121,4)	120	45,2	41,6	41,6		43,4	120 (155)	41,6	(122,8)	125	44,7
12,5	1/2	115 (150)	41,2	(122,6)	125	49,1	45,2			47,1	125 (165)	45,2	(124,)	130	48,6
14,3	9/16	130 (165)	53,9	(177,1)										150	63,4
15,0	19/32				150	70,7	70,7			67,9	150 (195)	65,0	(181,3)	155	69,9
18,0	3/4				180	101,8	101,8							195	n/a
20,0	25/32				200	125,7	125,7								

Product		TPE40D		TPE55D		TPE55D			TPE55D	TPE55D		TPE63D		TPE63D
Hardness / Shore		40°D/95°A		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%		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		0,50		0,35		0,35			0,35	0,35		0,30		0,30
Surface		smooth		smooth		smooth			smooth	smooth		smooth		smooth
FDA/EC		yes		yes		yes			yes	yes		yes		yes
Colors														
Special feature												UV resistance		
Reinforcement						Polyester			Aramid	Steel		Polyester		Aramid
Belt ∅		Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Conveyance Belt (Overlap)	Conveyance Belt (Overlap)	Pulley ∅	Conveyance Belt CRIMP	Pulley ∅	Conveyance Belt Standard	Conveyance Belt (Overlap)
mm	inch	mm	kg	mm	kg	mm	kg	kg	kg	mm	kg	mm	kg	kg
2,0	5/64													
3,0	1/8	30	3,3	40	6,8									
4,0	5/32	40	5,8	50	12,1									
4,8	3/16	50	8,4	60	17,4									
5,0	1/5	55	9,1	65	18,8									
6,0	7/32	70	13,1	80	27,1	80 (105)	27,1	(56,1)						
6,3	1/4	75	14,5	85	29,9	85 (110)	29,9	(58,2)						
7,0	9/32	85	17,9			95 (125)	36,9	(63,5)						
8,0	5/16	90	23,3	110	48,3	110 (145)	48,3	(71,9)						
9,5	3/8	105	32,9	135	68,0	135 (175)	68,0	(86,8)	(137,5)	380	225,0	190 (247)	56,7	(192,2)
10,0	7/16	110	36,4	145	75,4	145 (190)	75,4	(92,3)						
12,0	15/32	130	52,5	170	108,6	170 (225)	108,6	(188,6)						
12,5	1/2	135	56,9	180	117,8	180 (235)	117,8	(195,5)	(156,1)	380	225,0	270 (350)	98,2	(254,4)
14,3	9/16													
15,0	19/32	165	82,0	210	169,6	210 (275)	169,6	(284,1)						
18,0	3/4			250	244,3	250 (325)	244,3	(340,1)						
20,0	25/32													

# 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		cold flexible, HY						HY	
Diameter ∅		Pulley ∅		Conveyance Belt Standard	Pulley ∅		Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard
mm	Inch	mm	kg	kg	mm	kg	kg	mm	kg
4,8	3/16	30	3,7	4,2	35	6,2	5,7	45	7,2
6,3	1/4	45	6,3	7,1	55	10,5	9,7	60	12,1
8,0	5/16	55	10,1	11,5	65	16,9	15,5	75	19,4
9,5	3/8	65	14,3	16,2	75	23,8	21,9	85	27,4
12,5	1/2	85	24,4	27,6	100	40,6	37,3	115	46,7
15,0	19/32	100	37,3	42,3	120	62,2	57,2	140	71,5



Brass fitting




# Twisted round belt (with hook joint)

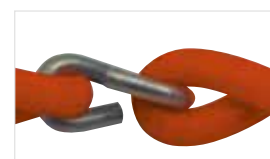


Twisted round belts with hook joint are applicable as live roller drive belts, whereas several belts are installed on on shaft. The mechanical hook joint enables quick and easy assembling. Twisted round belts are available in fabricated length from 250mm to 710mm.

Further BEHAbelt round belts  $\varnothing$  3mm are also available as a version.

Effective Diameter: Construction: 2 x  $\varnothing$  3 mm ( $\varnothing$  5mm)

Product		PU70A		PU75A PLUS		PU85A	
Hardness/Shore		76°A		80°A		88°A	
Pretension		8...max. 10%		6...max. 8%			
approx. CoF (steel) - $\mu$		0,75		0,70		0,45	
Surface		smooth		smooth (mat)		rough	
FDA/EC		yes		no		no	
Colors							
Special feature				low elongation			
Effective Belt $\varnothing$		Pulley $\varnothing$	PT/Drive Fmax Standard	Pulley $\varnothing$	PT/Drive Fmax Standard	Pulley $\varnothing$	PT/Drive Fmax Standard
mm	inch	mm	N	mm	N	mm	N
5,0	1/5	35	12	40	24	50	39

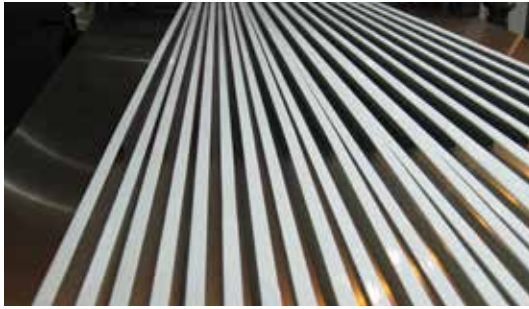
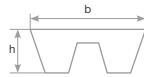


## General advice:

Information on the transport weight is based on the assumption  $\mu=0.5$  | Data and specifications valid for belts at temperature of 20°C ( $\pm 10^\circ\text{C}$ )  
Indication of minimal pulley diameter applies to neutral layer of the belt | „HY“ in field „Special Feature“ stands for „Hydrolysis and microbial resistance“



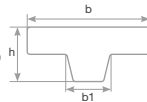
# Twin-V-belts



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.

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%			3...max. 5%	
approx. CoF (steel) - $\mu$	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				
Dimension w x h	Pulley $\varnothing$	Conveyance Belt Standard	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Standard (Overlap)	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt (Overlap)	Pulley $\varnothing$	Conveyance Belt Standard
mm	mm	kg	mm	kg	kg	mm	kg	kg	mm	kg
24 x 6,8			60	28,8					100	63,0
21 x 8	60	24,5	80	28,8	40,3 (41,6)					
30 x 8	60	38,8	80	45,6	63,8 (50,4)	100 (130)	76,0	(100,0)	120	92,0

# 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.

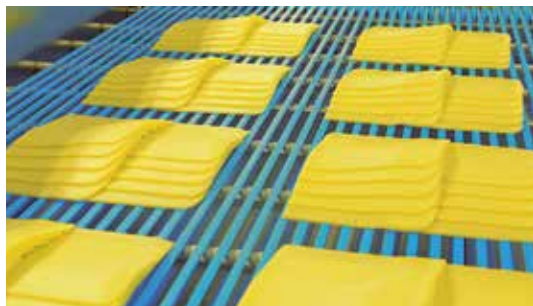
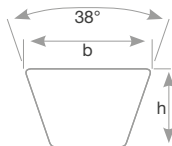
BEHAbelt offers two PU95A-T profiles (30 x 9,5 mm & 50 x 11,5 mm) in beige especially for the building materials industry.

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	88°A
Pretension	4...8%	4...8%	4...8%	3...6%	4...8%	4...8%			4...8%	3...6%	3...6%	3...6%
approx. CoF (Steel) - $\mu$	0,70	0,65	0,65	0,65	0,65	0,90	0,75	0,65	0,70	0,60	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				soft	HY		HY	HY		HY
Reinforcement												
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 $\varnothing$ / mm	25	20	30	50	40	25	30	40	30	50		100
Conveyance / Belt / kg	4,0	3,2	6,7	5,5	9,1	4,9	7,0	13,4	6,0	16,0	18,1	22,9

## General advice:

Information on the transport weight is based on the assumption  $\mu=0.5$  | Data and specifications valid for belts at temperature of 20°C ( $\pm 10^\circ\text{C}$ ) | 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

# V-Belts



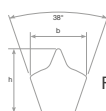
V-belts can be found in several power-transmission and conveying applications.

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.

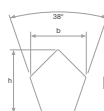
Product	PU75A			PU75A			PU75A		
Hardness/Shore	80°A			80°A			80°A		
Pretension	4...8%			0,5...2%			0,5...2%		
approx. CoF (steel) - $\mu$	0,70			0,70			0,70		
Surface	smooth			smooth			smooth		
FDA/EC	no			yes			no		
Colors									
Special feature				HY			Weldable reinforcement		
Reinforcement				Glass fibre PU			Polyester		
Profile dimension	Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard	
mm	mm	kg	kg	mm	kg	kg	mm	kg	kg
6 x 4 (Y)	35	5,0	4,4						
8 x 5 (M)	40	8,5	7,5						
10 x 6 (Z)	50	13,0	11,5						
13 x 8 (A)	75	22,3	19,7	110	19,3		75	22,3	44,1
17 x 11 (B)	100	39,7	35,0	140	34,4		100	39,7	122,1
22 x 14 (C)	140	66,2		180	40,9		140	66,2	181,7
32 x 20 (D)	210	138,5							

Product	PU85A			PU85A			PU90A			PU90A			PU95A		
Hardness/Shore	88°A			88°A			92°A			92°A			95°A		
Pretension	0,5...2%			0,5...2%			3...5%			0,5...2%			0,5...2%		
approx. CoF (steel) - $\mu$	0,60			0,60			0,50			0,50			0,45		
Surface	smooth			smooth			smooth			smooth			smooth		
FDA/EC	yes			no			no			no			yes		
Colors															
Special feature	HY			Weldable reinforcement											
Reinforcement	Polyester			Glass fibre PU						Polyester			Polyester		
Profile dimension	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Overlap	Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Overlap	Pulley $\varnothing$	Conveyance Belt Standard	Conveyance Belt Overlap
mm	mm	kg	kg	mm	kg		mm	kg		mm	kg	kg	mm	kg	kg
6 x 4 (Y)															
8 x 5 (M)							60	14,4		65	14,4	35,2			
10 x 6 (Z)							80	22,0		85	22,0	48,9			
13 x 8 (A)	95	30,2	37,8	125	21,6		105	37,7		110	37,7	58,4	130	41,0	60,3
17 x 11 (B)	120	53,7	55,9	180	38,5		140	67,1		150	67,1	147,4	175	72,9	150,9
22 x 14 (C)	165	89,5	140,7	220	48,6		200	111,9		210	111,9	224,0	250	121,6	229,9
32 x 20 (D)							320	234,3							

## 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) - $\mu$	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					
Dimension	Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard		Pulley $\varnothing$	Conveyance Belt Standard	
mm	mm	kg		mm	kg		mm	kg	
17 x 19							180		58,5
22 x 25	210	92,0		210	92,0		220		97,8

**General advice:** Information on the transport weight is based on the assumption  $\mu=0.5$  | Data and specifications valid for belts at temperature 20°C ( $\pm 10^\circ\text{C}$ ) |

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		
84° A		84° A			84° A			88° A			88° A		88° A		
3...6%		4...8%			0,5...2%			4...8%			3...6%		0,5...2%		
0,65		0,65			0,65			0,60			0,60		0,60		
smooth		smooth			smooth			smooth			smooth		smooth		
yes		yes			yes			yes		no	no		no		
		  						 							
metal / X-ray detectable		HY						HY			low elongation				
					Polyester								Aramid		
Pulley Ø	Conveyance Belt Standard	Pulley Ø	Conveyance Belt Standard		Pulley Ø	Conveyance Belt Standard	Conveyance Belt Overlap	Pulley Ø	Conveyance Belt Standard		Pulley Ø	Conveyance Belt Standard	Pulley Ø	Conveyance Belt Standard	Conveyance Belt Overlap
mm	kg	mm	kg	kg	mm	kg	kg	mm	kg	kg	mm	kg	mm	kg	kg
40	4,6	40	6,1	5,6				45	6,7	7,3	45	7,0			
45	7,9	45	10,5	9,5	50	10,5	30,5	50	11,5	12,5	50	12,0	60	12,5	35,5
55	12,0	55	16,0	14,5	60	16,0	32,5	65	17,6	19,1	65	18,3	70	19,1	36,7
85	20,7	85	27,5		85	27,5	46,1	95	30,2	32,8	95	31,5	100	32,8	61,0
110	36,8	110	49,0		110	49,0	125,6	120	53,7	58,3	120	56,0	140	58,3	65,8
150	61,3	150	81,7		150	81,7	187,5	165	89,5	97,3	165	93,4	180	97,3	130,2
		220	171,1		220	171,1	221,1	250		203,7	250	195,6	275	203,7	n/a

TPE40D		TPE55D		TPE55D		
40°D/95° A		55°D/100° A		55°D/100° A		
2...4%		2...4%		0,5...2%		
0,50		0,35		0,35		
smooth		smooth		smooth		
yes		yes		yes		
		 				
				Polyester		
Pulley Ø	Conveyance Belt Standard	Pulley Ø	Conveyance Belt Standard	Pulley Ø	Conveyance Belt Standard	Conveyance Belt Overlap
mm	kg	mm	kg	mm	kg	kg
60	14,5	80	30,1			
80	22,2	105	45,8	110	45,8	70,1
105	38,0	130	78,7	135	78,7	94,8
140	67,7	175	140,0	190	140,0	212,2
200	112,9	250	233,5	260	233,5	332,0

## 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

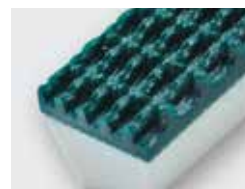
The use of coatings on V-belts allows certain material properties to be achieved, e.g. better grip, accumulation operation or better release of the conveyed material.









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



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



Supergrip PVC 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 ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard	Pulley ∅	Conveyance Belt Standard
mm	kg	mm	kg	mm	kg	mm	kg	mm	kg	mm	kg
190	63,9	190	63,9	240	43,7	260	45,2	200	97,5	210	106,5
240	109,5	240	109,5	280	57,4	300	61,3	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
Hardness/Shore	80°A			88°A			80°A	84°A	88°A	84°A
Pretension	3...6%			3...6%				4...8%		3...6%
approx. CoF (steel) - $\mu$	0,70			0,60			0,70	0,65	0,60	0,65
Surface	smooth			smooth			smooth			smooth
FDA/EC	no			no			yes			yes
Colors										
Special feature	cold flexible, low elongation			low elongation			vaulted top, HY			additional height
Reinforcement										
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
Pulley $\varnothing$ / mm	30			40			40	50	55	80
Conveyance / Belt / kg	2,9	4,3	5,8	6,1	9,2	12,3	9,4	13,1	14,4	14,6

Product	PU85A	TPE55D	TPE55D <i>unfuever</i>		TPE55D		3L T-Top PU80A	Crown Top PU80A
Hardness/Shore	88°A	55°D/100°A	55°D/100°A		55°D/100°A		84°A	84°A
Pretension	3...6%	2...4%	2...4%		2...4%		3...max. 6%	3...6%
approx. CoF (steel) - $\mu$	0,60	0,35	0,35		0,35		0,65	0,65
Surface	smooth	smooth	smooth		smooth		smooth	smooth
FDA/EC	no	yes	yes		yes		yes	yes
Colors								
Special feature	Double V-belt	additional height	vaulted top		with chamfer			
Reinforcement			Polyester		Polyester			
Dimension / mm	17 x 13,5	22 x 16	16,35 x 11,3		17 x 11,4		14,3 x 7,5	14,3 x 6,3
Pulley $\varnothing$ / mm	160	280	175	180	175	180	80	80
Conveyance / Belt / kg	57,6	299,5	143,0	143,0 / (214,5)	139,2	139,2 / (211,6)	18,1	14,6

Product	Wing Top PU80A	T-Profil PU80A	T-Profil PU80A	Corn belt PU80A	Pear Profile PU80A	PU85A (French Fries)		Rectangle PU85A
Hardness/Shore	84°A	84°A	84°A	84°A	84°A	88°A		88°A
Pretension	3...6%	3...6%	3...6%	3...6%	0,5...2%	3...6%		4...8%
approx. CoF (steel) - $\mu$	0,65	0,65	0,65	0,65	0,65	0,60		0,60
Surface	smooth	smooth	smooth	smooth	smooth	smooth		smooth
FDA/EC	yes	yes	yes	yes	yes	yes		no
Colors								
Special feature		half round	half round	w/o / with serrations		HY		
Reinforcement					Polyester			
Dimension / mm	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 $\varnothing$ / mm	125	40	40	50	350	120	120	95
Conveyance / Belt / kg	39,3	16,4	11,1	47,9	153,2	35,9	43,9	58,3

**General advice:** Information on the transport weight is based on the assumption  $\mu=0.5$  | Data and specifications valid for belts at temperature 20°C ( $\pm 10^\circ\text{C}$ ) | 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“

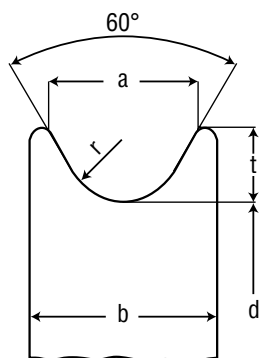
# Pulley shapes

## “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 2m 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

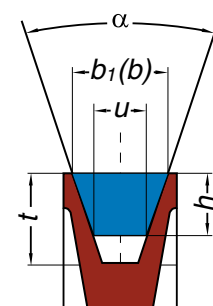


Belts Ø mm	2	3	4	4,8	5	6	6,3	7	8	9,5	10	12	12,5	15	18	20
a	4,5	5,5	7	8	8	10	10	11	12	14,5	15	18	18,5	23	28	30
b	6,5	8	10	12	12	14	14	15	16	19	19	22	23,0	27	32	36
t	2,5	3	3,5	4	4	5	5	5,5	6	7	7,5	9	9	12	14	15
r	1,4	1,9	2,5	3	3	3,5	3,5	4	4,5	5,5	5,5	6,5	7	8	9,5	11

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  $\mu$  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 $\alpha$	$\angle 34 - 38^\circ$						
Groove width b <sub>1</sub>	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 groove.

### Pulleys for T-Profiles

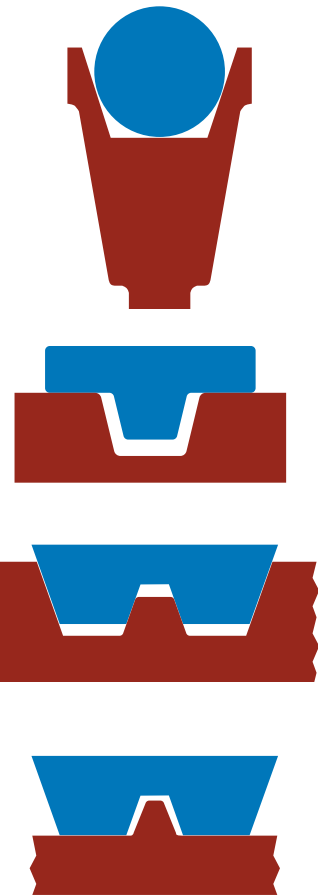
The power-transmission of such belts takes place on the flat area of the belt reverse side. This means the V-guide is not an element to transmit power but has guiding purpose only. Hence, the guide should run free in the groove with little space and must never be clamped!

### 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.

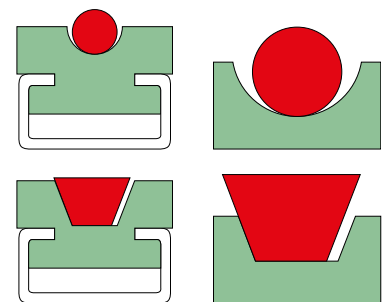


## Guide rails and supporting rollers

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

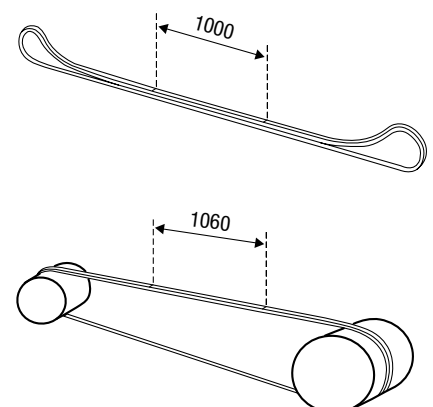
dimensions of the goods to be conveyed. Supporting guide rails with a smooth surface can be grooved to support transport belts. The dimensions of the groove are to be designed in a width that prevents the belt from jamming. The guiding rails should be made of materials with good sliding qualities (PE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



## Pretension

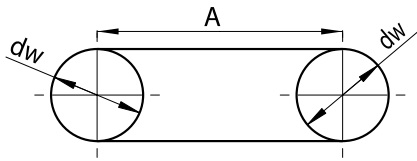
To ensure that the conveyor system works reliably, the belts must be sufficiently tensioned. We therefore recommend a pretension factor of approx. 0.5 to 10%, depending on the belt quality (Shore hardness), belt construction (with/without reinforcement), connection

technology (butt/overlap) and belt length. To determine the initial tension in the belt, it has been proven in practice to mark the belt in a tension-free state and to measure the change in length of the markings.



# Calculations

## Calculation of belt length



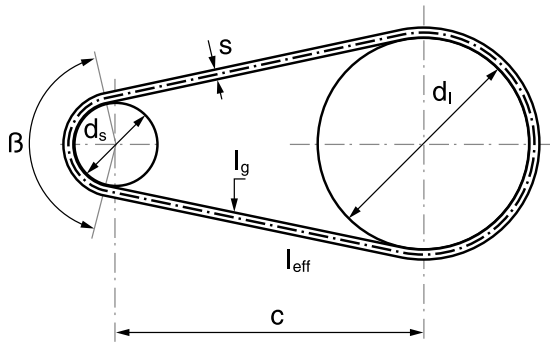
$$L_{11} = dw \times \pi + 2 \times A$$

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!**



$$L_{eff} = 2c \cdot \sin\left(\frac{\beta}{2}\right) + \frac{\pi}{2} \left[ d_s + d_1 + 2s + \frac{(d_1 - d_s)(180 - \beta)}{180} \right] \text{ [mm]}$$

$$\beta = 2 \arccos\left(\frac{d_1 - d_s}{2c}\right) [^\circ]$$

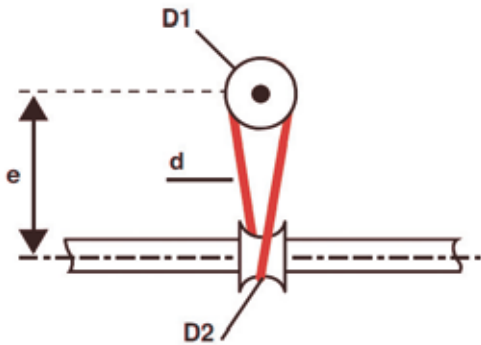
c = center distance [mm]

ds = Diameter of the small pulley [mm]

d1 = Diameter of the big pulley [mm]

β = Wrapping angle on small pulley

**The recommended pretension has to be considered in addition!**



### Lineshaft conveyor belts (semi-crossed)

$$L_{13} = [(D1 + d) + (D2 + d)] \times \pi / 2 + 2 \times \sqrt{[(D1 + d)^2 / 4 + e^2]}$$

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

D1 : pulley diameter at bottom of groove

D2 : inner diameter of diablo 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	126
	La = Lw +	10	12	16	20	29	51
La = outside length	Lw = Li +	15	19	22	30	40	75
Lw = effective length / cut length	Lw = La -	10	12	16	20	29	51
Li = inside length							

**The recommended pretension has to be considered in addition**

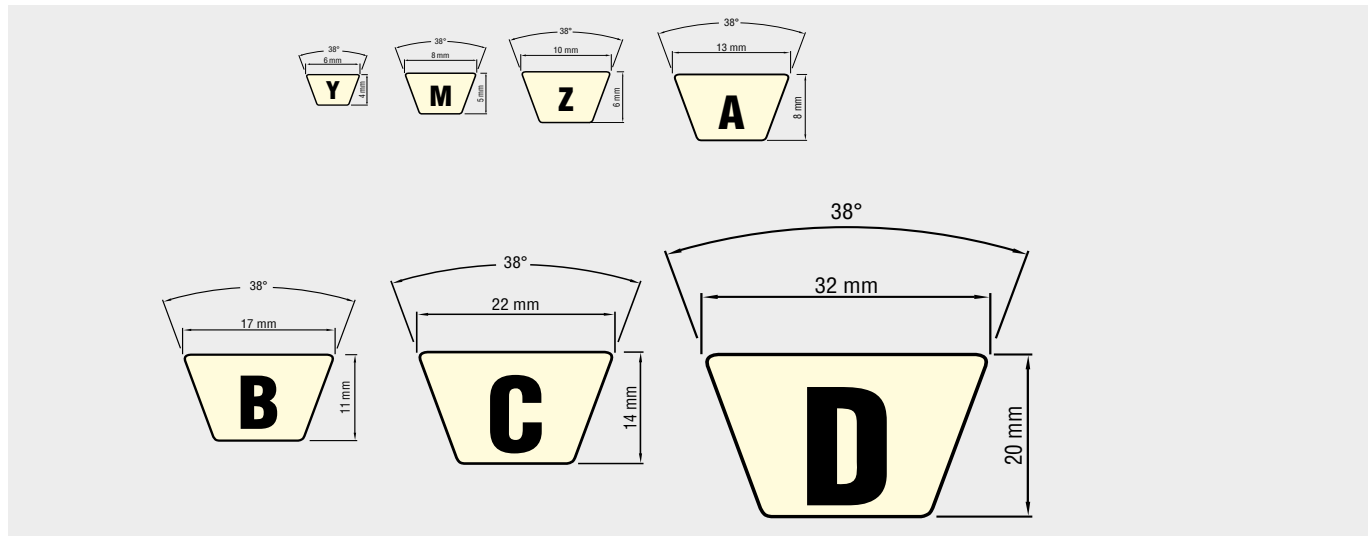
# Coefficient of friction

## Coefficient of friction $\mu$ for smooth surfaces (G)

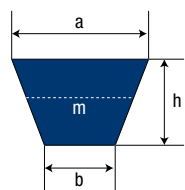
Quality	Alu	Steel	Glass	Wood (veneer)	PE	HDPE
PU40A	1,35	1,30	1,10	1,10	0,85	0,80
PU60A	0,95	0,90	0,75	0,80	0,55	0,50
PU65A	0,90	0,85	0,65	0,70	0,50	0,45
PU70A	0,85	0,75	0,60	0,70	0,40	0,35
PU75A	0,85	0,70	0,50	0,65	0,40	0,35
PU80A	0,80	0,65	0,45	0,60	0,35	0,30
PU85A	0,75	0,60	0,40	0,50	0,35	0,30
PU85A 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

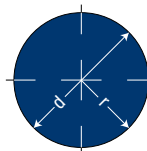


## Calculation of round belt and V-belt cross section



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

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



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

$$U = \pi \times d$$

# 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.

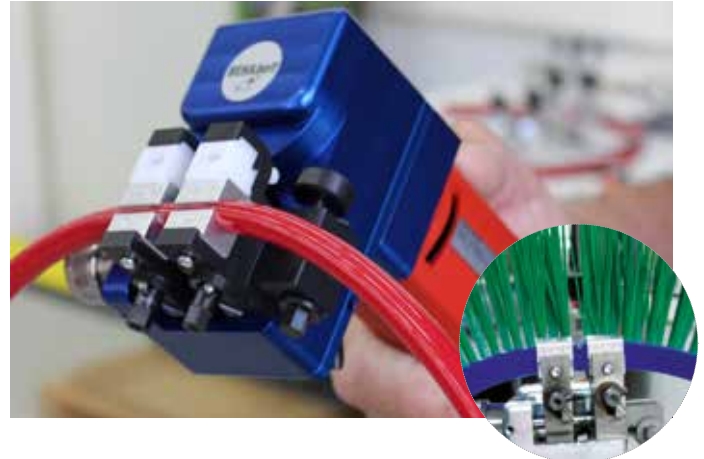
## PADDLE WELDING



### 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.

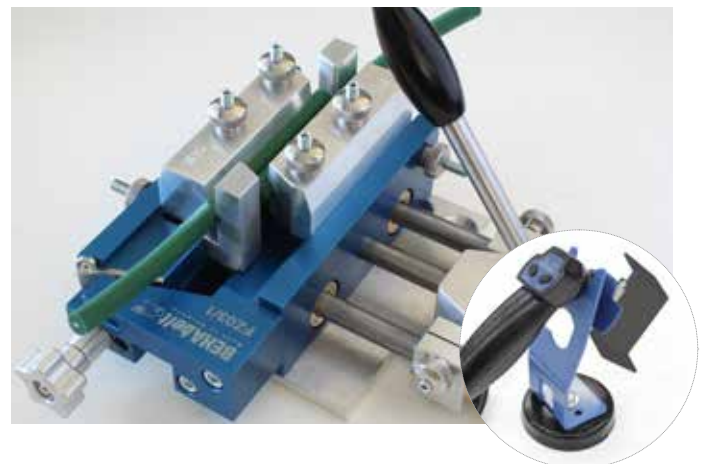
## HOT PRESS



### 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

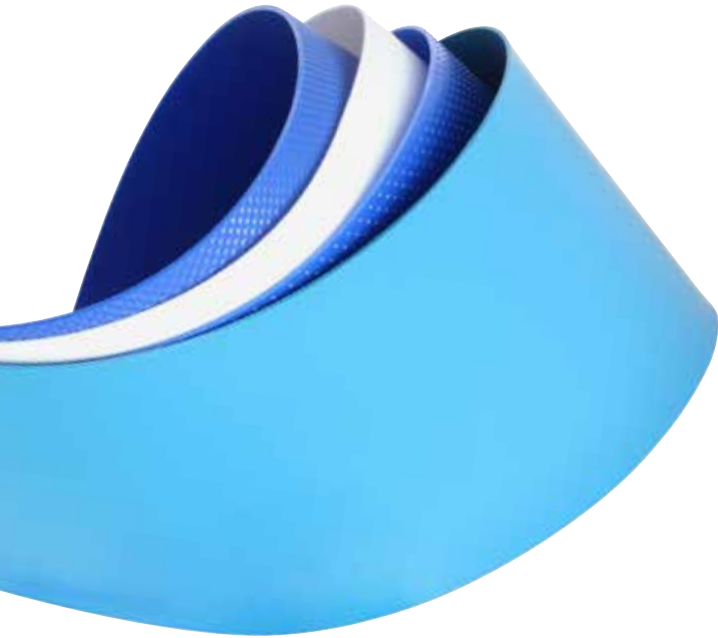


### BEHAbelt FZ03/1 with EErgo Z

- 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

True to the motto 'smart conveying', BEHAbelt has been developing and supplying innovative solutions in conveyor and drive technology since 1974. Enclosed you will find an overview of the other product groups from the BEHAbelt portfolio. We would be happy to send you further details and information or you can visit the website at [www.behabelt.com](http://www.behabelt.com). We appreciate your interest.



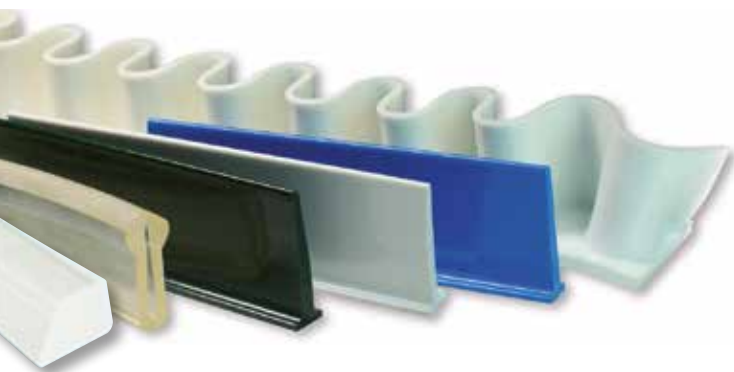
## ELASTIC MONOLITHIC CONVEYOR BELTS

- 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 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.

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