

STEEL BELTS FOR RUBBER AND PLASTICS PRODUCTION

Berndorf Band is one of the world's leading manufacturers of high-quality stainless steel process belts. Continuous improvements and innovative manufacturing methods make it possible to adapt belt characteristics to customers' special requirements.

High-quality steel belts for high-quality products

Berndorf belts are noted for their superior surface quality, which translates into high-quality end products. This is an important consideration in the manufacture of rubber and plastic sheet products.

Steel belts with widths of up to 4,000 mm are used in rubber and plastics manufacturing.

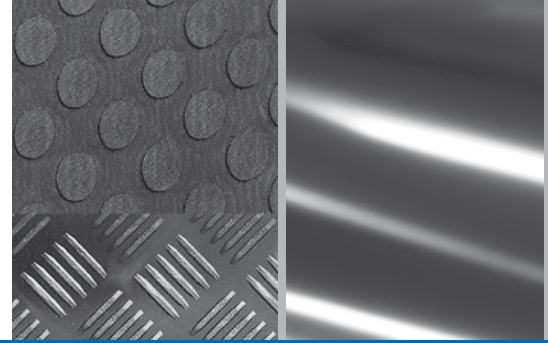
Our maxim of "continuous reliability" stands for: high-quality steel belts, world-wide service, the latest service equipment, and training for our customers' service staff.



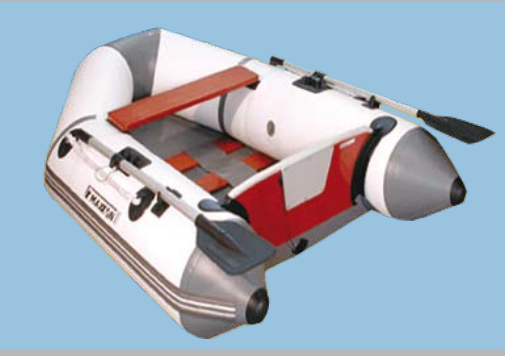
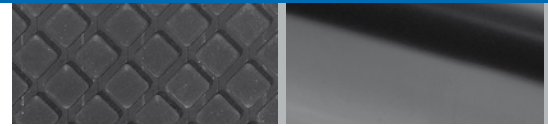
Continuous Reliability

Berndorf Band GmbH
A-2560 Berndorf / Austria
Tel (+43)2672/800-0
Fax (+43)2672/84 176
band@berndorf.co.at
www.berndorf-band.at





Materials and finishes for different applications



For over 30 years, Berndorf Band has been successfully using the two martensitic materials NICRO 52.6 and NICRO 62.5 for applications such as double belt and rotocure presses.

On the other hand, the steel belt qualities NICRO 12.1 and NICRO 31 are utilized for cooling belts in the tyre industry and for salt baths for the pretreatment of rubber products.

Various different finishes are possible, depending on the application:

- with or without a longitudinal weld,
- endless or prepared for welding, or
- with a spiral weld.

Mill finished belts

are used for the manufacture of general rubber and plastic sheet products such as transport belts or rubber products for the tyre industry. Belt widths of up to 2,000 mm can be achieved.

Belts ground on one side

provide the basis for the production of high-quality rubber transport belts, printing blankets, reinforced rubber sheet products and inflatable boat sheeting. They offer the advantage of uniform thickness.

Belts ground on both sides

are used for the manufacture of rubber linings for tanks and reactors in the chemical industry. They offer the most uniform possible thickness necessary in the production of very thin products.

Service / Rotocure Press

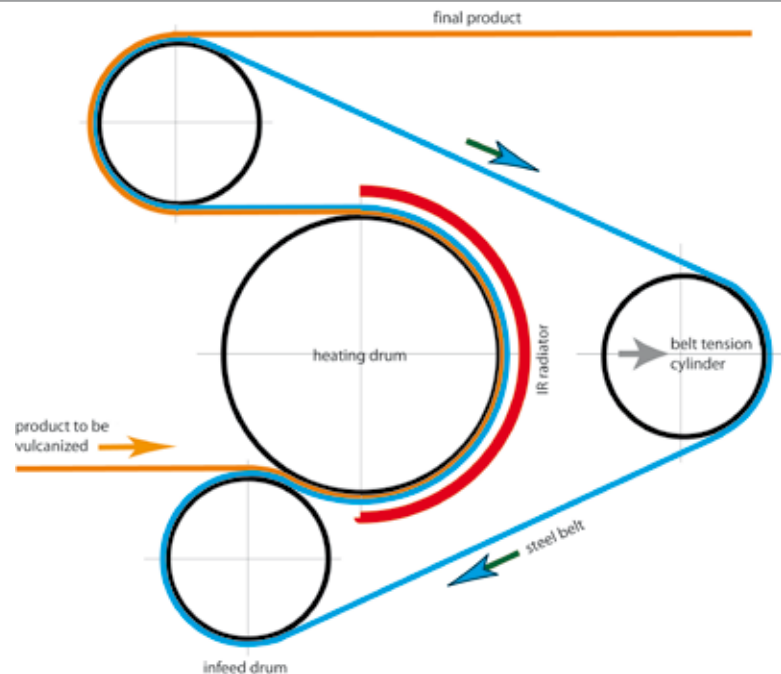
Apart from supplying steel belts, we also have a steadily expanding service organizational operating world-wide to provide first class, reliable on-site service.

A team of engineers at the service centre in Berndorf works with local service organizations to provide expert advice and schedule installation and maintenance work together with the customer.



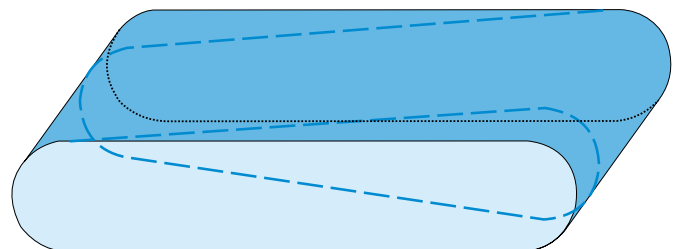
Principle of the rotocure press

In a rotocure press, the product is fed to the drum over a deflection roller. After three-quarters of a rotation, it is then wound up again over another deflection roller. The vulcanization process is carried out by pressing the product against the heating drum by means of a steel belt.



Spiral welding

A steel belt with a spiral weld has considerable advantages with respect to tolerance and service life when used in a rotocure press.



Technical data

Physical and mechanical properties.
Typical values.

Material			NICRO 12.1	NICRO 31	NICRO 52.6	NICRO 62.5
Type			CrNi 17 7	CrNiTi 13 4	CrNiCuTi 15 7	CrNiCu 15 5
Similar material		DIN AISI	1.4310 301	1.4313 -	- -	- -
Tensile strength	RT	N/mm ²	1150	1080	1550	1450
0.2% yield offset strenght	RT	N/mm ²	950	1050	1500	1410
Hardness		Rockwell HRC Vickers HV 10	37,0 360	33,5 330	47,5 480	46,0 460
Elongation 50 mm		%	18	5	6	8
Welding factor			0,70	0,95	0,80	0,75
Fatigue strength under reversed bending stress*)	RT	N/mm ²	480	480	700	650
Modulus of elasticity	at 20 °C	N/mm ²	200.000	205.000	200.000	200.000
Density		kg/dm ³	7,90	7,70	7,74	7,80
Mean coefficient of thermal expansion	20-100 °C 20-200 °C 20-300 °C	10 ⁻⁶ m/m°C 10 ⁻⁶ m/m°C 10 ⁻⁶ m/m°C	16,0 17,0 -	10,8 11,2 11,7	10,9 11,5 11,7	10,8 10,8 11,3
Specific heat		J/g°C	0,50	0,46	0,50	0,42
Thermal conductivity	at 20 °C	W/m°C	15	21	16	16
Specific electric resistance	at 20 °C	Ohm mm/m ²	0,73	0,60	0,80	0,77
Max. permissible operating temperature		°C °F	250 480	350 660	350 660	300 572
Tensile strength at max. permissible operating temperature		N/mm ²	940	970	1250	1160
0.2% yield offset strength at max. permissible operating temperature		N/mm ²	770	930	1180	1130

*) 50% of the test specimens withstand 2,000,000 load cycles.
If not otherwise specified, the values given apply at room temperature.
Subject to change due to technological progress. Errors and omissions excepted.