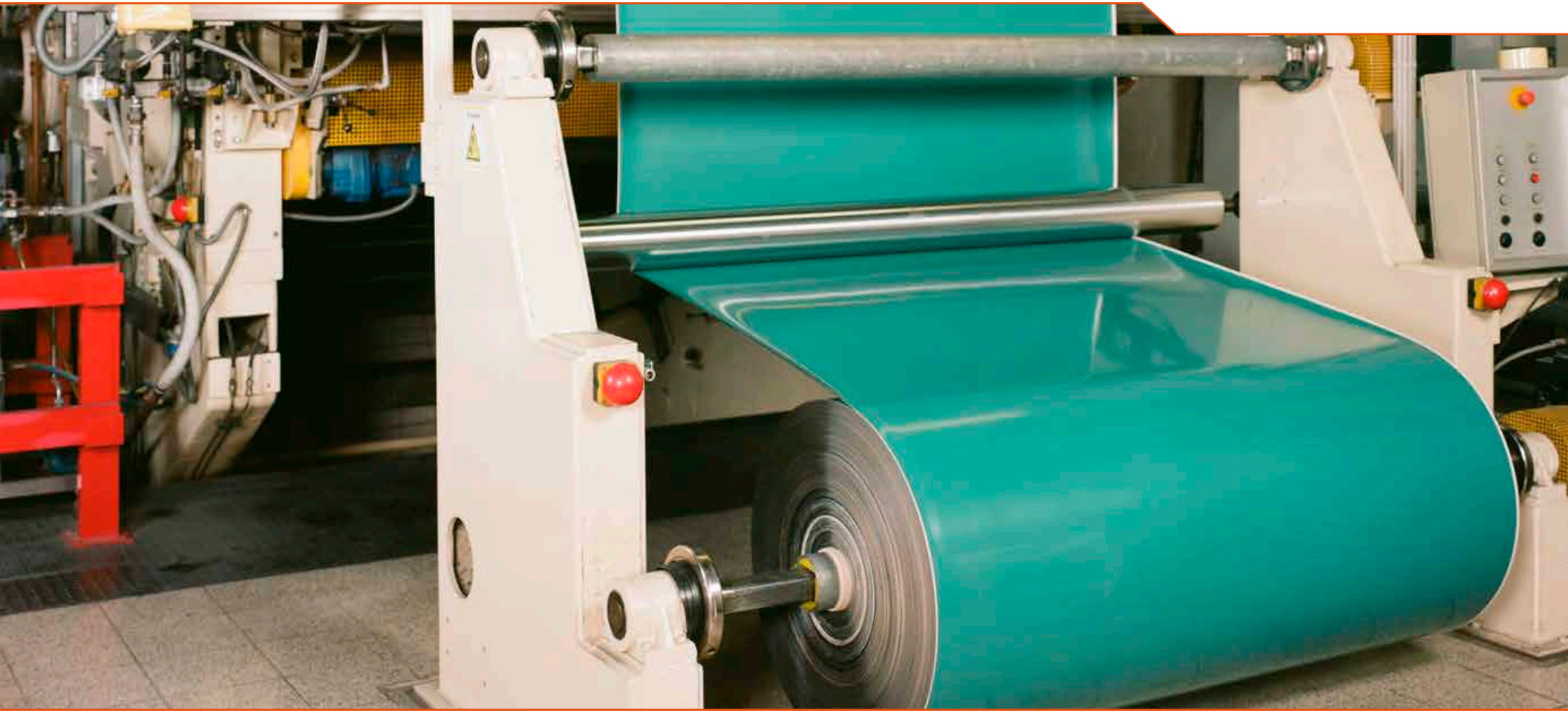
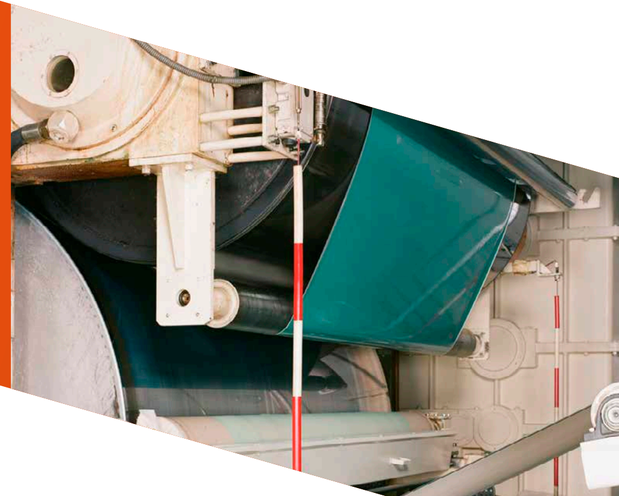
berndorf BAND GROUP

Premium-grade Steel Belts

for the Rubber and Plastics Industry





> We are particularly proud of the method we use to join the Steel Belts, which we developed in house and which is required for creating rubber and plastic sheet products: the spiral weld seam. This patented method eliminates the need for the longitudinal and/or cross weld seam and extends the lifetime of the Steel Belts significantly.
>
> *Thomas Stückler*
> *Director Sales*

Your Solution for the Rubber and Plastics Industry

Berndorf Band Group manufactures Steel Belts that deliver the specific properties needed for the production of rubber and plastic sheet products using, for instance, rotocure presses. Given the extreme loads of stress to which they are subjected, the Steel Belts need to feature a design that ensures maximum strength and tolerance as well as a long lifetime. Taking full advantage of their experience in manufacturing Steel Belts, Berndorf Band Group has found the perfect material in NICRO 52.6 and discovered the special properties the weld seam of the belt must possess.

Both the martensitic materials and the spiral weld seam satisfy even the highest standards, guaranteeing product quality that is second to none. The company also found that NICRO 12.1 and NICRO 31 are ideal for cooling belts in the tire industry and for salt baths for the pretreatment of rubber products. The Steel Belts are tailored to the individual requirements of the customer and can be made with or without a longitudinal weld seam, endless or prepared for welding and with a spiral weld seam.

Premium-grade Steel Belts made by Berndorf Band Group

As a technology leader in their field, the Austrian company offers, aside from their high-quality endless Steel Belts, customer service that is second to none, Steel Belt machines and effective training centered around the Steel Belt. Thanks to their Mobile Training Center, the company is also capable of providing customers with training measures on their own premises.

Advantages

- Unrivaled surface quality
- Industry-specific weld seam options
- Outstanding flatness of the weld seam and the belt
- Exceptional operating characteristics
- Superior belt life

Steel Belts for the Rubber and Plastics Industry - Physical and Mechanical Properties. Typical Values.

Material			NICRO 12.1	NICRO 31	NICRO 52.6
Type			CrNi 17 7	CrNiTi 13 4	CrNiCuTi 15 7
Similar material		DIN AISI	1.4310 301	1.4313 -	- -
Tensile strength	at 20 °C at 68 °F	N/mm² psi	1,150 166,800	1,080 156,600	1,550 224,800
0.2 %-offset yield strength	at 20 °C at 68 °F	N/mm² psi	950 137,800	1,050 152,300	1,500 217,600
Hardness		Rockwell HRC Vickers HV 10	37.0 360	33.0 330	48.0 480
Elongation 50 mm | 1.97 in		%	18	5	6
Welding factor			0.70	0.95	0.80
Fatigue strength under reversed bending stress*	at 20 °C at 68 °F	N/mm² psi	480 69,600	480 69,600	700 101,500
Modulus of elasticity	at 20 °C at 200 °C at 68 °F at 392 °F	N/mm² N/mm² ksi ksi	200,000 180,000 29,000 26,100	205,000 - 29,700 -	200,000 188,000 29,000 27,300
Density		kg/dm³ lb/in³	7.90 0.29	7.70 0.28	7.74 0.28
Mean coefficient of thermal expansion	20-100 °C 20-200 °C 20-300 °C 20-400 °C 68-212 °F 68-392 °F 68-572 °F 68-752 °F	10^{-6}m/m°C 10^{-6}m/m°C 10^{-6}m/m°C 10^{-6}m/m°C 10^{-6}in/in°F 10^{-6}in/in°F 10^{-6}in/in°F 10^{-6}in/in°F	16.0 17.0 - - 8.9 9.4 - -	10.8 11.2 11.7 - 6.0 6.2 6.5 -	10.9 11.5 11.7 - 6.1 6.4 6.5 -
Specific heat		J/g°C BTU/lb°F	0.50 0.12	0.46 0.11	0.50 0.12
Thermal conductivity	at 20 °C at 68 °F	W/m°C BTU/hr ft°F	15 8.7	21 12.1	16 9.3
Specific electric resistance	at 20 °C at 68 °F	Ω mm²/m µΩ in	0.73 28.74	0.60 23.62	0.80 31.50
Min. permissible operating temperature		°C °F	-196 -321	- -	- -
Max. permissible operating temperature		°C °F	250 482	350 662	350 662
Tensile strength at max. permissible operating temperature		N/mm² psi	940 136,300	970 140,700	1,250 181,300
0.2 %-offset yield strength at max. permissible operating temperature		N/mm² psi	770 111,700	930 134,900	1,180 171,100

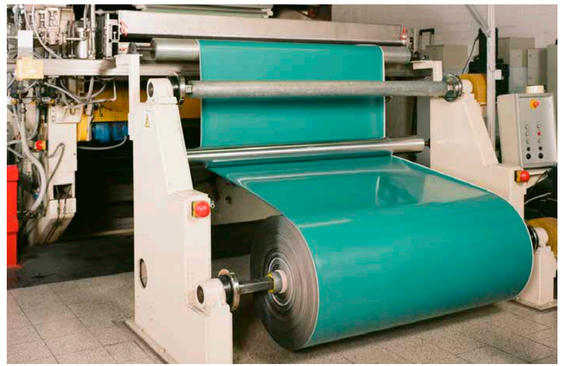
Special materials available upon request.

'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 omissons excepted.

Steel Belts Ground on One and Both Sides

Mill finished Steel Belts are used for the manufacture of general rubber and plastic sheet products such as Conveyor Belts or rubber products for the tire industry. Steel Belt widths of up to 2,000 mm | 78,74 in can be achieved. Standing out primarily with their high level of thickness steadiness, Steel 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.

The manufacture of very thin products - such as rubber linings for tanks and reactors in the chemical industry - call for even greater thickness steadiness and flatness. To guarantee these properties, the Steel Belt is ground on both sides.



The application areas for Steel Belts and Belt Systems of Berndorf Band Group are as broad and individual as your requirements. Give us the opportunity to discuss your goals in a personal meeting. Together we will find the right solution for your requirements.

Our worldwide sales and service network available on www.berndorfband-group.com

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