

# STEEL BELTS FOR CHEMICAL PROCESSING

Berndorf Band is a leading manufacturer of stainless steel belts used for chemical processing.

## Customized solutions

Our focus is definitely on quality and customized solutions. At the beginning of the manufacturing and delivery process is detailed consultation to ensure that all belts meet the requirements set by the customer. According to this we choose the right material and define the specifications.

As a customer of Berndorf Band you can rely on getting a steel belt which is state of the art in regards to mechanical, physical and geometric properties. Continuous research and development, specially selected materials as well as latest production technologies contribute to achieve these goals.

After restrictive quality checks the belts are finally packed in rigid crates to provide

sufficient protection during transport and handling at construction site.

Steel belts from Berndorf Band are known for their properties as there are high dynamic strength, perfect flatness and tracking. Furthermore the materials we use offer high corrosion resistance. All these properties make steel belts from Berndorf Band to be the product of 1<sup>st</sup> choice for continuous chemical processing.

Comprehensive technical customer service completes our product range.

Berndorf Band has an international service network offering steel belt installation, repair and inspection. A wide variety of service activities are offered: from emergency repair to preventive maintenance as well as training courses for your in-house maintenance engineers.



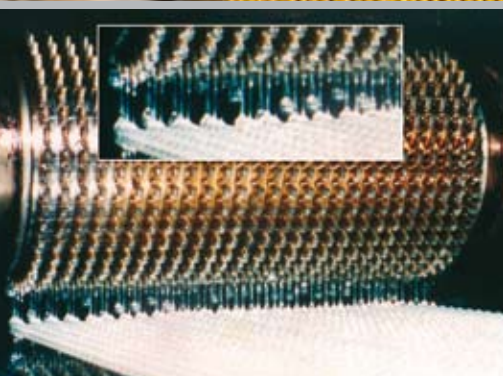
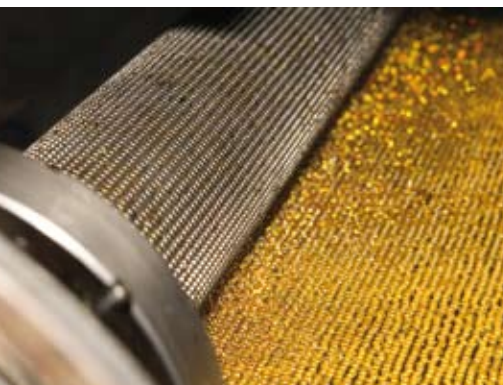
## Continuous Reliability

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## Pastillation devices & more ....



### AccuDrop®

The AccuDrop® is a sulphur forming system that produces products in pastille form and runs at high capacity within environmental and quality standards. The AccuDrop® does not use water or air as forming medium, thus avoiding the danger of major environmental hazards.

### Rolldrop®

The Rolldrop® transforms molten products into pastilles with diameters in the range 5 – 10 mm. The technology can be used for almost any product with a melt viscosity of 5-10.000 mPas. Advantages of this system are easy cleaning for quick product changeover, low-cost gaskets, easy assembly, rapid and low-cost maintenance.

### Rollomat®

The Rollomat® system can be used for melt viscosities ranging from 15 to 30.000 mPas. This system is ideal for running products with higher melting points, needs lower operating temperatures and can be used for a wide range of product applications.

### Berndorf Group

As a service and application driven group Berndorf offers numerous feeding devices to address all customers' production requirements. Due to the close co-operation with our partners world-wide we are able to select the best technical and economically viable solution for you.



## Steel belt accessories

### Vee-ropes & product retaining strips

Berndorf Band guarantees perfect adhesion of vee-ropes and product retaining strips.

#### Material of vee-ropes

Natural or nitrile rubber (standard)  
for operating temperatures from  $-20^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$   
Natural rubber  
for operating temperatures from  $-60^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
Spiral vee-rope made of stainless steel  
for operating temperatures exceeding  $+100^{\circ}\text{C}$

#### Material of product retaining strips

Nitrile rubber  
for operating temperatures from  $-20^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$   
Natural rubber  
for operating temperatures from  $-60^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
Silicone rubber  
for operating temperatures from  $-80^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$

### Guiding & supporting sheaves

Berndorf Band offers all prevalent executions of both guiding and supporting sheaves. For more detailed information please contact your local Berndorf Band representative.

### Belt Tracking Systems

A reliable belt tracking system is critical to the trouble-free operation of a steel belt system. It must withstand widely varying conditions, such as pressure and temperature, and protect the steel belt from excessive stress. Berndorf Band offers well proven and safe tracking systems.



## Technical data

Physical and mechanical properties. Typical values.

Material			NICRO 12.1	NICRO 22	NICRO 31	NICRO 52	NICRO 52.6	TITANIUM
Type			CrNi 17 7 1.4310	CrNiMo 17 12 2 1.4401	CrNiTi 13 4 1.4313	CrNiCuTi 15 7 -	CrNiCuTi 15 7 -	Grade 2 3.7035
Similar material		DIN AISI	301	316	-	-	-	-
Tensile strength	RT	N/mm <sup>2</sup>	1150	1100	1080	1150	1550	390
0.2% yield offset strength	RT	N/mm <sup>2</sup>	950	970	1050	1100	1500	275
Hardness		Rockwell HRC	37,0	33,0	33,5	37,0	47,5	-
		Vickers HV 10	360	330	330	360	480	160
Elongation 50 mm		%	18	12	5	8	6	20
Welding factor			0,70	0,65	0,95	0,95	0,80	0,95
Fatigue strength under reversed bending stress*)	RT	N/mm <sup>2</sup>	480	440	480	500	700	250
Modulus of elasticity	at 20 °C	N/mm <sup>2</sup>	200.000	200.000	205.000	200.000	200.000	106.000
Density		kg/dm <sup>3</sup>	7,90	7,95	7,70	7,74	7,74	4,53
Mean coefficient of thermal expansion	20-100 °C	10 <sup>-6</sup> m/m°C	16,0	16,5	10,8	10,9	10,9	8,5
	20-200 °C	10 <sup>-6</sup> m/m°C	17,0	17,5	11,2	11,5	11,5	8,9
	20-300 °C	10 <sup>-6</sup> m/m°C	-	-	11,7	11,7	11,7	-
	20-400 °C	10 <sup>-6</sup> m/m°C	-	-	-	-	-	-
Specific heat		J/g°C	0,50	0,50	0,46	0,50	0,50	0,52
Thermal conductivity	at 20 °C	W/m°C	15	15	21	16	16	20
Specific electric resistance	at 20 °C	Ohm mm/m <sup>2</sup>	0,73	0,75	0,60	0,80	0,80	0,78
Max. permissible operating temperature		°C	250	250	350	350	350	250
		°F	480	480	660	660	660	480
Tensile strength at max. permissible operating temperature		N/mm <sup>2</sup>	940	870	970	900	1250	225
0.2% yield offset strength at max. permissible operating temperature		N/mm <sup>2</sup>	770	770	930	830	1180	135

Special materials 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 omissions excepted.