


HIGH-MIRROR-POLISHED STEEL BELTS

Well known producers of films and foils rely on Berndorf Band, the foremost producer of highly polished surfaces on steel belts.

Technology and experience

Continuous product enhancements and innovations in the manufacturing process make it possible to cast the high-precision optical films that are used in the production of e. g. LCD monitors.

The exacting requirements for optical products can be met only with super-smooth polishing and extremely pure steels.

Thus you will certainly find the optimal belt surface for your product in our extensive portfolio of polishing qualities for acrylic glass, filter membranes, ceramic films and other products. Berndorf Band not only delivers the steel belts required especially for the optical foils used in the production of TFT LCD monitors.

Its subsidiary, Berndorf Band Enginering, offers the leading edge technology for film- and foil casting lines.

Benefit from our expertise and extensive experience in the construction of casting lines!

Continuous reliability

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Films and foils, engineering

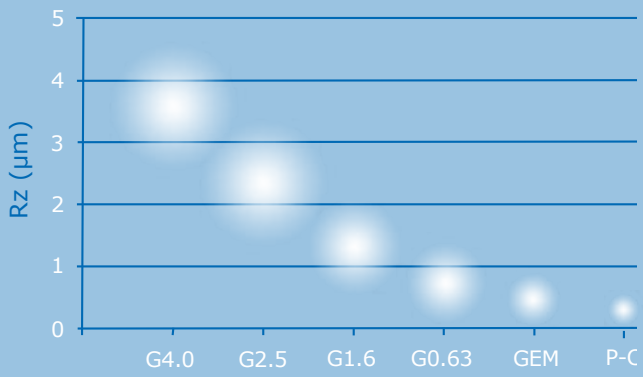
Your advantages

- High-quality end products thanks to vibration-free, smooth belt running characteristics.
- Production in large widths.
  The casting area can be extended using longitudinal welding seams.
- High product quality due to endless steel belts with minimum production tolerances.
- For high-quality foils Vacuum-melted steel (VAR) made to Berndorf specifications is used.
- The *bernmatic* tracking and tensioning system is a standard feature of all our casting systems, ensuring smooth belt running and allowing optimal use of the entire casting width.

Applications	Key products
PE, PP, PA, PC, PMMA	Sanitary equipment, panels for moulded components
Acrylics	Foils and panels for lighting applications
TAC	Polarization filters for flat panel displays
PI	Flexible PCBs for mobile telephones and precision electronics
Filter membranes	Medical filters, ultra pure water

Surfaces

Surface qualities / Roughness value

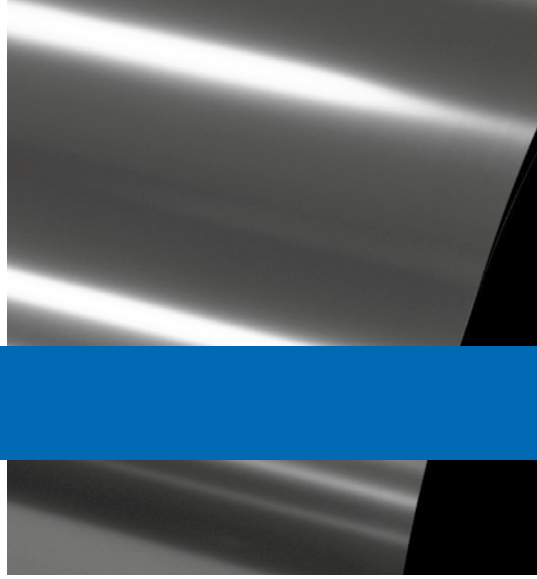


Polishing grades / Pin hole size

- Unlimited number of pin holes
- Restricted number of pin holes
- No pin holes allowed

µm	P-C Grade 1	P-C Grade 2	P-C Grade 3
0	●	●	●
10	●	●	●
20	●	●	●
30	●	●	●
40	◐	●	●
50	◐	●	●
60	◐	●	●
70	◐	●	●
80	○	●	●
90	○	●	●
100	○	○	●
110	○	○	●
120	○	○	●
130	○	○	●
140	○	○	●
150	○	○	●

Berndorf Band standard values.
Special agreements on request.



Technical data

Physical and mechanical properties.
Typical values.

Material			NICRO 12.1	NICRO 22 V
Type			CrNi 17 7	CrNiMo 17 12 2
Similar material		DIN AISI	1.4310 301	1.4401 316
Tensile strength	at 20 °C	N/mm²	1150	1130
0.2% yield offset strength	at 20 °C	N/mm²	950	1000
Hardness		Rockwell HRC Vickers HV 10	37,0 360	33,0 330
Elongation 50 mm		%	18	12
Welding factor			0,70	0,70
Fatigue strength under reversed bending stress*)	at 20 °C	N/mm²	480	440
Modulus of elasticity	at 20 °C at 200 °C	N/mm² N/mm²	200.000 180.000	200.000 180.000
Density		kg/dm³	7,90	7,95
Mean coefficient of thermal expansion	20-100 °C 20-200 °C	10^{-6}m/m°C 10^{-6}m/m°C	16,0 17,0	16,5 17,5
Specific heat		J/g°C	0,50	0,50
Thermal conductivity	at 20 °C	W/m°C	15	15
Specific electric resistance	at 20 °C	Ohm mm²/m	0,73	0,75
Max. permissible operating temperature		°C °F	250 480	250 480
Tensile strength at max. permissible operating temperature		N/mm²	940	900
0.2% yield offset strength at max. permissible operating temperature		N/mm²	770	800

*) 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.

Special materials upon request.

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