



BREITENBACH

Der Walzenspezialist.



PRODUCT RANGE

BREITENBACH PRECISION FROM TRADITION

Since the foundation of our company in 1866 we have developed into a modern, globally operating company offering a wide range of products and services. In addition to the design, construction, optimisation and refurbishment of rolls for all types of applications, we also offer contract machining services and consultancy in matters around rolls.

Quality from the beginning! This also applies to our materials. We produce chilled cast iron and grey cast iron using the static casting process. Horizontal centrifugal casting is used for smaller rolls. We also manufacture rolls from different forged steels and mild steels.

With our highly qualified employees and state-of-the-art CNC machinery equipment, we manufacture and machine products that meet the highest requirements for surface quality as well as for form and dimensional accuracy.

The following pages present a selection of different rolls with common dimensions, materials and versions. Of course we also offer all types of special solutions.

**CHALLENGE US!
WE ARE LOOKING FORWARD TO
YOUR REQUEST!**



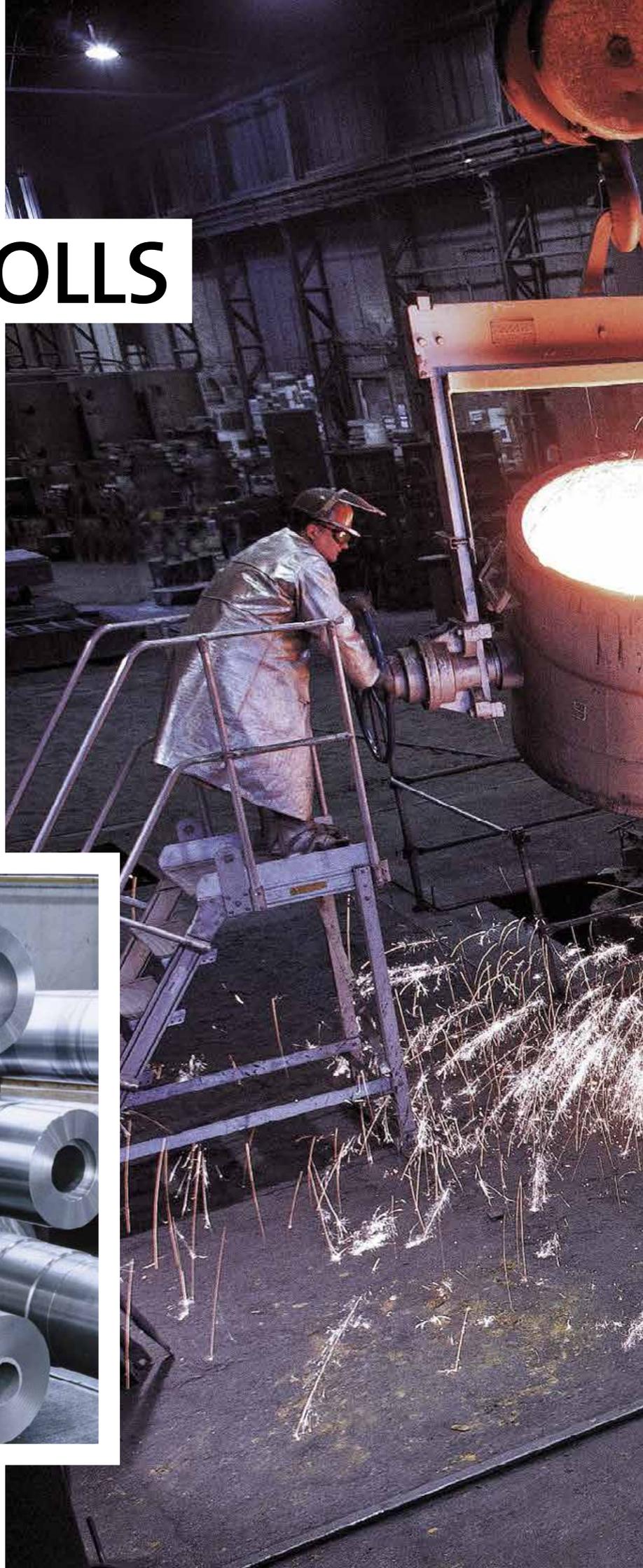
TENBACH

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MIXING ROLLS

are required for producing rubber and plastic compounds. Uniform mixing of the material increases its homogeneity.

The more wear resistant the mixing roll and the better its cooling capacity, the more economical the process.





Mixing rolls

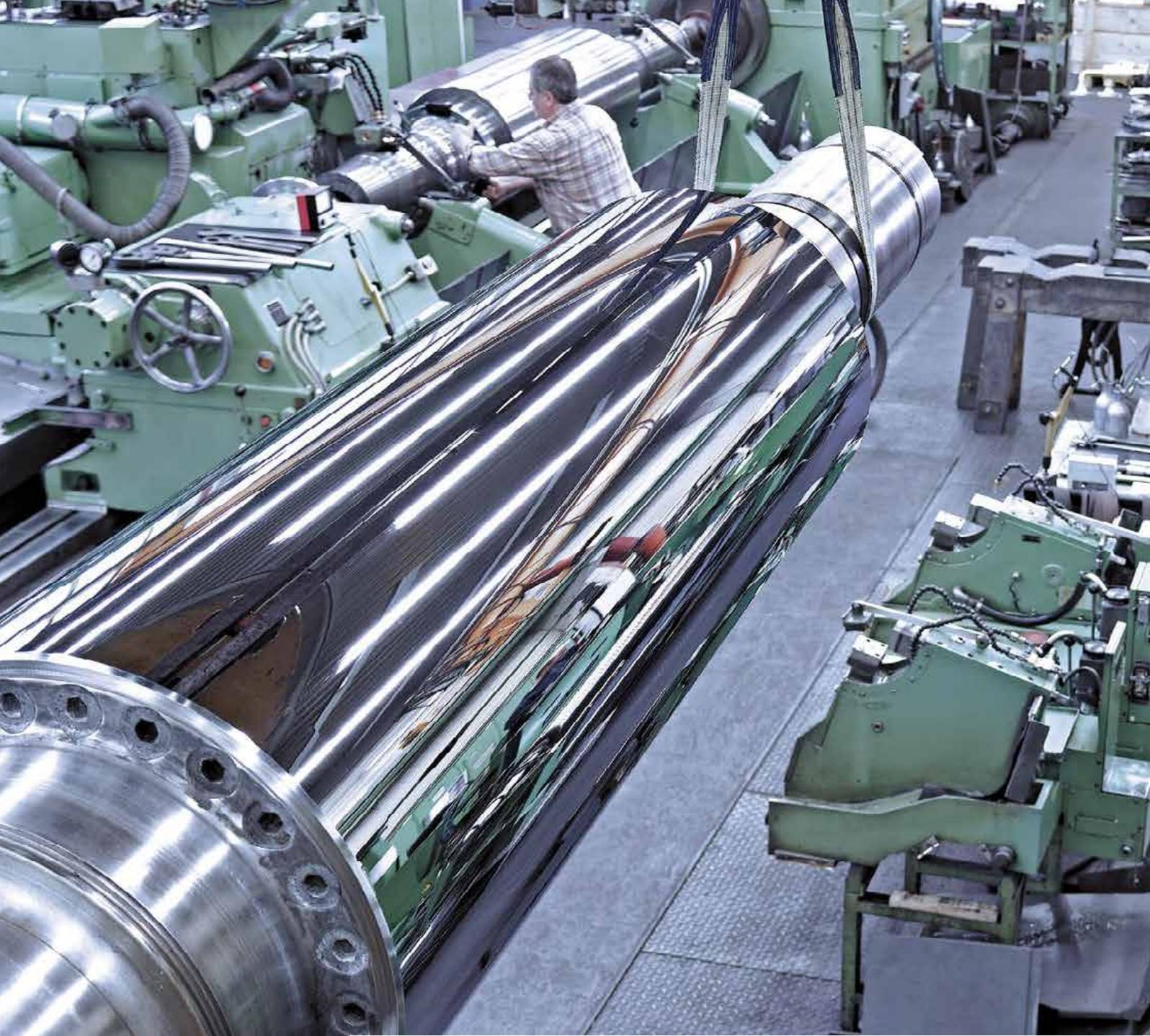
Industry	rubber and tire production, PVC-foil production
Diameter	300 – 910 mm
Roll body length	600 – 3,100 mm
Material	chilled cast iron Tuk 00 – Tuk 20, TR 100 – TR 120
Design	cored, peripherally drilled with plug or ring sealing
Surface	cylindrically ground or ground with crown, fluted

CALENDER ROLLS

are used for producing plastic films and rubber sheeting. Even the smallest defects in the roll surface, e.g. pores or cracks, have to be excluded to ensure the best possible quality of the product.

The more precise the grinding of the calender rolls, the lower the product tolerances.





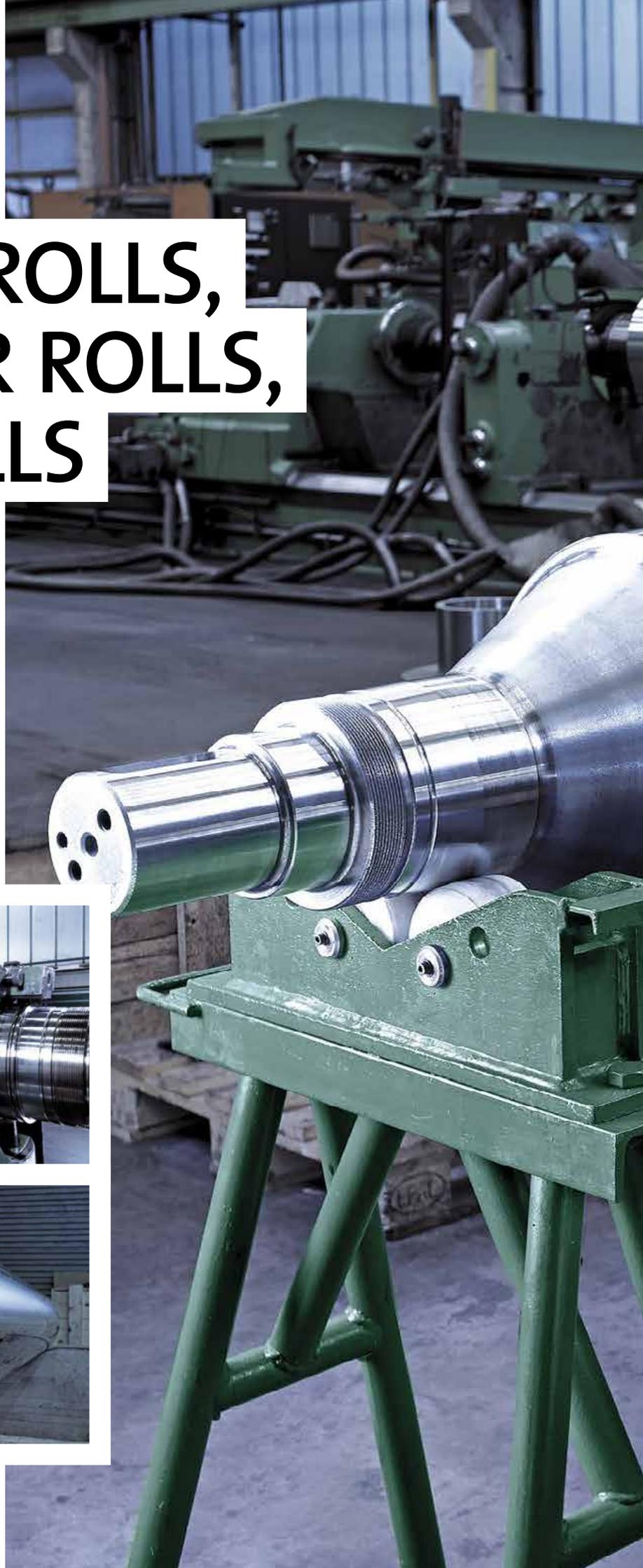
Calender rolls

Industry	PVC-foil production	rubber and tire production
Diameter	300 – 875 mm	300 – 875 mm
Roll body length	600 – 4,500 mm	600 – 3,000 mm
Material	chilled cast iron Tuk 00 – Tuk 30, forged steel, e.g. 42CrMo4, 34CrNiMo6, 30CrNiMo8, 58CrV6	chilled cast iron Tuk 00 – Tuk 30, forged steel
Design	cored, peripherally drilled with plug or ring sealing	cored, peripherally drilled with plug or ring sealing
Coating	without coating, chrome, tungsten carbide	without coating, chrome
Surface	cylindrically ground or ground with crown, polished, $R_a \leq 0.02$ mm	cylindrically ground or ground with crown
Precision	TIR and geometrical shape 0.002 mm	TIR and geometrical shape 0.005 mm
Special features	hot ground for best precision at operating temperature	

THERMO ROLLS, CALENDER ROLLS, ROLL SHELLS

are ground with the highest precision. This allows for the lowest possible thickness tolerances of the paper sheet. Thermal rolls feature lowest possible temperature deviations on the surface.

The more precise the grinding of the body, the higher the quality of the paper sheet.





	Thermo rolls	Calender rolls	Roll shells
Industry	paper industry	paper industry	paper industry
Diameter	300 – 915 mm	300 – 915 mm	300 – 810 mm
Roll body length	max. 6,300 mm	max. 6,300 mm	max. 6,300 mm
Material	chilled cast iron Tuk 00 – Tuk 25, forged steel	chilled cast iron Tuk 00 – Tuk 25	chilled cast iron Tuk 00 – Tuk 25, indefinite chill TM 05 (grey cast iron)
Design	peripherally drilled, with displacement body	solid, with centre bore	pre-machined, finish machined and honed
Journals	made from forged steel – bolted on	cast on, made from steel – shrunk in, made from steel – bolted on	
Coating	without coating, chrome, tungsten carbide	without coating, chrome, tungsten carbide	without coating, with polymer coating
Surface	cylindrically ground	cylindrically ground	cylindrically ground, pre-ground for coating
Precision	TIR and geometrical shape 0.002 mm	TIR and geometrical shape 0.002 mm	
Special features	for water or oil heating up to 330 °C		

HEAT TRANSFER AND CHILL ROLLS, POLISHING ROLLS

are used for heating, cooling and smoothing of all types of sheet products.

The more exact the temperature control and the shape of the rolls, the better the properties and the quality of the product sheet.



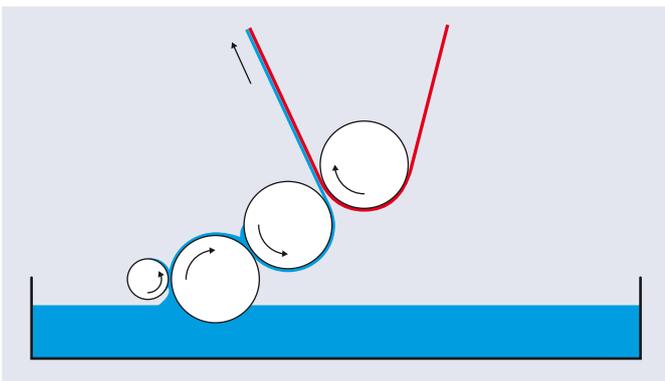


	Heat transfer and chill rolls	Polishing rolls
Diameter	100 – 2,000 mm	250 – 800 mm
Roll body length	300 – 5,000 mm	300 – 4,000 mm
Material	mild steel, heat-treatable steel, stainless steel	mild steel, forged steel
Design	single shell, double shell with – displacement body – multiple helical passages – counter flow passages	double shell with helical passages, peripherally drilled
Coating	without coating, chrome, nickel, rubber, PUR, ceramics, tungsten carbide, anti-adhesive coating	chrome, dehydrogenized
Surface	cylindrically ground or ground with crown, polished	mirror polished $R_{max} < 0.025 \mu m$
Precision	TIR and geometrical shape 0.005 mm	TIR and geometrical shape 0.003 mm
Special features	manufacturing and inspection according to pressure equipment directive 97/23/EC possible	body hardened

COATING AND DOCTOR ROLLS, PRINTING CYLINDERS

are used for coating, painting and impregnation of e.g. plastic film, paper, textiles, fleece materials and metal.

The more precise the grinding of the rolls, the higher the precision for dosing the quantity to be applied.





	Coating and doctor rolls	Printing cylinders
Industry	various	production of metal packages
Diameter	220 – 600 mm	e.g. 328.7 mm
Roll body length	300 – 4,000 mm	e.g. 1,090 mm, 1,155 mm, 1,280 mm
Material	chilled cast iron Tuk 00, mild steel	chilled cast iron TR 120
Design	solid, hollow	solid casted
Journals	cast on, made from steel – shrunk in, made from steel – welded	made from steel – shrunk in
Coating	chrome, ceramics, tungsten carbide	without coating
Surface	cylindrically ground, polished	ground with crown and polished
Precision	TIR and geometrical shape 0.002 mm	
Special features	grinding in mounted bearings and housings possible, tempered rolls available	roll body sharp-edged

CRACKING ROLLS, SMOOTH ROLLS, FLAKING ROLLS

are used for milling, reaming, crushing, breaking and flaking. The resistance to wear increases the economical efficiency of the milling process. Additional advantages of high-quality rolls are longer maintenance intervals, reduced repair costs and lower energy requirement.

The higher the quality of the roll material and the more exact the roll geometry, the better and more even the quality of the milled material.





	Cracking rolls	Smooth rolls	Flaking rolls
Industry	flour milling, animal feed production, oil seed industry	flour milling	oil seed industry, production of corn-flakes and oat flakes (cereals)
Diameter	150 – 400 mm	150 – 400 mm	400 – 1,000 mm
Roll body length	100 – 2,500 mm	100 – 2,500 mm	600 – 2,500 mm
Material	static casting TR 100 – TR 120, centrifugal casting TR 100 Vb – TR 120 Vb, wear resistant special casting TR 100 HH Vb – TR 120 HH Vb	static casting TB 100 – TB 120, centrifugal casting TB 100 Vb – TB 120 Vb, indefinite chill TM 05 (self-surfacing quality)	static casting TR 100 – TR 120, indefinite chill TM 100 – TM 220 (self-surfacing quality)
Design	hollow, solid casted	hollow, solid casted	solid, with centre bore, cored, peripherally drilled
Journals	made from steel – shrunk in	made from steel – shrunk in	made from steel – shrunk in, through-going shaft made from steel – shrunk in, made from steel – bolted on
Surface	axial oder radial fluted, without fluting	cylindrically ground or ground with crown, shot blasted	cylindrically ground or ground with crown, fluted
Special features	blanks available	blanks available	blanks available

REFINER ROLLS

are used in chocolate production, among other things. The quality and smoothness of chocolate crucially depends on the precision of the refiner rolls used.

The more wear resistant the rolls and the better their cooling capacity, the higher the economical efficiency of chocolate production.





Refiner rolls

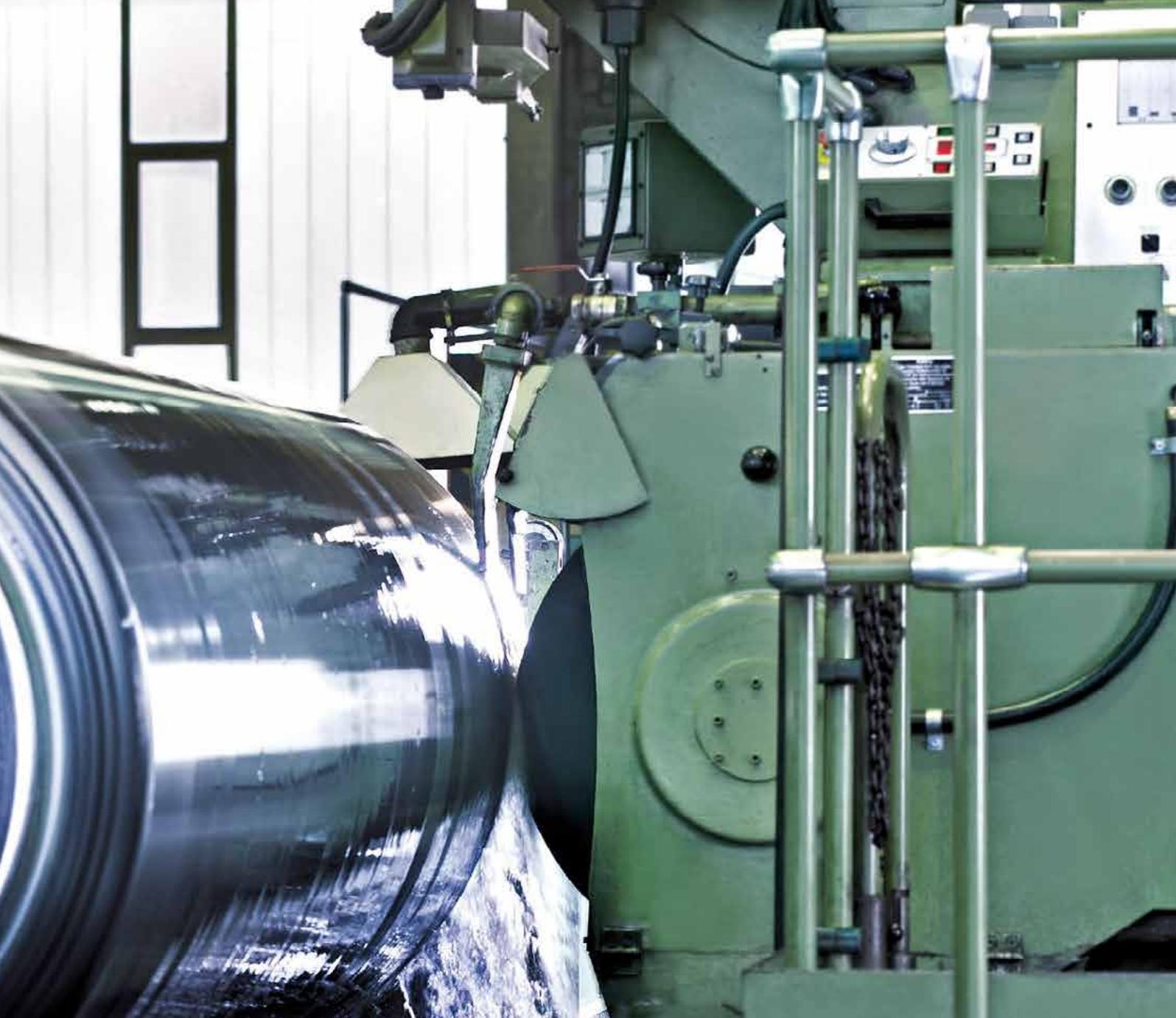
Industry	production of chocolate, dye and soap
Diameter	e.g. 400 mm
Roll body length	e.g. 1,300 mm, 1,800 mm, 2,500 mm
Material	chilled cast iron TF 110
Design	hollow casted
Surface	ground with crown
Special features	roll shells available

PRECISION ROLLS, ROLL SERVICE, PISTONS

are required for many other fields of application. High precision for true running, shape accuracy and surface quality are our strength. Our service include the turning, grinding, coating and machining of rolls as well as all types of all roll repair.

The higher the requirements for the roll and the service, the easier the choice – BREITENBACH.





Precision rolls, e.g.

- idler and guide rolls
- cutting rolls
- knife driving shafts
- bodies for embossing rolls
- electrically heated rolls
- rolls for bakery industry
- crumbler rolls
- roll shells for inner liner
- comma coater rolls

Pistons for hydraulic presses

- solid pistons
- hollow casted pistons
- differential pistons
- made from
 - chilled cast iron (TP)
 - forged steel

Roll service and wage labour

- measuring of TIR and geometrical shape with automatically measuring systems
- grinding of rolls at ambient temperature
- hot grinding of rolls at operating temperature
- CNC-grinding cylindrically or with crown, hollow, special shapes
- grinding in mounted bearings and housings
- coating with e.g. chrome, nickel, ceramics, tungsten carbide and anti-adhesives
- polishing of chrome plated rolls up to mirror quality
- fluting of rolls
- milling of bulb and checker designs
- three-dimensional milling on 5-axle-machining-centres
- internal cleaning and rinsing of rolls
- dynamically balancing in two-planes
- repairing of bearing seats by means of chrome plating or with thermal spray coatings
- repairing of journals and changing of journals
- all kinds of repairs of rolls

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