

# Guide Rings|made of|KRÜTEX® 102

Guide rings have the task to guide precisely the piston rod of a hydraulic-cylinder and to absorb the existing lateral forces. There must be no metallic contact between the sliding parts, i.e. with the counter surface.

Krütex 102 is distinguished for careful characteristics of the gliding surface and high absorption ability for defilement particles. The laminate material consists of extra fine cotton woven fabric, impregnated with phenolic-resin according to EN 61212 – PF CC 21.

Our manufacturing process involves the complete line, starting with phenolic-resin plus woven fabric, resulting in finished wear-rings, bushes or bearings, with excellent tolerances. This procedure includes prepreg-fabrication, tube-production on modern winding machines and the use of CNC revolving automatons, each step accompanied by careful quality control. For this reason, we are able to react fast and flexible to special requests of our clients with respect to dimensions.

## Standard range of dimensions and tolerances:

<b>Inside diameter:</b>	<b>15 mm -500mm</b>	<b>Width:</b>	<b>from 3 mm</b>
<b>Wall thickness:</b>	<b>1,5 mm – 25 mm</b>	<b>Tolerances:</b>	<b>0,03 mm – 0,08 mm</b>

Technical terms	Unit	Norm	Krütex 102
Compressive strenght flatwise	N/mm <sup>2</sup>	ISO 604	290
Flexural strenght	N/mm <sup>2</sup>	ISO 178	120
Tensile strenght	N/mm <sup>2</sup>	ISO 527	60
Flexural Modulus	N/mm <sup>2</sup>	ISO 604	6.000
Friction against steel	μ	ASTM D 1894	0,25
Density	g/cm <sup>3</sup>	DIN 53479	1,25 bis 1,3
Water absorption	%	DIN 53495	1 bis 1,5
Temperature resistance	°C	ISO75-3	120
Ball pressure hardness vertical to laminate	N/mm <sup>2</sup>	ISO 2039	130
Ball pressure hardness parallel to laminate	N/mm <sup>2</sup>	ISO 2039	120
Ball shear strenght	N/mm <sup>2</sup>	internal	130

The above called specifications were made to the best of our knowledge. It is recommended to prove the material in case of doubt for special applications. All values are the minimum requirement!