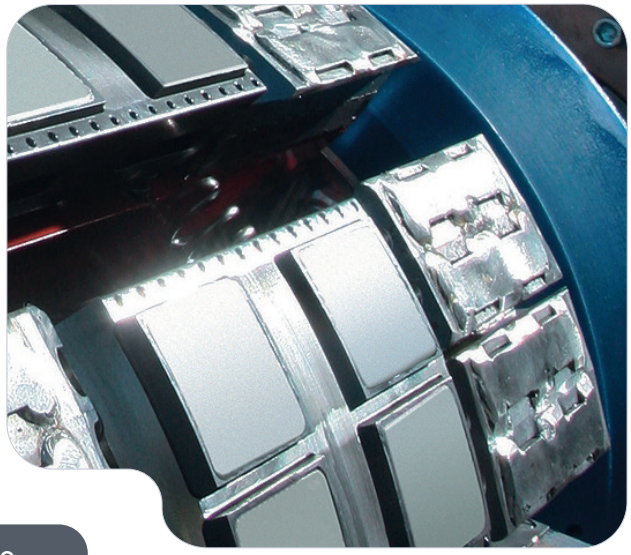
Keraprotec
Yttria Stabilized Zirconia

Applications

- wear protection
- sensor protection plate
- heat elements
- thickfilm electronic substrates
- printed heat elements

Advantages

- very fine-grained homogeneous structure
- good electrical insulation
- very low abrasion because of very good tribological properties
- cuttable with laser or waver saw
- good evenness
- very large substrates customized with large sizes on request up to 350 x 200 x 0.5 mm possible
- customized substrate thickness possible



Typical characteristics	Unit	Value
Colour		white
Density	g/cm³	5.85
Surface roughness R_a	µm	< 0.1
Bending strength	MPa	800
Evenness	µm	50
Dielectric strenght at 20°C	kV/mm	> 10
Thermal expansion coeffizient 20 - 600°C	$10^{-6}K^{-1}$	~ 11
Thermal conductivity	W/mK	4.8
Standard dimensions	mm	101.6 x 101.6 and 50.8 x 50.8
Thickness	mm	0.25 up to 0.5
Structure		dense
Main components	%	approx. 92% ZrO_2 + 8% Y_2O_3

This ceramic substrate material is partially stabilised with 5 mol% yttria. The substrate material has a high bending strength of 800 MPa and a high fracture toughness. It will be used when other wear protecting materials are not longer sufficient. Mainly it is used at high temperatures > 200°C or extremly high pressure occures for long time and where polymeres tend to creep. Applications are, for example, guide rails or sensor protection plates.

We cut the material according to your wishes!
Please send in your CAD data.

Note

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The specifications provided in this data sheet do not constitute a guarantee or warranty of specific product properties („quality guarantee“). These specifications are derived from our standardized testing procedures conducted under controlled laboratory conditions and are intended to describe the typical properties of the products as expected under standard applications. Variations may occur depending on the specific application. Accordingly, it is the responsibility of the customer to test and evaluate the products for their intended use, and adjustments to the application may be required.

The customer assumes full responsibility for the safety and functionality of their applications in which these products are integrated. Appropriate safety measures must be implemented to prevent bodily injury, fire, or other damages resulting from product defects. The customer is also responsible for ensuring that the design of their application complies with all applicable laws, regulations, codes, and standards. Unless expressly authorized by us in writing, our products must not be used in any application where product failure or the consequences there of could reasonably be expected to result in personal injury or harm. We make no representations, warranties, or assurances regarding the accuracy, completeness, or suitability of the information contained herein, including, without limitation, any warranty of non-infringement of third-party intellectual property rights.

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