

# Keraprotec

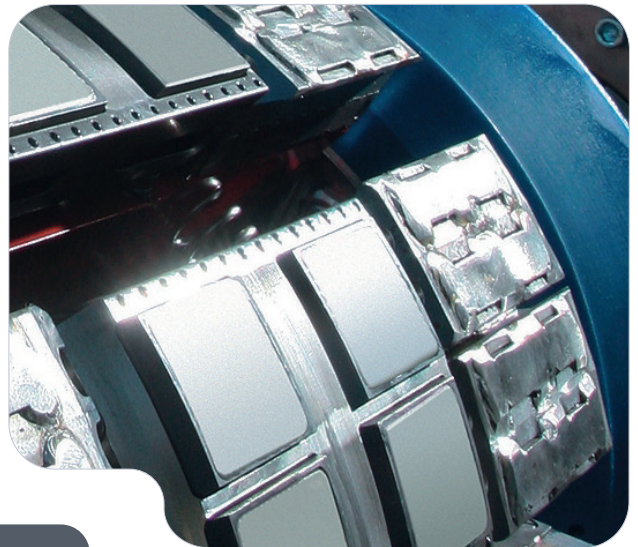
## Yttria Stabilized Zirconia

### 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/cm <sup>3</sup>	5.85
Surface roughness R <sub>a</sub>	µm	< 0.1
Bending strength	MPa	800
Evenness	µm	50
Dielectric strenght at 20°C	kV/mm	> 10
Thermal expansion coefficient 20 - 600°C	10 <sup>-6</sup> K <sup>-1</sup>	~ 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 <sub>2</sub> + 8% Y <sub>2</sub> O <sub>3</sub>

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

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 extremely high pressure occurs for long time and where polymeres tend to creep. Applications are, for example, guide rails or sensor protection plates.



## Note

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. KERAFOLE is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. All specifications are subject to change without notice. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded. In case KERAFOLE would be nevertheless held liable, on whatever legal ground, KERAFOLE's liability will in no event exceed the amount of the concerned delivery. All KERAFOLE products are sold pursuant to the KERAFOLE's Terms and Conditions of sale and delivery in effect from time to time, a copy of which will be furnished upon request.

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