




Description	
<b>Description</b>	Hot isostatically pressed, yttrium-stabilised, zirconia ceramic.  Z3000 has high mechanical strength, excellent tribological properties and good thermal insulation as well as thermal expansion and density similar to steel. It is therefore ideal for use in harsh environments.
<b>Common applications</b>	Positioning aids such as centring pins in welding applications, holding devices, gripping devices in soldering applications, sensor housings, skid plates
<b>Production options</b>	Round components up to Ø 60 mm, flat components up to an edge length of 200 mm, drilled holes from Ø 0.3 mm, female threads from M1.6, tolerances in the micron range, polished surfaces, cylindrical grinding, surface grinding, 5-axis simultaneous grinding, wall thicknesses

Industries	
Welding	Control technology
Punching	Medical technology
Drawing	Soldering
Pressing	Cable assembly
Metalworking	Crimping tools
Screw production	Paper industry
Thermo processing	Wire industry
Measurement technology	Casting

General properties		
<b>Colour</b>		Grey-green
<b>DIN designation</b>		TZP
<b>Chemical composition</b>		ZrO <sub>2</sub> -Y <sub>2</sub> O <sub>3</sub>
<b>Density</b>	g/cm <sup>3</sup>	6.05
<b>Open porosity</b>		0

Mechanical properties		
<b>Transverse rupture</b>	MPa	1400
<b>Compressive strength</b>	MPa	2000
<b>Modulus of elasticity</b>	GPa	205

Electrical properties		
<b>Volume resistivity</b>	Ω cm	> 10 <sup>12</sup>
<b>Electric strength</b>		
<b>Dielectric constant at 25 °C and 1 GHz</b>		

Thermal properties		
<b>Max. service temperature (in air)</b>	°C	1000
<b>Coefficient of linear expansion</b>	10 <sup>-6</sup> K <sup>-1</sup>	10
<b>Thermal conductivity at 20 °C</b>	W/mK	2

The preliminary remark to DIN 40685 applies analogously to the property values given in the table, whereby the values provided here only apply to the test specimens on which they were measured. All information reflects our current knowledge and is subject to change without notice. Its applicability to other geometries is not assured. In other words, the values given here are merely intended as a guide.

### Special materials:

Are you looking for a precision component made of a specific ceramic? Contact us for more information! Since every production step is traceable, we can also process and procure special materials according to each customer's specifications.