




Description	
Description	<p>In special applications, for example in etching processes or where high temperatures are the norm, 99.7% pure ceramic can have advantages over 99.5% pure ceramic.</p> <p>This vacuum-tight aluminium oxide ceramic is used on account of its good electrical, chemical and mechanical properties. Resistance to high temperatures is another of its properties.</p>
Common applications	Components in etching processes, feed-throughs, optical components, high-temperature ceramics
Production options	Flat components up to an edge length of 600 mm, round components up to Ø 600 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

Industries	
Semiconductors	Vacuum technology
Lasers	Analysis equipment
Nanotechnology	Soldering applications
Lithography systems	Mechanical engineering
Electronics	Research & development
Welding	Coating technology
Plastic injection moulding	Aerospace
Joining	

General properties		
Colour		Beige-ivory
DIN designation		C799
Chemical composition		Al ₂ O ₃ 99.7%
Density	g/cm ³	3.9
Open porosity		0

Mechanical properties		
Transverse rupture	MPa	> 310
Compressive strength	MPa	2500
Modulus of elasticity	GPa	> 300

Electrical properties		
Volume resistivity	Ω cm	> 10 ¹⁴
Electric strength	kV/mm	31.5
Dielectric constant at 25 °C and 1 GHz		9.3

Thermal properties		
Max. service temperature (in air)	°C	> 1900
Coefficient of linear expansion	10 ⁻⁶ K ⁻¹	8.2
Thermal conductivity at 20 °C	W/mK	34.9

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.