

Material characteristics

Material

Type

Short description

Chemical Analysis (in Mass %)

Balance

Zirconia ceramics

Z-700-20-A (ATZ)

Particle reinforced Zirconia

ZrO₂ (HfO₂), Y₂O₃ > 79

Al₂O₃ 20

Table of Characteristics

Density	g/cm ³	5,5
Porosity	%	0
Average Grain Size	µm	0,7

Mechanical Properties

Bending Strength (4 pt.)	MPa	820
Modulus of Elasticity	GPa	220
Fracture Toughness	MPa m ^{1/2}	7,0

Thermal Properties

Maximum Working Temperature	°C	to 1200
Coefficient of Thermal Expansion (20 - 1000° C)	10 ⁻⁶ K ⁻¹	9
Thermal Conductivity at 100 °C	W/mK	6

Electrical Properties

Specific Resistance at 20° C	Ωcm	10 ⁹
Dielectric Strength	kV/mm	-

These values are typical ceramic material properties and may vary according to product configuration and manufacturing process.