

## Technical Datasheet: Advanced Ceramic type MZ

### General notes

- **Zirconia Toughened Alumina (ZTA)**
- a superior combination of high strength (from zirconia) and high hardness (from alumina)
- relatively low density
- no open porosity
- very hard surface, good abrasion and wear resistance
- good flexural strength and fracture toughness
- excellent thermal properties and high temperature stability
- extreme corrosion resistance, nearly chemically inert
- electrically insulating
- typically applications includes soldering processes, handling of components during thermal and chemical processes. Generally used when very rigid tips are required.

### Mechanical properties

Flexural modulus:	380 GPa
Flexural strength:	500 MPa
Tensile strength:	450 MPa
Fracture toughness:	7.2 Mpa·m <sup>1/2</sup>
Knoop Hardness	1750 kg/mm <sup>2</sup>

### Thermal properties

Thermal conductivity	26 W/m·K	
Coef. of lin. therm expansion:	8.0 E-6/°C	25-1000°C
Continuous Use Temperature	1400°C	20'000 h
Shock resistance, ΔT	325°C	

### Electrical properties

Volume resistivity	>10 <sup>12</sup> Ohm·cm
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### Other properties

Density	4.30 g/ccm
Open porosity	0.0%
Water absorption	0.0%
Color	white