

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^{1/2}
Hardness Vickers	1700 HV
Knoop Hardness	1750 kg/mm²

Thermal properties

Thermal conductivity	26 W/m K	25-1000°C
Coef. of lin. therm expansionl	8.0 E-6/°C	
Max Temperature	1400°C	
Shock resistance, ΔT	325°C	

Electrical properties

Volume resistivity	>10¹² Ohm cm
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Other properties

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