

## MATERIAL DATA SHEET

Material type: Zirconia  
**Z201N**

### Properties of Microstructure

Alumina Content		%	-
Density	JIS R 1634	g/cm <sup>3</sup>	6
Water Absorption		%	0
Mean Grain Size		µm	-

### Mechanical Properties

Hardness (HV 9.807N)	JIS R 1610	GPa	12.3
Compressive strength	JIS R 1608	MPa	-
Flexural strength	JIS R 1601	MPa	1000
Modulus of Elasticity	JIS R 1602	GPa	200
Poisson's ratio	JIS R 1602		0.31
Fracture toughness	JIS R 1607	MPa*m <sup>1/2</sup>	4 - 5

### Thermal Properties

Specific Heat 20°C	JIS R 1611	J/gK	0.46
Thermal Conductivity	JIS R 1611	W/mK	3
Expansion coefficient 40-400°C	JIS R 1618	10 <sup>-6</sup> /K	10.5
Expansion coefficient 40-800°C	JIS R 1618	10 <sup>-6</sup> /K	11
Thermal Shock Temperature Difference (in water)	JIS R 1648	°C	300

### Electrical Properties

Dielectric strength	JIS C 2141	kV/mm	11
Specific Resistance 20°C	JIS C 2141	Ω•cm	10 <sup>13</sup>
Specific Resistance 300°C	JIS C 2141	Ω•cm	10 <sup>6</sup>
Specific Resistance 500°C	JIS C 2141	Ω•cm	10 <sup>3</sup>
Dielectric constant (1 MHz)	JIS C 2141		33
Dielectric Loss Angle (1 MHz)	JIS C 2141	10 <sup>-4</sup>	16
Typical Colour			ivory

The values are typical material properties and may vary according to products configuration and manufacturing process.