

# ZIRCONIA PROPERTIES

Properties	Units	ZTA	MSZ	YSZ	HIPped YSZ	HIPped ATZ
Density	g/cm <sup>3</sup>	4.05	5.70	6.02	6.07	5.45
Colour	-	WHITE	YELLOW	WHITE	WHITE / GREY	WHITE
4-PT Flexural Strength (MOR) (20°C)	MPa	450	600	1240	1350	1600
Elastic modulus (20°C)	GPa	360	200	210	210	296
Compressive Strength ( 20°C )	MPa	2900	1750	2500	2500	
Hardness R45 N	-	82	77	80	80	83
Fracture Toughness (K <sub>IC</sub> )	MPa m <sup>1/2</sup>	5.0 – 6.0	11.00	13.0	13.0	
Thermal Conductivity ( 20°C )	W/m	27.0	2.2	2.2	2.2	6.0
Coefficient of Thermal Expansion (25-1000°C)	1x10 <sup>-6</sup> /°C	8.3	10.2	10.3	10.3	9.0
Volume resistivity (25°C)	ohm-cm	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	>10 <sup>13</sup>	
Dielectric Constant (1MHz)	-	10.6	28	29	29	
Dielectric loss	-	0.0005	0.001	0.001	0.001	

These values represent typical properties of standard materials.

Values should be used only for comparison and should not be used as warranty.