

### DATASHEET: ZIRCONIA MATERIALS

PROPERTIES	Units	EZY 94	EZY 88	EZM 96	EZC 96P	EZZ 66P	EAZ 20
		Y <sub>2</sub> O <sub>3</sub> TZP	Y <sub>2</sub> O <sub>3</sub> FSZ	MgO PSZ	CaO FSZ	Zircon	ZTA
<b>Physical Properties</b>							
% Zirconia	% wt	94	88	96.5	96	68	23
% Stabiliser (by wt)	% wt	6	12	3.5	4	30 (SiO <sub>2</sub> )	77(Al <sub>2</sub> O <sub>3</sub> )
Density	g/cm <sup>3</sup>	6.05	5.85	5.85	4.3	3.87	4.3
Open Porosity	%	0	0	0	25	16	0
<b>Thermal Properties</b>							
Max Operating Temp	°C	1200	1800	1200	2400	1650	1500
Max Operating Temp	°F	2192	3270	2190	4350	3000	2190
Thermal Conductivity (20-100°C)	W/m <sup>2</sup> K	2.2	2.5	2.2	2	3.5	27
Coefficient Thermal Expansion	x10 <sup>-6</sup> K <sup>-1</sup>	10.3	10.5	10.1	9.6	5	8.3
<b>Mechanical Properties</b>							
Flexural Strength RT	psi	150000	30000	105000	-	-	65000
Hardness- Mohs	Mohs	8	8	8	-	-	16
Tensile Strength	psi	-	-	60,000	-	-	42000
<b>Electrical Properties</b>							
Volume Resistivity at 20°C	ohm - cm	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	-	-	10 <sup>14</sup>
Volume Resistivity at 600°C	ohm - cm	10 <sup>4</sup>	10 <sup>4</sup>	10 <sup>5</sup>	-	-	10 <sup>9</sup>
Dielectric Constant	25°C & 1 mhz	29	-	28	-	-	10.6

\*\* - Full Chemical Analysis Available On Request

Additional material properties are available - please ask at [enquiries@earthwaterfire.com](mailto:enquiries@earthwaterfire.com)

These values were established on test pieces and identify the characteristic data of our products. Transferring of these values into practice depends on individual geometry and application of each part.

For Further Information contact us at: [enquiries@earthwaterfire.com](mailto:enquiries@earthwaterfire.com)