



# PROFESSIONAL PLASTICS, INC.

Leading Global Supplier of Engineered Plastic Shapes

USA Phone (888) 995-7767 – Asia Phone +65-6266-6193

E-Mail: [sales@proplas.com](mailto:sales@proplas.com) Website: [www.professionalplastics.com](http://www.professionalplastics.com)

Zirconia (Y-TZP) Material Specifications		
Physical Properties	Units	Zirconia (Y-TZP)
Chemical Formula		95% Zirconia, 5% yttria
Density	g/cm <sup>3</sup>	6.01
Color	-	Ivory
Crystal Structure	-	
Water Absorption	%	0
Hardness	Moh's	
Hardness	Knoop (kg/mm1)	
Mechanical Properties	Units	Zirconia (Y-TZP)
Compressive Strength	psi MPa	
Tensile Strength	psi MPa	
Modulus of Elasticity (Young's Mod.)	psi x 10 <sup>6</sup> GPa	30 204
Flexural Strength	kpsi MPa	145 1000
Poisson's Ratio	-	0.31
Fracture Toughness	MPa x m <sup>1/2</sup>	7
Thermal Properties	Units	Zirconia (Y-TZP)
Max. Use Temperature (* denotes insert atm.)	°F °C	4350 2400
Thermal Shock Resistance	ΔT (°C)	
Thermal Conductivity	W/m.K	
Coefficient of Linear Thermal Expansion	μm/m-°C (~25°C though +/- 1000°C)	
Specific Heat	cal/g/°C	0.32
Electrical Properties	Units	Zirconia (Y-TZP)
Dielectric Constant	1Mhz @ R.T.	
Dielectric Strength	V/mil kV/mm	
Electrical Resistivity	Wcm @ R.T.	

The information supplied is not to be taken as a warranty or representation for which Professional Plastics, Inc. assumes legal responsibility, is offered solely for your consideration, investigation and verification. All risk of use, singly or in combination with other products, whether or not in accordance with the instructions, directions or suggestions is borne by the user. We make no assurance as to the suitability of any material for any particular applications. It is the sole responsibility of the user to perform due diligence and application testing to determine suitability.

USA Phone (888) 995-7767 – Asia Phone +65-6266-6193

E-Mail: [sales@proplas.com](mailto:sales@proplas.com) Website: [www.professionalplastics.com](http://www.professionalplastics.com)

Zirconia (Y-TZP) is available from:

<http://www.professionalplastics.com/ZIRCONIA>