

CeramTec MZ BE Zirconia 3Y-TZP, Dental Grade

Category : Ceramic , Oxide , Zirconium Oxide

Material Notes:

MZ BE is a yttria-stabilized tetragonal zirconia used in dental applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CeramTec-MZ-BE-Zirconia-3Y-TZP-Dental-Grade.php

Physical Properties	Metric	English	Comments
Density	6.04 g/cc	0.218 lb/in ³	without HIP; DIN EN 623-2
Particle Size	0.40 µm	0.40 µm	Grain
Weibull Modulus	15	15	DIN ENV 843-5

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1250	1250	HV 0.5; DIN ENV 843-4
Tensile Modulus	214 GPa	31000 ksi	Young's; DIN ENV 843-2
Flexural Strength	1100 MPa	160000 psi	Bending Strength; 4-Point without HIP; DIN ENV 843-1
Poissons Ratio	0.30	0.30	DIN ENV 843-2
Fracture Toughness	5.00 MPa-m ^{1/2}	4.55 ksi-in ^{1/2}	SEVNB; ISO 23 146
Shear Modulus	82.3 GPa	11900 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.11 µin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	0.25 %	0.25 %	DIN ISO 12677
HfO2	1.9 %	1.9 %	DIN ISO 12677
Y2O3	5.4 %	5.4 %	DIN ISO 12677
ZrO2	92.4 %	92.4 %	DIN ISO 12677

Descriptive Properties	Value	Comments
Color	White	

Descriptive Properties	Value	Comments
Monochloric Content (%)	1.1	DIN ISO 12677

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