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**CREATING QUALITY STANDARDS FOR THE INDUSTRY**

## Ceramic Injection Molding

### Precision Injection Molding

#### **WM-YTZP 3 mol% Partially Stabilized White Zirconia Ceramic**

WM-YTZP is a White High-Strength, High Fracture Toughness Ceramic material that can be used in application where impact and a stronger strength is needed for the component application. Areas where this material is typically used but are not limited to are: Cutting Tools, Medical Components, Aerospace Applications, Electronic Applications, Fluid Metering etc.

#### Physical Properties

Color	-	White
Sintered Density	-	6.05 g/cc
Bending Strength	-	1200 MPa
Compressive Strength	-	2500 MPa
Fracture Toughness (NB)	-	12.0 MPa <sup>1/2</sup>
Hardness	-	1250 (HV10)
Thermal Conductivity	-	2.2 (W/m*K)

#### Chemical Properties

ZrO <sub>2</sub> + HfO <sub>2</sub> + Y <sub>2</sub> O <sub>3</sub>	-	> 99.8 wt%
Y <sub>2</sub> O	-	4.95 to 5.35 wt%
Al <sub>2</sub> O <sub>3</sub>	-	≤ 0.1 wt%
SiO <sub>2</sub>	-	≤ 0.02 wt%
Fe <sub>2</sub> O <sub>3</sub>	-	≤ 0.01 wt%
Na <sub>2</sub> O	-	≤ 0.04 wt%

These numbers are typical values for the properties listed. Depending on the end shape and environment, these values may be slightly different. Any questions and or for recommendations on how to design your Ceramic Injection Molded Parts, please contact our Design Engineers at Wunder Mold.

Email: [sales@wundermold.com](mailto:sales@wundermold.com)