



Wunder-Mold

Creating Quality Standards for the Industry

Ceramic Injection Molding

Precision Injection Molding

WM-YTZP

3 mol% Partially Stabilized Zirconia

WM-YTZP is a High-Strength, High Fracture Toughness Ceramic material that can be used in applications 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 | - | Ivory |
| Sintered Density | - | 6.05 g/cc |
| Bending Strength (4 pt) | - | 1200 MPa |
| Compressive Strength | - | 2500 MPa |
| Fracture Toughness (NB) | - | 12.0 MPa ^{1/2} |
| Hardness | - | 1250 (HV10) |
| Thermal Conductivity | - | 2.2 (W/m*K) |

Chemical Properties

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

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