

CY3Z-R grades

TECHNICAL DATA SHEET

- 3% molar Y₂O₃ stabilized zirconia with enhanced reactivity.
- Powder easy to process into feedstock for injection molding.
- YTZ ceramics with outstanding mechanical properties.

CHEMICAL ANALYSIS (ppm)

ZrO ₂ +HfO ₂ *	Y ₂ O ₃	Al ₂ O ₃ **	SiO ₂	Na ₂ O	TiO ₂	Fe ₂ O ₃	LOI
94.3%	5.4%	0.25%	≤200	≤200	≤50	≤50	≤1%

* by difference ** Al₂O₃: 0% for CY3Z-RS

PHYSICAL PROPERTIES

	CY3Z-RA	CY3Z-RS
Al ₂ O ₃ (wt%)	0.25	-
Specific surface area (m ² /g)	7	
Particle size distribution		
d50 (μm)*	0.3	
d98 (μm)*	<2.0	

*Analytical method: laser diffraction

APPLICATION PROPERTIES

- Ceramic sintering

	CY3Z-RA	CY3Z-RS
Sintering temperature (°C)	1450 - 2 hours	1500 - 2 hours
Ceramic density (g.cm ⁻³)	≥ 6.05	

Refer to our recommendations for thermal processing

- Mechanical properties of final ceramics

Hardness (HV03)*	Flexural strength (MPa)**	Fracture toughness K _{1C} (MPa.m ^{1/2})***
1250	> 1000	5.5

* Vickers indentation

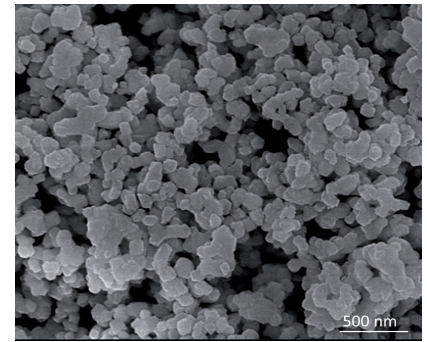
** 3 points bending (6.5mm x 3.3mm x 25mm)

*** ISB (ASTM C1421)

SAFETY DATA SHEET AVAILABLE

PACKAGING

25 kg plastic drums.



MAIN APPLICATIONS

- Structural ceramics
- Ceramic Injection Molding (CIM)

CERAMIC PROPERTIES

- High mechanical strength
- Wear & scratch resistance
- Biocompatible

Saint-Gobain ZirPro is the expert in zirconia-based materials for industrial applications. From our global network of manufacturing, commercial and research facilities, we serve leading customers through long-term and trust-based relationships.

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