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## Product Data Sheet

### Yttria stabilized zirconia CY3Z-P

#### Description

- 3% molar Y<sub>2</sub>O<sub>3</sub> stabilized zirconia with high chemical purity
- granules for cold isostatic pressing (CIP) of YTZ ceramic
- YTZ ceramics with outstanding mechanical properties

#### Main applications

- structural ceramics

#### Ceramic properties

- easy processing
- high strength
- wear & scratch resistant
- smooth finish

#### Typical chemical analysis

ZrO <sub>2</sub> +HfO <sub>2</sub> *	Y <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>	Na <sub>2</sub> O	TiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	LOI
94,3 %	5,4 %	0,25 %	≤250 ppm	≤250 ppm	≤50 ppm	≤50 ppm	≤250 ppm	≤1 %

\* by difference

#### Physical properties

specific surface area (m <sup>2</sup> /g)	9
bulk density (g/cm <sup>3</sup> )	1,2
flowability (g/s)	> 0,6
D <sub>50</sub> (μm)*	60

\* analytical method: laser diffraction

#### Application properties

- ceramic sintering

ceramic density(g/cm <sup>3</sup> )	≥ 6,05
sintering temperature (°C)	1400

refer to producer's recommendations for thermal processing

- mechanical properties of final ceramics

hardness (HV05)*	flexural strength (MPa)**	fracture toughness K <sub>1C</sub> (MPa.m <sup>1/2</sup> )*
1250	1100	6

\* Vickers indentation

\*\* 3 points bending

#### Packaging

20 kg plastic drums

All of the above data represent typical values which may vary for each shipment. Final users must practice their own tests to determine if product fits into requirements of the aim it is going to be used for.