

### Grain Size Distribution

$d_{10}$	< 25 $\mu\text{m}$
$d_{50}$	~ 80 $\mu\text{m}$
$d_{90}$	> 200 $\mu\text{m}$
Specific Surface Area	6 – 8 $\text{m}^2/\text{g}$

### Chemical Composition

ZrO <sub>2</sub>	> 95.5 %
Fe <sub>2</sub> O <sub>3</sub>	< 0.1 %
TiO <sub>2</sub>	< 0.1 %
SiO <sub>2</sub>	< 0.1 %
Na <sub>2</sub> O	< 0.1 %
MgO	~ 3.0 %

These properties are typical but do not constitute specifications

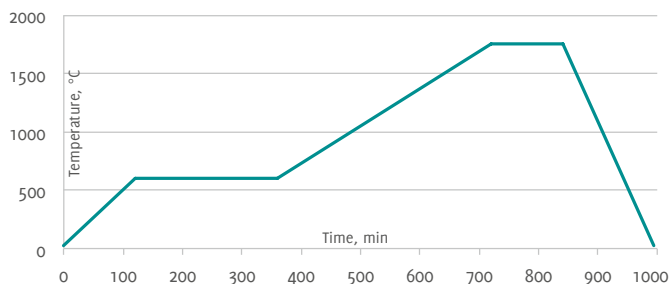
### Physical Properties

Green Density <sup>1)</sup>	3.32 $\text{g}/\text{cm}^3$
Sintered Density <sup>1)</sup>	5.80 $\text{g}/\text{cm}^3$
Apparent Density	1.4 $\text{g}/\text{cm}^3$
Flexural Strength	—
Shrinkage	19 %
$\Delta m$ <sup>2)</sup>	3.5 – 4.0 %
Color	white/yellow

1) at 200 MPa 2) weight loss after sintering

### Recommended Sintering Conditions

Sintering Temperature	1720 – 1740 °C
Debinding	500 °C



The shown debinding and sintering cycles are exemplary. More information on request.

### Applications

Glue Nozzles, Valve Seals, Grinding Discs, Metalworking, Doctor Blades, Rolling Bearings, Isolation Rings, Bearing Bushes, for Cold Isostatic Pressing, Green Machining, Parts with Complex Geometry

### Advantages

- Excellent powder flowability and pressing behavior for low variance of die filling and green density.
- High dimensional accuracy after sintering, low dimensional scrap rate.
- Improved binder system with non-sticking properties on die surface. Reduced down time for mold cleaning.
- Formulation with eco-friendly carbon precursor. No use of phenolic resin. Clean and safe debinding process without toxic emissions. Reduced deposits inside debinding equipment provide for reduced maintenance down time.
- Reduced pressure to obtain the required green density. Reduced cost factor related to tool wear.

