

Grain Size Distribution

| | |
|-----------------------|----------|
| d ₁₀ | < 20 μm |
| d ₅₀ | ~ 80 μm |
| d ₉₀ | > 160 μm |
| Specific Surface Area | – |

Chemical Composition

| | |
|--------------------------------|-----------|
| Y ₂ O ₃ | 99.999 % |
| Fe ₂ O ₃ | < 0.005 % |
| SiO ₂ | < 0.001 % |
| Na ₂ O | < 0.043 % |

These properties are typical but do not constitute specifications

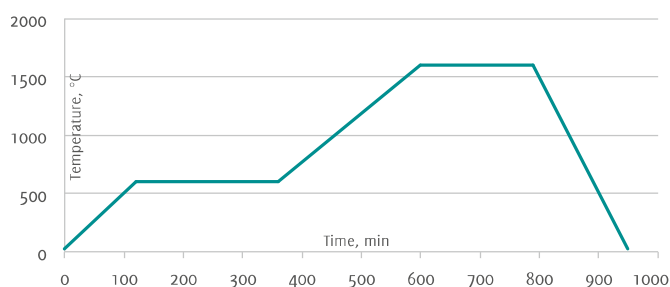
Physical Properties

| | |
|--------------------------------|------------------------|
| Green Density ¹⁾ | 2.98 g/cm ³ |
| Sintered Density ¹⁾ | 4.98 g/cm ³ |
| Apparent Density | 1.16 g/cm ³ |
| Flexural Strength | – |
| Shrinkage | ~ 20 % |
| Δm ²⁾ | ~ 13 % |
| Color | white |

1) at 200 MPa 2) weight loss after sintering

Recommended Sintering Conditions

| | |
|-----------------------|---------|
| Sintering Temperature | 1600 °C |
| Debinding | 600 °C |



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

Applications

Semiconductor Applications, 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.