

China-Yixing Longly Refractories Zirconia Ceramics

Category: Ceramic, Oxide, Zirconium Oxide

Material Notes:

LONGLY provides a multitude of zirconia products including balls, plates, tubes, rods and etc. by adopting magnesia, calcia or yttria stabilized zirconia powder as raw material through dry pressing, isostatic pressing and hot pressing. The fine grain size allows for extremely smooth surfaces. Meanwhile Zirconia has low thermal conductivity and is an oxygen-ion conductor above 600°C, which could be used as oxygen sensors and high temperature fuel cells. Compared with alumina ceramics, they have higher abrasion resistance, flexibility, chemical stability, and corrosion resistance. LONGLY's Zirconia products are high temperature resistant, hard, insulated, wear resistant, anti-split, high pressure resistant, particularly tough and without use of any auxiliary lubricant, which are most suitable for harsh environment. We could manufacture and machine various precision ceramic structural parts according to customer request. Main products consist of grinding ball, nozzle, ball valve, ball seat, zirconia molds, optical fiber base pin, optical fiber ferrule, wire drawing film, sealing ring and other wear-resistant parts. Applications: Widely used in metallurgical, electrical, electronic, automotive, pneumatic components, machinery, chemical, textile and other fields. Information Provided by China Yixing Longly Refractories Co. Ltd

Order this product through the following link:

http://www.lookpolymers.com/polymer_China-Yixing-Longly-Refractories-Zirconia-Ceramics.php

| Physical Properties | Metric | English | Comments |
|---------------------|--------------|-----------------|-----------------------------------|
| Bulk Density | >= 6.00 g/cc | >= 0.217 lb/in³ | |
| Water Absorption | <= 0.0050 % | <= 0.0050 % | |
| Particle Size | 400 - 800 μm | 400 - 800 μm | grain size; 400lambda - 800lambda |

| Mechanical Properties | Metric | English | Comments |
|-----------------------|--------------------|---------------------|-----------------------|
| Vickers Microhardness | >= 1260 | >= 1260 | (kg/mm ²) |
| Modulus of Elasticity | 208 GPa | 30200 ksi | |
| Fracture Toughness | 8.00 - 10.0 MPa-m½ | 7.28 - 9.10 ksi-in½ | |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|-------------------------------|------------------------------------|----------|
| | 10.5 µm/m-°C | 5.83 µin/in-°F | |
| CTE, linear | @Temperature 25.0 - 800 °C | @Temperature 77.0 - 1470 °F | |
| | 3.10 W/m-K | 21.5 BTU-in/hr-ft ² -°F | |
| Thermal Conductivity | @Temperature 20.0 - 400 °C | @Temperature 68.0 - 752 °F | |
| Maximum Service Temperature, Air | >= 1700 °C | >= 3090 °F | |



| Component Elements Properties | Metric | English | Comments | |
|-------------------------------|---------|---------|----------|--|
| ZrO2 | >= 94 % | >= 94 % | | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|------------|-----------|---------------------|
| Dielectric Strength | 18.0 kV/mm | 457 kV/in | Insulating Strength |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
| Crushing Load (kN) | >16 | 7mm size |
| Refractoriness (°C) | >2200 | |

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