

CoorsTek ZDY Yttria Fully Stabilized Zirconia

Category : Ceramic , Oxide , Zirconium Oxide

Material Notes:

Oxygen ionic conductor for high-stress and high-thermal-shock environments

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-ZDY-Yttria-Fully-Stabilized-Zirconia.php

| Physical Properties | Metric | English | Comments |
|---------------------|-----------|--------------------------|-----------|
| Density | 5.60 g/cc | 0.202 lb/in ³ | ASTM-C 20 |
| Water Absorption | 0.00 % | 0.00 % | ASTM-373 |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|---------------------------|----------------------------|----------------|
| Hardness, Rockwell 45 N | 75 | 75 | |
| Modulus of Elasticity | 173 GPa | 25100 ksi | ASTM-C848 |
| Flexural Strength | 207 MPa | 30000 psi | MOR; ASTM-F417 |
| Fracture Toughness | 3.00 MPa-m ^{1/2} | 2.73 ksi-in ^{1/2} | Notched Beam |

| Thermal Properties | Metric | English | Comments |
|----------------------------------|--|--|---------------|
| CTE, linear | 10.5 µm/m-°C @Temperature 25.0 - 1000 °C | 5.83 µin/in-°F @Temperature 77.0 - 1830 °F | ASTM-C372 |
| Thermal Conductivity | 2.20 W/m-K | 15.3 BTU-in/hr-ft ² -°F | ASTM-C408 |
| Maximum Service Temperature, Air | 2400 °C | 4350 °F | NO-LOAD COND. |

| Descriptive Properties | Value | Comments |
|-------------------------------|-----------|----------|
| Color | Ivory | |
| Permeability | Gas tight | |
| Thermal Shock Resistance (°C) | 200 | ΔTc |

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