

## CeramTec DN 70 Dispersion Ceramic, Al2O3-ZrO2

Category : Ceramic , Oxide , Zirconium Oxide

### Material Notes:

DN 70 is a ZTA Alumina Toughened Zirconia.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CeramTec-DN-70-Dispersion-Ceramic-Al2O3-ZrO2.php](http://www.lookpolymers.com/polymer_CeramTec-DN-70-Dispersion-Ceramic-Al2O3-ZrO2.php)

| Physical Properties | Metric    | English                  | Comments                    |
|---------------------|-----------|--------------------------|-----------------------------|
| Density             | 4.01 g/cc | 0.145 lb/in <sup>3</sup> | DIN EN 623-2                |
| Water Absorption    | 0.00 %    | 0.00 %                   | Open Porosity; DIN EN 623-2 |
| Permeability        | 0.00      | 0.00                     | %, Gas                      |
| Weibull Modulus     | 10        | 10                       | DINV ENV 843-5              |

| Mechanical Properties | Metric                    | English                    | Comments                                    |
|-----------------------|---------------------------|----------------------------|---------------------------------------------|
| Vickers Microhardness | 1700                      | 1700                       | HV1; DINV ENV 843-4                         |
| Tensile Modulus       | 360 GPa                   | 52200 ksi                  | Young's; DINV ENV 843-2                     |
| Flexural Strength     | 450 MPa                   | 65300 psi                  | DIN EN 843-1                                |
| Compressive Strength  | 2700 MPa                  | 392000 psi                 | DIN 51067T1                                 |
| Poissons Ratio        | 0.23                      | 0.23                       | DINV ENV 843-2                              |
| Fracture Toughness    | 4.40 MPa-m <sup>1/2</sup> | 4.00 ksi-in <sup>1/2</sup> | K <sub>IC</sub> (SEVNB); DIN CEN/TS 14425-1 |
| Shear Modulus         | 146 GPa                   | 21200 ksi                  | Calculated                                  |

| Thermal Properties               | Metric                      | English                           | Comments       |
|----------------------------------|-----------------------------|-----------------------------------|----------------|
| CTE, linear                      | 7.00 µm/m-°C                | 3.89 µin/in-°F                    | DIN EN 821-1   |
|                                  | @Temperature 20.0 - 400 °C  | @Temperature 68.0 - 752 °F        |                |
|                                  | 9.00 µm/m-°C                | 5.00 µin/in-°F                    | DIN EN 821-1   |
|                                  | @Temperature 20.0 - 1000 °C | @Temperature 68.0 - 1830 °F       |                |
| Specific Heat Capacity           | 0.800 J/g-°C                | 0.191 BTU/lb-°F                   | DINV ENV 821-3 |
| Thermal Conductivity             | 15.0 W/m-K                  | 104 BTU-in/hr-ft <sup>2</sup> -°F | DIN EN 821-2   |
| Maximum Service Temperature, Air | 1500 °C                     | 2730 °F                           |                |

| Maximum Service Temperature, Inert Thermal Properties | 1500 °C<br>Metric | 2730 °F<br>English | Comments |
|-------------------------------------------------------|-------------------|--------------------|----------|
|-------------------------------------------------------|-------------------|--------------------|----------|

| Electrical Properties | Metric                | English               | Comments  |
|-----------------------|-----------------------|-----------------------|-----------|
| Volume Resistivity    | 500000 ohm-cm         | 500000 ohm-cm         | IEC 672-1 |
|                       | @Temperature 400 °C   | @Temperature 752 °F   |           |
|                       | 1.00e+14 ohm-cm       | 1.00e+14 ohm-cm       | IEC 672-1 |
|                       | @Temperature 20.0 °C  | @Temperature 68.0 °F  |           |
| Dielectric Constant   | 10                    | 10                    | IEC 672-1 |
|                       | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz |           |
| Dielectric Strength   | 16.0 kV/mm            | 406 kV/in             | IEC 672-1 |
| Dielectric Loss Index | 0.0040                | 0.0040                | IEC 672-1 |
|                       | @Frequency 9.00e+9 Hz | @Frequency 9.00e+9 Hz |           |

| Descriptive Properties                    | Value | Comments                                       |
|-------------------------------------------|-------|------------------------------------------------|
| Ra = Arithmetic Mean Roughness Value (µm) | <0.15 |                                                |
| Thermal Shock Resistance R1 (K)           | 134   | calculated; $R1 = [s^2 (1-\mu)] / (a \cdot E)$ |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China