# CeramTec Rubalit® A 1896 Alumina

**Category :** Ceramic , Oxide , Aluminum Oxide

**Material Notes:**

Rubalit® A 1896 (96%) is an aluminum oxide ceramic with an optimum price/performance ratio. Its outstanding properties are low density, low weight, high corrosion and wear resistance, excellent electrical insulation, and anti-friction properties for sliding materials such as sintered metal, carbon, and glass-fiber reinforced plastic. A polishing process opens the pores on the sliding surfaces, enabling the material to absorb lubricants and solid particles.

Order this product through the following link:
http://www.lookpolymers.com/polymer_CeramTec-Rubalit-A-1896-Alumina.php

| Physical Properties | Metric | English | Comments |
|---|---|---|---|
| Density | 3.73 g/cc | 0.135 lb/in³ | DIN EN 623-2 |
| Water Absorption | 0.00 % | 0.00 % | DIN EN 623-2 |
| Porosity | 5.0 % | 5.0 % | closed (approximate vol. %) |
| Permeability | 0.00 | 0.00 | %, Gas |
| Weibull Modulus | >= 10 | >= 10 | DINV ENV 843-5 |

| Mechanical Properties | Metric | English | Comments |
|---|---|---|---|
| Vickers Microhardness | 1520 | 1520 | HV 0.5; DINV ENV 843-4 |
| Tensile Strength at Break | 330 MPa | 47900 psi | ACMA Test #4 / DIN EN 843-1 |
| Tensile Modulus | 330 GPa | 47900 ksi | Young's; DINV ENV 843-2 |
| Flexural Strength | 330 MPa | 47900 psi | DIN EN 843-1 |
| Compressive Strength | 3400 MPa | 493000 psi | DIN 51067T1 |
| Poissons Ratio | 0.23 | 0.23 | DINV ENV 843-2 |
| Fracture Toughness | 4.00 MPa-m½ | 3.64 ksi-in½ | K<sub>IC</sub>; DIN 51109 |
| Shear Modulus | 134 GPa | 19400 ksi | Calculated |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| CTE, linear | 5.40 µm/m-°C<br>@Temperature 20.0 - 200 °C | 3.00 µin/in-°F<br>@Temperature 68.0 - 392 °F | DIN EN 821-1 |
| | 6.90 µm/m-°C<br>@Temperature 20.0 - | 3.83 µin/in-°F<br>@Temperature 68.0 - | DIN EN 821-1 |

| Thermal Properties | Metric | English | Comments |
|---|---|---|---|
| | 400 °C | 752 °F | |
| | 7.50 µm/m-°C<br>@Temperature 20.0 - 600 °C | 4.17 µin/in-°F<br>@Temperature 68.0 - 1110 °F | DIN EN 821-1 |
| | 8.30 µm/m-°C<br>@Temperature 20.0 - 1000 °C | 4.61 µin/in-°F<br>@Temperature 68.0 - 1830 °F | DIN EN 821-1 |
| Specific Heat Capacity | 0.900 J/g-°C<br>@Temperature 20.0 - 100 °C | 0.215 BTU/lb-°F<br>@Temperature 68.0 - 212 °F | DINV ENV 821-3 |
| Thermal Conductivity | 24.0 W/m-K<br>@Temperature 20.0 - 100 °C | 167 BTU-in/hr-ft²-°F<br>@Temperature 68.0 - 212 °F | DIN EN 821-2 |
| Maximum Service Temperature, Air | 1450 °C | 2640 °F | |
| Maximum Service Temperature, Inert | 1450 °C | 2640 °F | |

| Electrical Properties | Metric | English | Comments |
|---|---|---|---|
| Volume Resistivity | >= 1.00e+7 ohm-cm<br>@Temperature 800 °C | >= 1.00e+7 ohm-cm<br>@Temperature 1470 °F | IEC 672-1 |
| | >= 1.00e+11 ohm-cm<br>@Temperature 400 °C | >= 1.00e+11 ohm-cm<br>@Temperature 752 °F | IEC 672-1 |
| | >= 1.00e+14 ohm-cm<br>@Temperature 20.0 °C | >= 1.00e+14 ohm-cm<br>@Temperature 68.0 °F | IEC 672-1 |
| Dielectric Constant | 10<br>@Frequency 1.00e+7 Hz | 10<br>@Frequency 1.00e+7 Hz | IEC 672-1 |
| Dielectric Strength | 20.0 kV/mm | 508 kV/in | IEC 672-1 |
| Dielectric Loss Index | 0.0010<br>@Frequency 1.00e+7 Hz | 0.0010<br>@Frequency 1.00e+7 Hz | IEC 672-1 |

| Descriptive Properties | Value | Comments |
|---|---|---|
| Color | White | |
| Surface Contact Area (%) | 60-80 | |
| Thermal Shock Resistance R1 (K) | 118 | R1 = [s? (1-µ)] / (a·E) |

| Descriptive Properties | Value | Comments |
| --- | --- | --- |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China