

## CeramTec B 40 Alumina, 99.1%

Category : Ceramic , Oxide , Aluminum Oxide

### Material Notes:

B 40 is the ideal sliding mate with the same properties as Rubalit® A 1896. It contains a larger share of Al<sub>2</sub>O<sub>3</sub> for superior chemical stability.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CeramTec-B-40-Alumina-991.php](http://www.lookpolymers.com/polymer_CeramTec-B-40-Alumina-991.php)

Physical Properties	Metric	English	Comments
Density	3.82 g/cc	0.138 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	8.0	8.0	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	300 MPa	43500 psi	DIN EN 843-1
Compressive Strength	2000 MPa	290000 psi	DIN 51067T1
Poissons Ratio	0.23	0.23	DINV ENV 843-2
Fracture Toughness	4.20 MPa-m <sup>1/2</sup>	3.82 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	7.20 μm/m-°C	4.00 μin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
	8.70 μm/m-°C	4.83 μin/in-°F	DIN EN 821-1
	@Temperature 20.0 - 1000 °C	@Temperature 68.0 - 1830 °F	
Specific Heat Capacity	0.900 J/g-°C	0.215 BTU/lb-°F	DINV ENV 821-3
Thermal Conductivity	28.0 W/m-K	194 BTU-in/hr-ft <sup>2</sup> -°F	DIN EN 821-2
Maximum Service Temperature, Air			

Thermal Properties	1400 °C Metric	2550 °F English	Comments
Maximum Service Temperature, Inert	1400 °C	2550 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	99.1 %	99.1 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+10 ohm-cm	1.00e+10 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	9.0	9.0	IEC 672-1
	@Frequency 1.00e+7 Hz	@Frequency 1.00e+7 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	IEC 672-1
Dielectric Loss Index	6000	6000	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)	150	calculated; $R1 = [s^2 (1-\mu)] / (a \cdot E)$

## Contact Songhan Plastic Technology Co.,Ltd.

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