

CoorsTek AD-85 Alumina (nom. 85% Al₂O₃)

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Thermal Shock Delta Tc = 300°C - Thermal shock tests are performed by quenching samples in water from different elevated temperatures. Delta Tc is the change in temperature which results in a sharp decrease in the flexural strength of the sample. Corrosion: Although all Coors Ceramics are highly resistant to chemical attack, Coors recommends obtaining specific application data from Coors before design finalization. Data Provided by the manufacturer, Coors Ceramics Co.

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-AD-85-Alumina-nom-85-Al2O3.php

Physical Properties	Metric	English	Comments
Density	3.42 g/cc	0.124 lb/in ³	ASTM C20
Water Absorption	0.00 %	0.00 %	ASTM C373
Particle Size	6.0 µm	6.0 µm	Average Crystal Size - Thin Section Test

Mechanical Properties	Metric	English	Comments
Knoop Microhardness	9.4	9.4	1000 g load
Hardness, Rockwell 45 N	73	73	GPa
Tensile Strength, Ultimate	155 MPa	22500 psi	ACMA Test #4
Modulus of Elasticity	221 GPa	32100 ksi	ASTM C848
Flexural Strength	296 MPa	42900 psi	ASTM F417
Compressive Strength	1930 MPa	280000 psi	ASTM C773
Poissons Ratio	0.22	0.22	ASTM C848
Fracture Toughness	3.00 - 4.00 MPa-m ^{1/2}	2.73 - 3.64 ksi-in ^{1/2}	Notched Beam
Shear Modulus	91.0 GPa	13200 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	7.20 µm/m-°C @Temperature 25.0 - 1000 °C	4.00 µin/in-°F @Temperature 77.0 - 1830 °F	ASTM C372
Specific Heat Capacity	0.920 J/g-°C	0.220 BTU/lb-°F	ASTM E1269
Thermal Conductivity	16.0 W/m-K	111 BTU-in/hr-ft ² -°F	ASTM C408

Maximum Service Temperature, Air Thermal Properties	1400 °C Metric	2550 °F English	No Load Comments
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Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	ASTM D1829
	4.00e+8 ohm-cm @Temperature 500 °C	4.00e+8 ohm-cm @Temperature 932 °F	ASTM D1829
Dielectric Constant	8.2	8.2	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	9.40 kV/mm	239 kV/in	ac; ASTM D116
Dielectric Loss Index	0.00090	0.00090	at 25°C, 1 MHz; ASTM D2520

Descriptive Properties	Value	Comments
Color	White	

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