

CoorsTek FG-995 Alumina (nom. 98.5% Al₂O₃)

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Thermal Shock Delta Tc = 200°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-FG-995-Alumina-nom-985-Al2O3.php

Physical Properties	Metric	English	Comments
Density	3.80 g/cc	0.137 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	13.7	13.7	1000 g load
Hardness, Rockwell 45 N	82	82	GPa
Tensile Strength, Ultimate	248 MPa	36000 psi	ACMA Test #4
Modulus of Elasticity	350 GPa	50800 ksi	ASTM C848
Flexural Strength	375 MPa	54400 psi	ASTM F417
Compressive Strength	2500 MPa	363000 psi	ASTM C773
Poissons Ratio	0.22	0.22	ASTM C848
Fracture Toughness	4.00 - 5.00 MPa-m ^{1/2}	3.64 - 4.55 ksi-in ^{1/2}	
Shear Modulus	143 GPa	20700 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	8.20 µm/m-°C	4.56 µin/in-°F	ASTM C372
	@Temperature 25.0 - 1000 °C	@Temperature 77.0 - 1830 °F	
Specific Heat Capacity	0.880 J/g-°C	0.210 BTU/lb-°F	ASTM E1269
Thermal Conductivity	27.5 W/m-K	191 BTU-in/hr-ft ² -°F	ASTM C408

Maximum Service Temperature, Air Thermal Properties	1700 °C Metric	3090 °F English	No Load Comments
Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	ASTM D1829
	2.00e+6 ohm-cm	2.00e+6 ohm-cm	ASTM D1829
	@Temperature 1000 °C	@Temperature 1830 °F	
	2.00e+10 ohm-cm	2.00e+10 ohm-cm	ASTM D1829
	@Temperature 500 °C	@Temperature 932 °F	
Dielectric Constant	9.6	9.6	
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	8.70 kV/mm	221 kV/in	ac; ASTM D116
Dielectric Loss Index	0.00020	0.00020	at 25°C, 1 MHz; ASTM D2520
Descriptive Properties	Value	Comments	
Color	White		

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