Advanced Ceramics ALC 1082 (C-786) Alumina

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Information provided by Advanced Ceramics Limited (ACL)

Order this product through the following link:
http://www.lookpolymers.com/polymer_Advanced-Ceramics-ALC-1082-C-786-Alumina.php

Physical Properties	Metric	English	Comments
Density	>= 3.70 g/cc	>= 0.134 lb/in³	
Open Porosity	0.0 %	0.0 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 45 N	>= 78	>= 78	
Modulus of Elasticity	>= 312 GPa	>= 45300 ksi	
Shear Strength	>= 300 MPa @Temperature 20.0 °C	>= 43500 psi @Temperature 68.0 °F	Cross Breaking Strength

Thermal Properties	Metric	English	Comments
CTE, linear	7.50 µm/m-°C @Temperature 20.0 - 600 °C	4.17 µin/in-°F @Temperature 68.0 - 1110 °F	
	7.70 µm/m-°C @Temperature 20.0 - 1000 °C	4.28 µin/in-°F @Temperature 68.0 - 1830 °F	
Thermal Conductivity	>= 14.0 W/m-K	>= 97.2 BTU-in/hr-ft²-°F	
Maximum Service Temperature, Air	980 °C	1800 °F	Te Value Tk1
	1450 °C	2640 °F	Deflection temperature; No load indicated.

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm @Temperature 20.0 °C	>= 1.00e+17 ohm-cm @Temperature 68.0 °F	
Dielectric Constant	8.5 @Frequency 1e+9 Hz	8.5 @Frequency 1e+9 Hz	

Electrical Properties	Metric	English	Comments
	9.02 @Frequency 9.368e+9 Hz	9.02 @Frequency 9.368e+9 Hz	
	9.2 @Frequency 1e+7 Hz	9.2 @Frequency 1e+7 Hz	
Dielectric Strength	28.0 kV/mm @Thickness 0.500 mm	711 kV/in @Thickness 0.0197 in	
Dissipation Factor	<= 0.00010 @Frequency 1e+7 Hz	<= 0.00010 @Frequency 1e+7 Hz	
	<= 0.00010 @Frequency 1e+9 Hz	<= 0.00010 @Frequency 1e+9 Hz	
	<= 0.00020 @Frequency 9.368e+9 Hz	<= 0.00020 @Frequency 9.368e+9 Hz	

Descriptive Properties	Value	Comments
Grain Size	3-8 µm	

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