

CoorsTek ADSR-96R DuraStrate™ 96% Alumina Thick Film

Category : Ceramic , Oxide , Aluminum Oxide

Material Notes:

Applications: thick films and lasers

Order this product through the following link:

http://www.lookpolymers.com/polymer_CoorsTek-ADSR-96R-DuraStrate-96-Alumina-Thick-Film.php

Physical Properties	Metric	English	Comments
Density	3.75 g/cc	0.135 lb/in ³	ASTM-C373
Water Absorption	0.00 %	0.00 %	ASTM-C373
Particle Size	1.5 µm	1.5 µm	Grain Size; Intercept Method

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 45 N	82	82	ASTM-E18
Modulus of Elasticity	331 GPa	48000 ksi	ASTM-C623
Flexural Strength	482 MPa	69900 psi	ASTM-F394
Poissons Ratio	0.25	0.25	ASTM-C623
Shear Modulus	132 GPa	19100 ksi	Calculated

Thermal Properties	Metric	English	Comments
CTE, linear	6.40 µm/m-°C	3.56 µin/in-°F	ASTM-C372
	@Temperature 25.0 - 200 °C	@Temperature 77.0 - 392 °F	
	7.20 µm/m-°C	4.00 µin/in-°F	ASTM-C372
	@Temperature 25.0 - 500 °C	@Temperature 77.0 - 932 °F	
7.90 µm/m-°C	4.39 µin/in-°F	ASTM-C372	
@Temperature 25.0 - 800 °C	@Temperature 77.0 - 1470 °F		
Thermal Conductivity	8.20 µm/m-°C	4.56 µin/in-°F	ASTM-C372
	@Temperature 25.0 - 1000 °C	@Temperature 77.0 - 1830 °F	
	12.0 W/m-K	83.3 BTU-in/hr-ft ² -°F	
	@Temperature 400 °C	@Temperature 752 °F	

Thermal Properties	Metric	English	Comments
	20.0 W/m-K	139 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	
	26.0 W/m-K	180 BTU-in/hr-ft ² -°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	96 %	96 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 4.00e+14 ohm-cm	>= 4.00e+14 ohm-cm	ASTM-D1829
Dielectric Constant	9.55	9.55	ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	18.5 kV/mm	470 kV/in	60 cycles AC avg. RMS; ASTM-D149
	@Thickness 1.02 mm	@Thickness 0.0400 in	
Dissipation Factor	0.00040	0.00040	Loss Tangent; ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Loss Index	0.0040	0.0040	Loss Factor; ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0090	0.0090	Loss Factor; ASTM-D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	

Descriptive Properties	Value	Comments
Color	White	
Permeability	NIL	
Surface Finish - (µin.)	<0.89	as-fired; Profilometer, 0.0002" Radius Stylus, 0.100" Cutoff, ANSI/ASME B46.1
	<35	CLA; Profilometer, 0.0002" Radius Stylus, 0.100" Cutoff, ANSI/ASME B46.1

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