

CoorsTek ADS-995R MidFilm™ 99.5% 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-ADS-995R-MidFilm-995-Alumina-Thick-Film.php

Physical Properties	Metric	English	Comments
Density	3.90 g/cc	0.141 lb/in ³	ASTM-C373
Water Absorption	0.00 %	0.00 %	ASTM-C373
Particle Size	2.0 µm	2.0 µm	Grain Size; Intercept Method

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell 45 N	84	84	ASTM-E18
Modulus of Elasticity	379 GPa	55000 ksi	ASTM-C623
Flexural Strength	440 MPa	63800 psi	ASTM-F394
Poissons Ratio	0.24	0.24	ASTM-C623
Shear Modulus	153 GPa	22200 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	
7.60 µm/m-°C	4.22 µin/in-°F	ASTM-C372	
@Temperature 25.0 - 800 °C	@Temperature 77.0 - 1470 °F		
Thermal Conductivity	8.00 µm/m-°C	4.44 µin/in-°F	ASTM-C372
	@Temperature 25.0 - 1000 °C	@Temperature 77.0 - 1830 °F	
	23.0 W/m-K	160 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	

Thermal Properties	31.0 W/m-K Metric	215 BTU-in/hr-ft ² -°F English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Al2O3	99.5 %	99.5 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+7 ohm-cm	>= 1.00e+7 ohm-cm	ASTM-D1829
	@Temperature 700 °C	@Temperature 1290 °F	
	>= 1.00e+8 ohm-cm	>= 1.00e+8 ohm-cm	ASTM-D1829
	@Temperature 500 °C	@Temperature 932 °F	
>= 1.00e+9 ohm-cm	>= 1.00e+9 ohm-cm	ASTM-D1829	
@Temperature 300 °C	@Temperature 572 °F		
>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	ASTM-D1829	
@Temperature 25.0 °C	@Temperature 77.0 °F		
Dielectric Constant	10	10	ASTM-D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Constant	10	10	ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	23.4 kV/mm	595 kV/in	60 cycles AC avg. RMS; ASTM-D149
	@Thickness 0.635 mm	@Thickness 0.0250 in	
Dissipation Factor	0.00030	0.00030	Loss Tangent; ASTM-D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.00030	0.00030	Loss Tangent; ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Loss Index	0.0030	0.0030	Loss Factor; ASTM-D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Loss Index	0.0030	0.0030	Loss Factor; ASTM-D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
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Color Descriptive Properties	Value	Comments
Permeability	NIL	
Surface Finish - ($\mu\text{in.}$)	<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

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China