

Rogers Corporation R04450B Prepreg

Category : Polymer , Thermoset

Material Notes:

Prepreg is commonly used to inexpensively form less critical signal layers in antenna designs. A high post-cure Tg makes R04400 series prepreg an excellent choice for multi-layers requiring sequential laminations as fully cured R04400 prepregs are capable of handling multiple lamination cycle. Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-R04450B-Prepreg.php

Physical Properties	Metric	English	Comments
Density	1.80 g/cc	0.0650 lb/in ³	3.6 mil thickness; ASTM D792
	1.86 g/cc	0.0672 lb/in ³	4.0 mil thickness; ASTM D792
Moisture Absorption at Equilibrium	0.010 %	0.010 %	Immersion, for 3.6 mil thickness grade; ASTM D570
	@Temperature 50.0 °C, Time 173000 sec	@Temperature 122 °F, Time 48.0 hour	
	0.050 %	0.050 %	Immersion, for 4.0 mil thickness grade; ASTM D570
	@Temperature 50.0 °C, Time 173000 sec	@Temperature 122 °F, Time 48.0 hour	
Thickness	91.4 - 102 microns	3.60 - 4.00 mil	Range of Thicknesses available

Mechanical Properties	Metric	English	Comments
Peel Strength	0.701 kN/m	4.00 pli	Copper adhesion; 3.6 mil thickness; Z direction; 1/2 oz. EDC After Solder Float; IPC-TM-650 2.4.8
	0.859 kN/m	4.90 pli	Copper adhesion; 4.0 mil thickness; Z direction; 1/2 oz. EDC After Solder Float; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 µm/m-°C	9.44 µin/in-°F	Y Direction; IPC-TM-650 2.4.41
	@Temperature -55.0 - 280 °C	@Temperature -67.0 - 536 °F	
	19.0 µm/m-°C	10.6 µin/in-°F	X Direction; IPC-TM-650 2.4.41
	@Temperature -55.0 - 280 °C	@Temperature -67.0 - 536 °F	
	50.0 µm/m-°C	27.8 µin/in-°F	Z Direction, 4.0 mil thickness; IPC-TM-650 2.4.41
	@Temperature -55.0 - 280 °C	@Temperature -67.0 - 536 °F	

Thermal Properties	Metric	English	Comments
	@Temperature -55.0 - 280 °C	@Temperature -67.0 - 536 °F	Z Direction, 3.6 mil thickness; IPC-TM-650 2.4.41
Thermal Conductivity	0.600 W/m-K @Temperature 80.0 °C	4.16 BTU-in/hr-ft ² -°F @Temperature 176 °F	Z Direction; ASTM C518
Glass Transition Temp, Tg	>= 280 °C @Temperature -60.0 - 300 °C	>= 536 °F @Temperature -76.0 - 572 °F	10°C/min, TGA; IPC-TM-650 2.4.24
Decomposition Temperature	390 °C	734 °F	TGA; ASTM D3850
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	9.26e+13 ohm-cm	9.26e+13 ohm-cm	50% RH; IPC 2.5.17.1
Dielectric Constant	3.25 - 3.35 @Frequency 1.00e+10 Hz	3.25 - 3.35 @Frequency 1.00e+10 Hz	3.6 mil thickness, Z direction; IPC-TM-650 2.5.5.5
	3.49 - 3.59 @Frequency 1.00e+10 Hz	3.49 - 3.59 @Frequency 1.00e+10 Hz	4.0 mil thickness, Z direction; IPC-TM-650 2.5.5.6
Dielectric Strength	39.4 kV/mm	1000 kV/in	Z Direction, 50% RH; IPC-TM-650 2.5.6.2
Dissipation Factor	0.0040 @Frequency 1.00e+10 Hz	0.0040 @Frequency 1.00e+10 Hz	Z direction; IPC-TM-650 2.5.5.5

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