

Rogers Corporation RO3730 Antenna Grade Laminate

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Glass Filled, Molded

Material Notes:

RO3730™ Laminates have the excellent thermo-mechanical properties and electrical characteristics that antenna designers need. The laminates have a dielectric constant of 3.0 and a loss tangent of 0.0013 measured at 2.5 GHz. These values allow antenna designers to realize substantial gain values while minimizing signal loss. Materials are available with a demonstrated low PIM performance, with values better than -154 dBc (measured using Rogers' internal test method). Cladding is 1 ounce rolled annealed copper (35 microns thick). Features and Benefits: RO3730 reinforced woven fiber glass with optimized glass and filler loading - Improved mechanical rigidity, easier handling and processing versus non-reinforced PTFE products and lower dissipation factor Low PIM - reduced signal interference Loss - improved antenna gain Economically priced - volume manufacturing Environmentally friendly - Lead-free process compatible and RoHS compliant Typical Applications: Base station antennas RFID antennas WLAN antennas Satellite Radio antennas Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-RO3730-Antenna-Grade-Laminate.php

Physical Properties	Metric	English	Comments
Specific Gravity	2.10 g/cc	2.10 g/cc	ASTM D792
Moisture Absorption at Equilibrium	0.040 %	0.040 %	D48/50; ASTM D570
Thickness	762 - 1520 microns	30.0 - 60.0 mil	Range of Thicknesses Available

Mechanical Properties	Metric	English	Comments
Flexural Strength	8.00 MPa	1160 psi	Y-Direction; IPC-TM-650, 2.4.4
	9.00 MPa	1310 psi	X-Direction; IPC-TM-650, 2.4.4
Peel Strength	1.84 kN/m @Temperature 288 °C, Time 10.0 sec	10.5 pli @Temperature 550 °F, Time 0.00278 hour	Copper, After Solder Float; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.11 µin/in-°F	X-Direction; IPC-TM-650 2.4.41
	12.0 µm/m-°C	6.67 µin/in-°F	Y-Direction; IPC-TM-650 2.4.41
	65.0 µm/m-°C	36.1 µin/in-°F	Z-Direction; IPC-TM-650 2.4.41
Thermal Conductivity	0.450 W/m-K	3.12 BTU-in/hr-ft²-°F	D24/23; IPC-TM-650, 2.6.2.1
Decomposition Temperature	500 °C	932 °F	ASTM D3850
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	Cond. A; IPC 2.5.17.1
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	Cond. A; IPC 2.5.17.1
Dielectric Constant	2.93	2.93	Z direction, Design; Differential Phase Length Method
	@Frequency 8.00e+9 - 4.00e+10 Hz	@Frequency 8.00e+9 - 4.00e+10 Hz	
	2.94 - 3.06	2.94 - 3.06	Z direction, Process; IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Dissipation Factor	0.0013	0.0013	IPC-TM-650 2.5.5.5
	@Frequency 2.50e+9 Hz	@Frequency 2.50e+9 Hz	
	0.0016	0.0016	IPC-TM-650 2.5.5.5
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Dimensional Stability	0.02 mm/m	X direction; IPC-TM-650, 2.4.39A
	0.03 mm/m	Y direction; IPC-TM-650, 2.4.39A
PIM	< -154 dBc	
Thermal Coefficient of Dielectric Constant	-22 ppm/°C	-50°C to 150°C

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