ROGERS CORPORATION
Advanced Circuit Materials

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Data Sheet
RO3730 Data Sheet

RO3730™ Antenna Grade Laminates

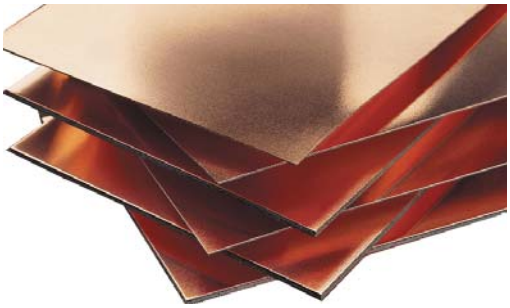
Features:	**Benefits:**
RO3730™ reinforced woven fiber glass with optimized glass and filler loading	• Improved mechanical rigidity/easier handling and processing versus non-reinforced PTFE products • Lower dissipation factor • Low PIM • PTH process capability
Low PIM	• Reduced signal interference
Low Loss	• Improved antenna gain
Economically priced	• Volume manufacturing
Environmentally friendly	• Lead-free process compatible • RoHS compliant
Regional finished goods inventories	• Short lead times / quick inventory turns • Efficient supply chain

Typical Applications:	
•	Base Station Antennas
•	RFID Antennas
•	WLAN Antennas
•	Satellite Radio Antennas

RO3730 laminates have the excellent thermo-mechanical properties, and electrical characteristics that antenna designers need. The laminates have a dielectric constant (Dk) of 3.0 and a loss tangent (Df) 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* (using Rogers' internal test method).

RO3730 materials can be fabricated into printed circuit boards using standard PTFE circuit board processing techniques as described in the application note, "Fabrication Guidelines for RO3730 High Frequency Circuit Materials."

Cladding is 1 ounce rolled annealed copper (35 µm thick). RO3730 laminates are manufactured under an ISO 9002 certified quality system.



Typical Values

RO3730™ Antenna Grade Material

Property	Typical Value	Direction	Units	Condition	Test Method
Dielectric Constant, ε_r	3.00 ± 0.06	Z		10 GHz/23°C	IPC-TM-2.5.5.5
Dissipation Factor, δ	0.0016 0.0013	Z		10 GHz/23°C 2.5GHz/23°C	IPC-TM-650, 2.5.5.5
Volume Resistivity	10^7		MΩ•cm	COND A	IPC-TM-650, 2.5.17.1
Surface Resistivity	10^7		MΩ	COND A	IPC-TM-650, 2.5.17.1
Flexural Strength	9 8	X Y	MPa (kpsi)		IPC-TM-650, 2.4.4
Dimensional Stability	0.02 0.03	X Y	mm/m (mils/inch)		IPC-TM-650, 2.4.39A
Coefficient of Thermal Expansion	11	X	ppm/°C		IPC-TM-650, 2.1.41
	12	Y			
	65	Z			
PIM	<-154*		dBc		
Td	500		°C TGA		ASTM D3850
Thermal Coefficient of ε_r - TcDK	-22		ppm/°C	-50°C to +150°C	
Thermal Conductivity	0.45		W/m/°K	D24/23	IPC-TM-650 2.6.2.1
Moisture Absorption	0.04		%	D48/50	ASTM D570
Specific Gravity	2.1		gm/cm^3	23°C	ASTM D792
Copper Peel Strength	1.8 (10.5)		N/mm (pli)	10 sec. 550°F Solder Float	IPC-TM-650 2.4.8
Flammability	V-0 pending				UL94
Lead-Free Process Compatible	YES				

*as tested on similar constructions in development.

Thickness	Panel Sizes	Standard Claddings
0.030" (0.762mm), 0.060" (1.524mm)	24"X18" (610mm X 457mm) 24"X54" (610mm X 1.37m)	1 oz. Rolled Copper foil

Typical values are a representation of an average value for the population of the property. For specification values contact Rogers Corporation.

The information in this data sheet is intended to assist you in designing with Rogers' circuit material laminates. It is not intended to and does not create any warranties express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results shown on this data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' circuit material laminates for each application.

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