

RO3730™ Antenna Grade Laminates

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 (measured 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.



Data Sheet

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
- Lower Dissipation factor

Low PIM

- Reduced signal interference

Low Loss

- Improved antenna gain

Economically priced

- Volume manufacturing

Environmentally friendly

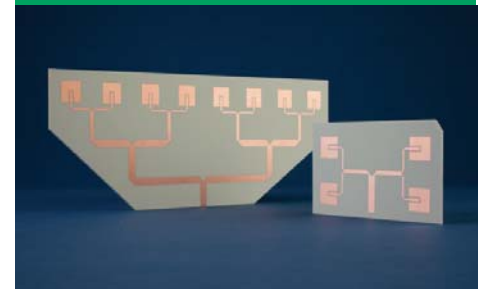
- Lead-free process compatible
- RoHS compliant

Regional finished goods inventories

- Short lead-time / quick inventory turn.
- Efficient supply

SOME TYPICAL APPLICATIONS:

- Base Station Antennas
- RFID Antennas
- WLAN Antennas
- Satellite Radio Antennas



Property	^[1] Typical Value	Direction	Units	Condition	Test Method
Dielectric Constant, ϵ_r , Process	3.00 ± 0.06	Z		10 GHz/23°C	IPC-TM-2.5.5.5
^[2] Dielectric Constant, ϵ_r , Design	2.93	Z		8 GHz - 40 GHz	Differential Phase Length Method
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 (1.3) 8 (1.2)	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		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				UL94
Lead-Free Process Compatible	YES				

NOTES:

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

[2] The design Dk is an average number from several different tested lots of material and on the most common thickness/s. If more detailed information is required please contact Rogers Corporation or refer to Rogers' technical reports on the Rogers Technology Support Hub at <http://www.rogerscorp.com/acm/technology>.

Standard Thickness	Standard Panel Size	Standard Copper Cladding
0.030" (0.762mm) 0.060" (1.524mm)	24"X18" (610mm X 457mm) 24"X54" (610mm X 1.37m)	Rolled Copper Foil: 1 oz. (1RD/1RD)

For more information about RO3000 Series High Frequency Laminates, scan the QR code below

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.

