

ORCER RF-30

Low Cost
Excellent Peel Strength
Exceptionally Low Dissipation Factor
Excellent Intermodulation Performance
Low Moisture Absorption
Enhanced Surface Smoothness

TACONIC

An ISO 9001:2000 Registered Company

Petersburgh, NY: Tel: 800-833-1805 Fax: 518-658-3988

Europe: Tel: +353-44-9395600 Fax: +353-44-9344369 Asia: Tel: +82-31-704-1858 Fax: +82-31-704-1857

www.taconic-add.com

ORCER RF-30

RF-30 is an organic-ceramic laminate in the ORCER family of Taconic products. It combines the benefits of woven glass reinforced fluoropolymer chemistry with the thermal, mechanical and electrical enhancements of ceramic elements. RF-30 is the best value for the low cost, high performance demands of microwave and radio frequency antenna applications.

The low dissipation factor, thermal stability and smooth surface profile minimize phase shift with frequency and temperature, and yield exceptionally low intermodulation performance. RF-30 is ideally suited for long (up to 102") printed circuit base station antennas.

RF-30 has excellent peel strength for high temperature assembly and power handling requirements. RF-30 is dimensionally stable due to the use of woven fabrics in its design.

RF-30 laminates are generally ordered clad on both sides with 1 oz. electrodeposited copper.

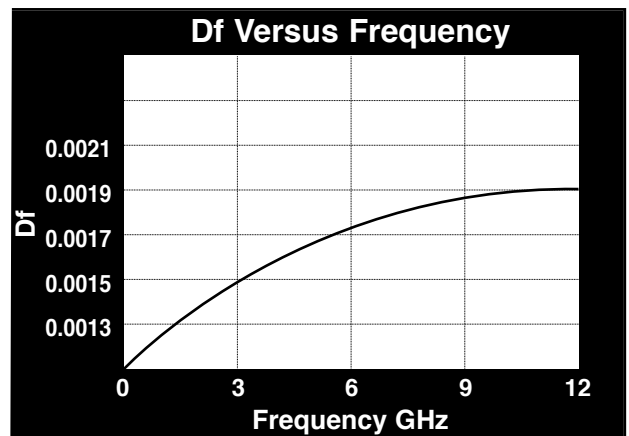
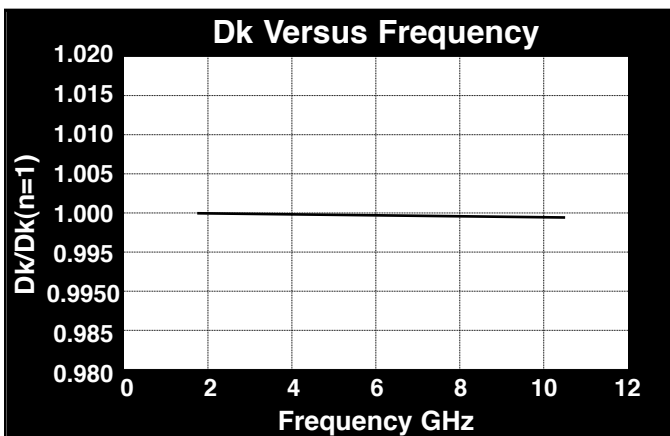
RF-30 laminates exhibit flammability of V-0 and are tested in accordance with IPC-TM 650. A certificate of conformance containing lot-specific data accompanies each shipment.

See "How to Order" on back page for a complete product listing.

RF-30 Typical Values

Property	Test Method	Unit	Value	Unit	Value
Dielectric Constant @ 1.9 GHz	IPC-TM-650 2.5.5		3.00		3.00
Dissipation Factor @ 1.9 GHz	IPC-TM-650 2.5.5		0.0014		0.0014
Moisture Absorption	IPC-TM-650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-TM-650 2.5.6	kV	>60	kV	>60
Volume Resistivity	IPC-TM-650 2.5.17.1 (Humidity Conditioning)	Mohm/cm	1.26 x 10 ⁹	Mohm/cm	1.26 x 10 ⁹
Surface Resistivity	IPC-TM-650 2.5.17.1 (Humidity Conditioning)	Mohm	1.46 x 10 ⁸	Mohm	1.46 x 10 ⁸
Arc Resistance	IPC-TM-650 2.5.1	Seconds	>180	Seconds	>180
Flexural Strength (MD)	ASTM D 790	psi	>13,000	N/mm ²	>90
Flexural Strength (CD)	ASTM D 790	psi	>9,000	N/mm ²	>62
Tensile Strength (MD)	ASTM D 638	psi	16,000	N/mm ²	111
Tensile Strength (CD)	ASTM D 638	psi	8,000	N/mm ²	55
Peel Strength (1 oz ED)	IPC-TM-650 2.4.8 (Thermal Stress)	lbs/linear inch	10.0	N/mm	1.8
Dimensional Stability (MD)	IPC-TM-650 2.4.39	in/in	0.00004	mm/mm	0.00004
Dimensional Stability (CD)	IPC-TM-650 2.4.39	in/in	-0.00010	mm/mm	-0.00010
Thermal Conductivity	ASTM F 433	W/m/K	0.23	W/m/K	0.23
CTE (x-y)	ASTM D 3386 (TMA)	ppm/°C	11-21	ppm/°C	11-21
CTE (z)	ASTM D 3386 (TMA, 25-100°C)	ppm/°C	125	ppm/°C	125
Outgassing (% TML)	ASTM E 595*	%	0.02	%	0.02
Outgassing (% CVCM)	ASTM E 595*	%	0.00	%	0.00
Outgassing (% WVR)	ASTM E 595*	%	0.02	%	0.02
Flammability Rating	UL 94		V-0		V-0
Hardness	Rockwell M Scale		34		34

*As reported by NASA. See http://outgassing.nasa.gov/og_disclaimer.html.



All reported values are typical and should not be used for specification purposes. In all instances, the user shall determine suitability in any given application.

How To Order

Designation	Dielectric Constant	Typical Thicknesses ¹		Available Sheet Sizes ²	
				Inches	mm
RF-30	3.00 +/- 0.10	0.0100"	0.25 mm	12 x 18	304 x 457
		0.0200"	0.50 mm	16 x 18	406 x 457
		0.0300"	0.76 mm	18 x 24	457 x 610
		0.0600"	1.52 mm	16 x 36	406 x 914
				24 x 36	610 x 914
Long Laminates					
				36 x 60	914 x 1526
				36 x 76	914 x 1930
				36 x 102	914 x 2590

¹Other thicknesses may be available. Please call for availability.

²Our standard sheet size is 36" x 48" (914 mm x 1220 mm). Please contact our customer service department for availability of other sizes.

Please see our Product Selector Guide for information on available copper cladding.

An example of our part number is: **RF-30-0600-CV1/CV1 - 18" x 24" (457 mm x 610 mm)**

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