

ORCER RF-30

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

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APPLICATIONS

Antennas

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.

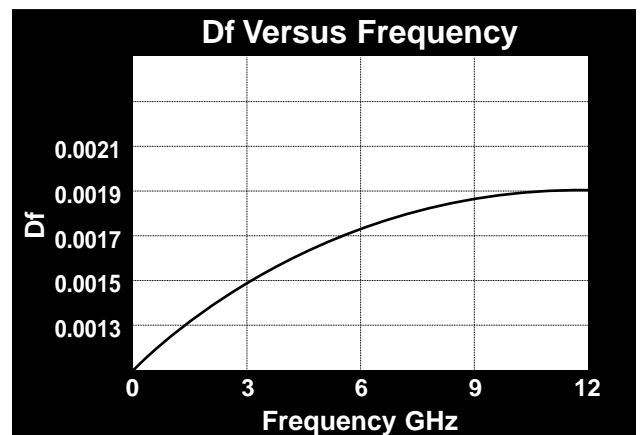
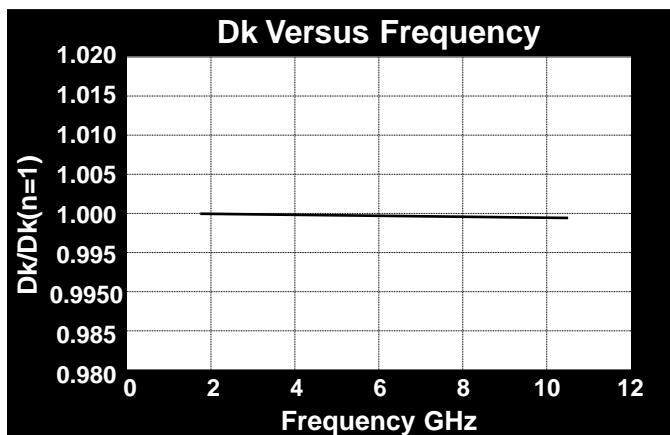
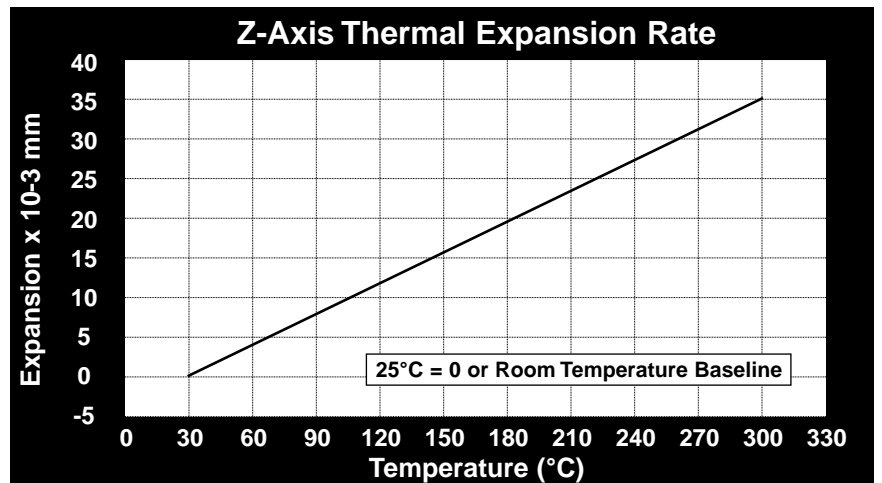
RF-30 laminates exhibit UL-94 flammability of V-0, and are tested in accordance with IPC-TM 650. A certificate of compliance containing lot-specific test data accompanies each shipment.

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

RF-30 TYPICAL VALUES

Property	Test Method	Units	Value	Units	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 (.060")	IPC-TM 650 2.6.2.1	%	.02	%	.02
Peel Strength (1/2 oz. copper)	IPC-TM 650 2.4.8	lbs./linear inch	>8.0	N/mm	>1.5
Peel Strength (1 oz. copper)	IPC-TM 650 2.4.8	lbs./linear inch	>10.0	N/mm	>1.8
Dielectric Breakdown	IPC-TM 650 2.5.6	kV	>60	kV	>60
Volume Resistivity	IPC-TM 650 2.5.17.1	Mohm/cm	1.26 x 10 ⁹	Mohm/cm	1.26 x 10 ⁹
Surface Resistivity	IPC-TM 650 2.5.17.1	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 Lengthwise	ASTM D 790	psi	>13,000	N/mm ²	>90
Flexural Strength Crosswise	ASTM D 790	psi	>9,000	N/mm ²	>62
Thermal Conductivity	Cenco-Fitch	BTU/in/hr/ft ² /°F	1.416	W/m/K	0.20
Tensile Strength Lengthwise	ASTM D 638	psi	16,000	N/mm ²	111
Tensile Strength Crosswise	ASTM D 638	psi	8,000	N/mm ²	55
Dimensional Stability Lengthwise	IPC-TM 650 2.4.39	in/in	.00004	mm/mm	.00004
Dimensional Stability Crosswise	IPC-TM 650 2.4.39	in/in	-.00010	mm/mm	-.00010
x-y CTE	ASTM D 3386 (TMA)	ppm/°C	11-21	ppm/°C	11-21
z CTE (temp range 25°-100°C)	ASTM D 3386 (TMA)	ppm/°C	125	ppm/°C	125
Flammability	UL-94		V-0		V-0
Hardness	Rockwell M Scale		34		34

Type	Dk
TLY-5A	2.17
TLY-5	2.20
TLY-3	2.33
TLT-0 TLX-0	2.45
TLT-9 TLX-9	2.50
TLT-8 TLX-8	2.55
TLT-7 TLX-7	2.60
TLT-6 TLX-6	2.65
TLE-95	2.95
TLC-27	2.75
TLC-30	3.00
TLC-32	3.20
RF-30	3.00
RF-35	3.50
RF-60	6.15
CER-10	10



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
RF-30	3.00+/-1

Available Thickness	Normal Dielectric Constant
0.0300" (0.76mm)	3.00
0.0600" (1.52mm)	3.00

Standard sheet size is 36" x 48" (914mm x 1220mm). Please contact our Customer Service Department for the availability of other thickness, types of copper foil and thick metal claddings.

RF-30 can be ordered with the following electrodeposited copper:

Designation	Weight	Copper Thickness	Copper Thickness
C1	1 oz./sq. ft.	~ .0014"	~ 35 μ m
C2	2 oz./sq. ft.	~ .0028"	~ 70 μ m

Panels may be ordered cut to size

Typical Panel Sizes	
36" x 48"	914mm x 1220mm
36" x 60"	914mm x 1524mm
36" x 76"	914mm x 1930mm
36" x 102"	914mm x 2591mm

An example of our part number is: RF-30-0600-C1/C1- 36 x 102 or RF-30-0600-C1/C1- 914 x 2591

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ADVANCED DIELECTRIC DIVISION

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