

ORCER RF-60A

RoHS and WEEE Compliant
Exceptional Interlaminar Bonds
Low Moisture Absorption
Enhanced Dimensional Stability
Low Z-Axis Expansion
Stable Dk Over Frequency
Increased Flexural Strength

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

APPLICATIONS

Power Amplifiers
Filters and Couplers
Passive Components
Antennas

RF-60A

RF-60A is an organic-ceramic laminate in the ORCER family of Taconic products. It is based on woven glass reinforcement. RF-60A is a result of Taconic's expertise in both ceramic fill technology and in coated PTFE fiberglass.

RF-60A exhibits exceptional interlaminar bond strength and solder resistance. RF-60A's proprietary composition results in low moisture absorption and uniform electrical properties.

RF-60A's woven glass reinforcement ensures excellent dimensional stability and enhances flexural strength. The RF-60A laminate exhibits low Z-axis expansion allowing for plated-through-hole reliability in extreme thermal environments.

RF-60A laminates are in complete compliance with RoHS and WEEE directives and are compatible with the temperatures required for the new lead free solders.

RF-60A laminates can be sheared, drilled, milled and plated using standard methods for PTFE-woven fiberglass materials.

RF-60A laminates are generally ordered clad on both sides. Various panel sizes are available. Contact our customer service department for more information.

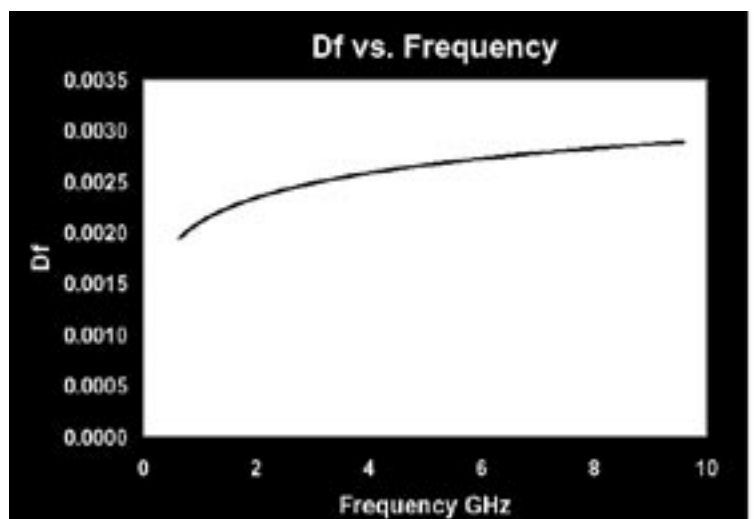
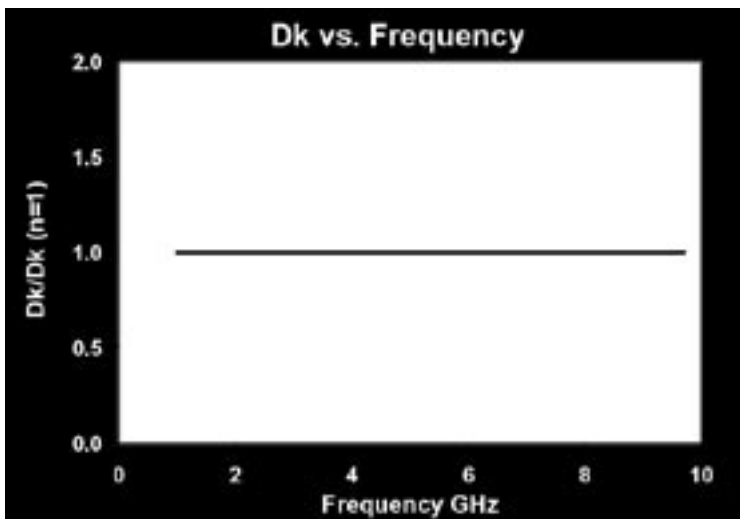
RF-60A laminates meet the requirements of IPC-4103 and are tested in accordance with IPC-TM 650. A certificate of compliance containing lot-specific test data accompanies each shipment.

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

RF-60A Typical Values

Property	Test Method	Unit	Value	Unit	Value
Dielectric Constant	IPC-TM-650 2.5.5.6		6.15		6.15
Dissipation Factor @ 10 GHz	IPC-TM-650 2.5.5.5.1		0.0028		0.0028
Moisture Absorption	IPC-TM-650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-TM-650 2.5.6	kV	53	kV	53
Dielectric Strength	ASTM D 149	V/mil	880	V/mm	34,646
Volume Resistivity	IPC-TM-650 2.5.17.1 (Humidity Conditioning)	Mohm/cm	9.0 x 10 ⁸	Mohm/cm	9.0 x 10 ⁸
Surface Resistivity	IPC-TM-650 2.5.17.1 (Humidity Conditioning)	Mohm	2.28 x 10 ⁸	Mohm	2.28 x 10 ⁸
Arc Resistance	IPC-TM-650 2.5.1	Seconds	193	Seconds	193
Flexural Strength (MD)	ASTM D 790	psi	18,300	N/mm ²	126.2
Flexural Strength (CD)	ASTM D 790	psi	14,600	N/mm ²	100.7
Tensile Strength (MD)	ASTM D 3039	psi	19,500	N/mm ²	134.4
Tensile Strength (CD)	ASTM D 3039	psi	16,300	N/mm ²	112.4
Young's Modulus	ASTM D 3039	kpsi	15,300	N/mm ²	10,549
Poisson's Ratio	ASTM D 3039		0.068		0.068
Compressive Modulus	ASTM D 695 (23°C)	kpsi	338	N/mm ²	2,330
Peel Strength (1 oz ED)	IPC-TM-650 2.4.8 Sec. 5.2.2 (Thermal Stress)	lbs/linear inch	8	N/mm	1.4
Dimensional Stability (MD)	IPC-TM-650 2.4.39 Sec. 5.4 (After Bake)	mils/in	0.68	mm/M	0.68
Dimensional Stability (CD)	IPC-TM-650 2.4.39 Sec. 5.4 (After Bake)	mils/in	1.05	mm/M	1.05
Density (Specific Gravity)		g/cm ³	2.81	g/cm ³	2.81
Thermal Conductivity	ASTM F 433	W/m/K	0.539	W/m/K	0.539
CTE (x)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	9	ppm/°C	9
CTE (y)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	8	ppm/°C	8
CTE (z)	ASTM D 3386 (-30°C - 125°C)	ppm/°C	69	ppm/°C	69
Outgassing (% TML)	ASTM E 595*	%	0.02	%	0.02
Outgassing (% CVCM)	ASTM E 595*	%	0.00	%	0.00
Outgassing (% WVR)	ASTM E 595*	%	0.01	%	0.01
Flammability Rating	UL 94		V-0		V-0

*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	
RF-60A	6.15 +/- 0.25	0.0100"	0.25 mm
		0.0250"	0.64 mm
		0.0310"	0.79 mm
		0.0500"	1.27 mm
		0.0600"	1.52 mm
		0.1250"	3.18 mm

Available Sheet Sizes ²	
12" x 18"	304 mm x 457 mm
16" x 18"	406 mm x 457 mm
18" x 24"	457 mm x 610 mm

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

²Our standard sheet size is 18" x 24" (457 mm x 610 mm). Please contact our customer service department for availability of other sizes.

Available Copper Cladding						
Designation	Weight	Copper Thickness		R _{MS} Treated Side		Description
RH	1/2 oz / ft ²	~0.0007"	~18 µm	16 µin	0.4 µm	Rolled annealed
R1	1 oz / ft ²	~0.0014"	~35 µm	11 µin	0.3 µm	Rolled annealed
CVH (CH)	1/2 oz / ft ²	~0.0007"	~18 µm	27 µin	0.7 µm	Very low profile / Electrodeposited
CV1 (C1)	1 oz / ft ²	~0.0014"	~35 µm	25 µin	0.6 µm	Very low profile / Electrodeposited
C2	2 oz / ft ²	~0.0028"	~70 µm	77 µin	2.0 µm	Electrodeposited

Heavy metal claddings (aluminum, brass & copper) may also be available upon request. Please call for information.

An example of our part number is: **RF-60A-0600-CV1/CV1 - 18" x 24" (457 mm x 610 mm)**

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