

# RF-60A Low Moisture Absorption Material

**RF-60A** is an organic ceramic fiberglass reinforced laminate. This product's unique composition results in low moisture absorption and uniform electrical properties.

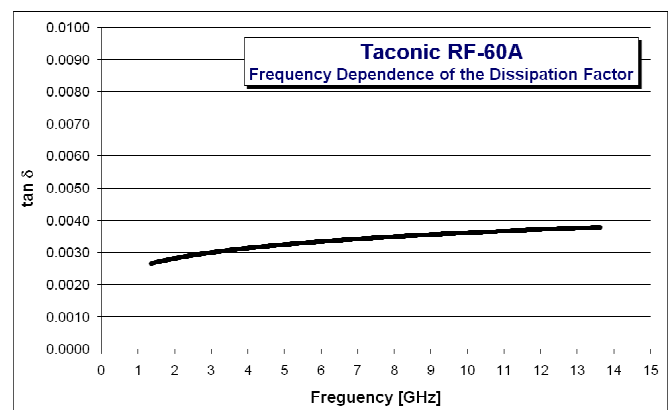
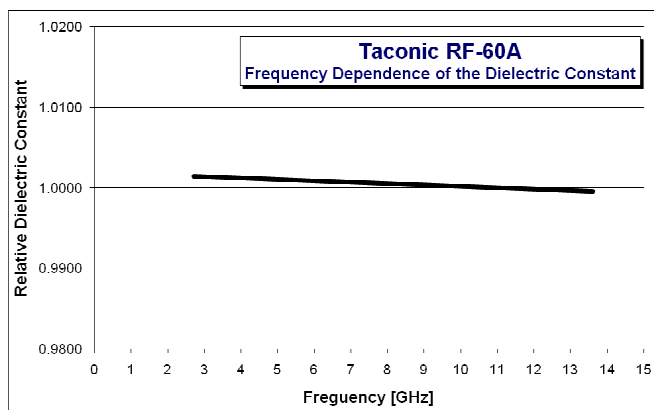
RF-60A's woven fiberglass reinforcement assures excellent dimensional stability and enhanced flexural strength as well as low Z-axis expansion which allows for plated-through-hole reliability in extreme thermal environments. RF-60A also exhibits exceptional interlaminar bond strength and solder resistance.

Taconic is a world leader in RF laminates and high speed digital materials, offering a wide range of high frequency laminates and prepregs. These advanced materials are used in the fabrication of antennas, multilayer RF and high speed digital boards, interconnections and devices.

## Benefits & Applications:

- Low moisture absorption
- Stable Dk over frequency
- Dimensionally stable
- Low Z-axis expansion
- High flexural strength
- Exceptional interlaminar bonds
- ROHS & WEEE compliant

- Power Amplifiers
- Filters & Couplers
- Passive Components
- Antennas



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An ISO 9001 Registered Company  
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Commercial and Government Entity (CAGE) Code: 1C6Q9

## RF-60A Typical Values

Property	Test Method	Unit	Value	Unit	Value
Dk @ 10 GHz	IPC-650 2.5.5.6		6.15		6.15
Df @ 10 GHz	IPC-650 2.5.5.5.1		0.0028		0.0028
Moisture Absorption	IPC-650 2.6.2.1	%	0.02	%	0.02
Dielectric Breakdown	IPC-650 2.5.6	kV	53	kV	53
Dielectric Strength	ASTM D 149	V/mil	880	Kv/mm	34.65
Volume Resistivity	IPC-650 2.5.17.1 (after humidity)	Mohm/cm	9.0 x 10 <sup>8</sup>	Mohm/cm	9.0 x 10 <sup>8</sup>
Surface Resistivity	IPC-650 2.5.17.1 (after humidity)	Mohm	2.28 x 10 <sup>8</sup>	Mohm	2.28 x 10 <sup>8</sup>
Arc Resistance	IPC-650 2.5.1	Seconds	193	Seconds	193
Flexural Strength (MD)	ASTM D 790	psi	18,300	N/mm <sup>2</sup>	126.2
Flexural Strength (CD)	ASTM D 790	psi	14,600	N/mm <sup>2</sup>	100.7
Tensile Strength (MD)	ASTM D 3039	psi	19,500	N/mm <sup>2</sup>	134.4
Tensile Strength (CD)	ASTM D 3039	psi	16,300	N/mm <sup>2</sup>	112.4
Young's Modulus	ASTM D 3039	kpsi	15,300	N/mm <sup>2</sup>	10,549
Poisson's Ratio	ASTM D 3039		0.068		0.068
Compressive Modulus	ASTM D 695 (23° C)	kpsi	338	N/mm <sup>2</sup>	2,330
Peel Strength (1 oz. ED)	IPC-650 2.4.8 Sec. 5.2.2 (Thermal Stress)	lbs./inch	8	N/mm	1.4
Dimensional Stability (MD)	IPC-650 2.4.39 Sec. 5.4 (After Bake)	mils/inch	0.68	mm/M	0.68
Dimensional Stability (CD)	IPC-650 2.4.39 Sec. 5.4 (After Bake)	mils/inch	1.05	mm/M	1.05
Density (Specific Gravity)	ASTM D 792 Method A ???	g/cm <sup>3</sup>	2.81	g/cm <sup>3</sup>	2.81
Thermal Conductivity	ASTM F 433	W/(mK)	0.54		0.54
CTE (X axis)	ASTM D 3386 (-30° C - 125° C)	ppm/°C	9	ppm/°C	9
CTE (Y axis)	ASTM D 3386 (-30° C - 125° C)	ppm/°C	8	ppm/°C	8
CTE (Z axis)	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](http://outgassing.nasa.gov/og_disclaimer.html)

Designation	Dk	Typical Thicknesses <sup>1</sup>	
		Inches	mm
RF-60A	6.15 +/-0.25	0.0100	0.25
		0.0250	0.64
		0.0310	0.79
		0.0500	1.27
		0.0600	1.52
		0.1250	3.18

Available Sheet Sizes <sup>2</sup>	
Inches	mm
12 x 18	304 x 457
16 x 18	406 x 457
18 x 24	457 x 610

<sup>1</sup> Other thicknesses may be available. Please call for information.

<sup>2</sup> Standard sheet size is 18" x 24" (457 mm x 610 mm). Please call for availability of other sizes.

Heavy metal claddings (aluminium, brass & copper) may also be available upon request.

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.

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

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