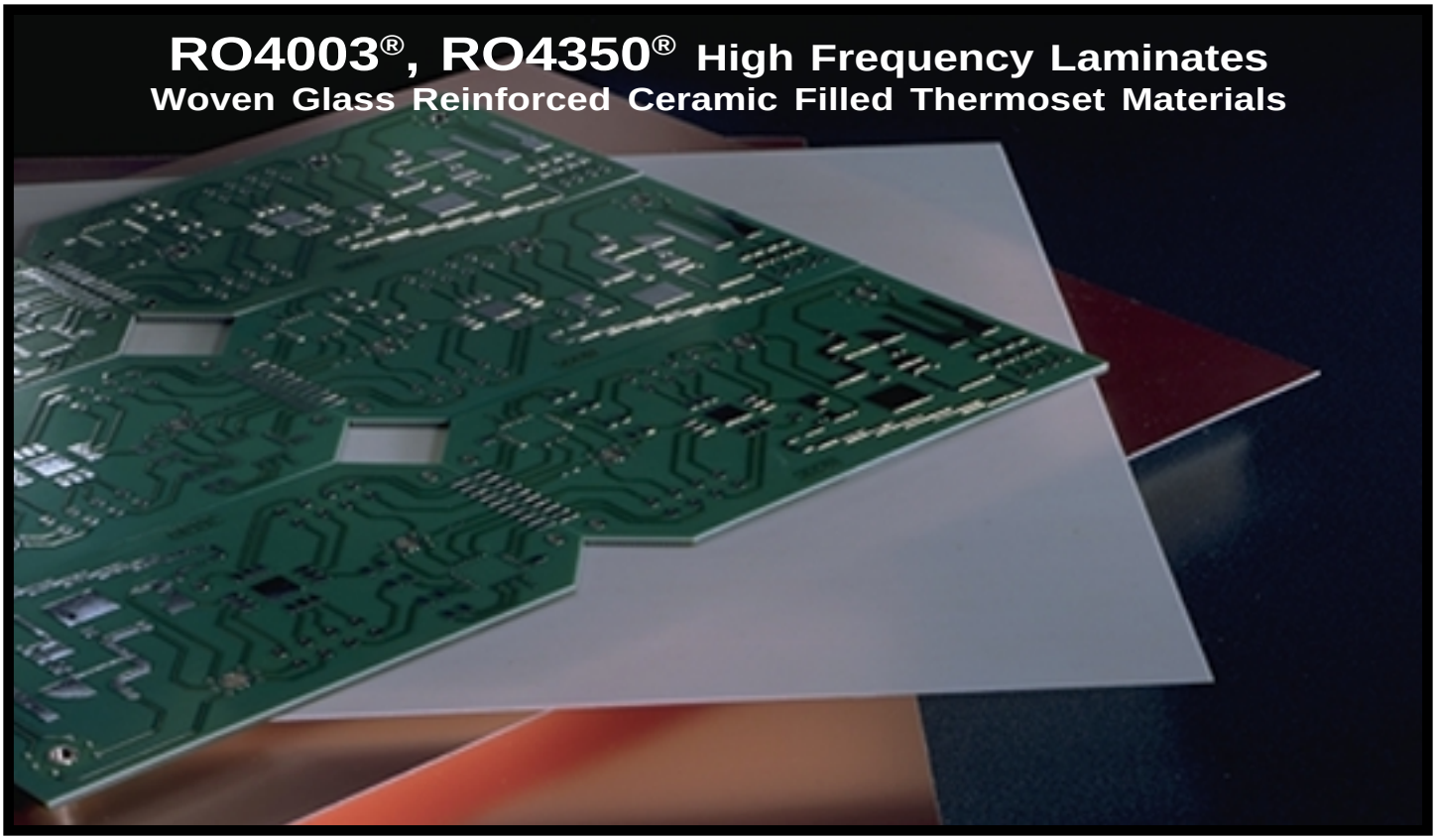
RO4003®, RO4350® High Frequency Laminates

Woven Glass Reinforced Ceramic Filled Thermoset Materials



FEATURES AND BENEFITS:

Non-PTFE.

- Fabricates like FR4.
- Processable by a larger number of fabricators.
- UL flammability rating (RO4350).
- No special through-hole treatments or handling required.
- Lower processing and assembly costs.

Excellent high frequency performance due to low dielectric tolerance and loss.

- Ideal for applications with higher operating frequency requirements.

Stable electrical properties versus frequency.

- Repeatable designs.
- Ideal for multilayer and mixed dielectric constructions (hybrid).

Low thermal coefficient of dielectric constant.

- Ideal for applications sensitive to temperature change.

Low Z-axis expansion.

- Ensures reliable plated through hole quality.

Low in-plane expansion coefficient.

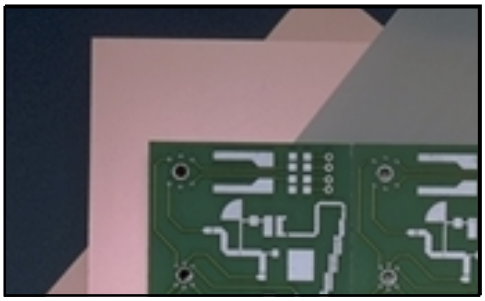
- Excellent reliability of surface mounted assemblies.
- Suitable for use with epoxy glass multilayer board hybrid designs.

Excellent dimensional stability.

- High production yields.

Volume manufacturing process.

- Economical laminate pricing.



High glass transition temperature (280°C).

- Will not warp during reflow assembly.
- Ensures plated through hole reliability.

Typical Applications:

- *LNB's for Direct Broadcast Satellites*
- *Microstrip Patch Antennas*
- *PCS and Cellular Base Station Antennas and Power Amplifiers*
- *Spread Spectrum Communication Systems*
- *RF Identification Tags*

ROGERS
SINCE 1832

Rogers Corporation, Microwave Materials Division, 100 S. Roosevelt Avenue, Chandler AZ 85226-3415 Tel: 480 961-1382 Fax: 480 961-4533

PROPERTY		Typical Values RO4003	RO4350	Units
Dielectric Constant @10 GHz		3.38 ± 0.05	3.48 ± 0.05	–
Thermal Coefficient of ε_r				
@ 0 to 100°C		+40	+50	ppm/°C
Dissipation Factor @10 GHz		0.0027	0.0040	–
Youngs Modulus	X	3700 (25,510)		kpsi (MPa)
	Y	3900 (26,889)	1664 (11,473)	
Volume Resistivity		1.7 x 10^{10}	1.2 x 10^{10}	Mohm•cm
Surface Resistivity		4.2 x 10^{9}	5.7 x 20^{9}	Mohm
Moisture Absorption		0.06	0.06	%
Dimensional Stability	X,Y	<0.3	<0.5	mm/m
Specific Gravity 23°C		1.8	1.9	–
Peel Strength		1.1 (6.4)	0.9 (5.3)	N/m (pli)
Thermal Conductivity		0.64	0.62	W/m/°K
Coefficient of Thermal Expansion				
@ 0 to 100°C	X	11	14	
	Y	14	16	ppm/°C
	Z	46	50	
Glass Transition (Tg)		>280	>280	°C
UL Flammability Rating		NO	94-VO	–

Availability:

Standard Thicknesses:

RO4350: 0.0066"(0.168mm), 0.010" (0.254mm), 0.020" (0.508mm), 0.030" (0.762mm), 0.060" (1.524mm)

RO4003: 0.008" (0.203mm), 0.020" (0.508mm), 0.032" (0.813mm), 0.060" (1.524mm)

Standard Sheet Sizes: 24" X18" (610 X 457mm), 12"X18" (305 X 457mm)

Standard Copper Cladding: 1/2 oz (17µm) and 1 oz (35µm) electrodeposited copper.

Rogers laminates can be purchased by contacting your U.S. customer service representative or one of our overseas offices. Telephone numbers are listed below.

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In Taiwan:
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