ROGERS CORPORATION

Product Selector Guide

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Rogers Corporation was founded in 1832 and has over 60 years of experience as a global supplier of high performance RF materials.

Rogers Corporation is the world's leading manufacturer of high performance dielectrics, laminates and prepregs used in microwave and RF printed circuit and related applications in Aerospace & Defense, Wireless & Wireline (digital) Infrastructure, Automotive Radar Sensor, Satellite TV, Mobile Internet Device and High End Chip Scale Packaging.

Rogers is headquartered in Chandler, Arizona. Additional manufacturing, sales and technical service locations in North America, Europe and Asia enable Rogers to support our global customers at the local level.

Beyond recently expanded manufacturing capability, an extensive and growing product portfolio supports a wide array of application needs and environments. Rogers' application and technical service engineers are ready to assist in material selection, for design and PCB manufacturing phases of your product development process.

With unmatched industry expertise, Rogers Corporation continues to conceive and develop new material solutions for ever more challenging problems. For example, over the last several years Rogers Corporation introduced thermal management materials and continues to innovate to meet the needs for a range of emerging higher power applications. Our dedication to improving on electrical characterization capabilities, already best in class, enables us to anticipate questions and work collaboratively to push the material performance envelope.

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3D-Printable Dielectrics

Radix™ 3D-Printable Dielectric Materials are low loss photopolymer resins designed for use on DLP (Digital Light Processing) and SLA (Sterolithography) 3D printing processes. With Radix materials, engineers can unlock new design freedom, producing complex and gradient index (GRIN) dielectric parts with ease that enhance the figure-of-merits of their antenna and RF systems.

Product	Dielectric Constant, εr (Typical)		Dissipation Factor, TAN δ (Typical)		Volume Resistivity Mohm • cm (Typical)	Surface Resistivity Mohm (Typical)	Water Absorption D24/23 % Process Design (Typical)
	@ 10 GHz	@ 24 GHz	@ 10 GHz	@ 24 GHz			
Radix™ 2.8Dk Printable Dielectric	2.8 ± 0.1	2.8 ± 0.1	0.0043	0.0046	1.9×10^9	1.8×10^9	0.08

Molded Dielectrics

TMM® thermoset microwave materials are Rogers' proprietary ceramic, thermoset polymer composites designed for high frequency applications. Commonly available in laminate form, Rogers also offers capabilities to produce molded, 3-dimensional shapes of TMM material. Shaped TMM components open up a new range of innovative design solutions for high or low frequency applications requiring controlled dielectric constant with low loss factor. TMM molded components can help designers eliminate costly machining and assembly steps, create smaller components, and improve the performance of the end product.

Contact your Rogers Sales Engineer for inquiries about capabilities and design considerations.

LAMINATES

	Product	Dielectric Constant, ε_r @ 10 GHz (Typical) Process[1]	Dielectric Constant, ε_r @ 10 GHz (Typical) Design[11]	Dissipation[1] Factor TAN δ @ 10 GHz (2.5 GHz) (Typical)	Thermal[2] Coefficient of ε_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm • cm (Typical)	Surface Resistivity Mohm (Typical)	Water[4] Absorption D48/50 % (Typical)
AD SERIES™	**AD250C™** Woven Glass Reinforced PTFE Antenna Grade Laminates	2.50 ± 0.04	2.52	0.0013	-117	4.8 X 10^8	4.1 X 10^7	[22] 0.04
AD SERIES™	**AD255C™** Woven Glass Reinforced PTFE Antenna Grade Laminates	2.55 ± 0.04	2.60	0.0013	-110	7.4 X 10^8	3.6 X 10^7	[22] 0.03
AD SERIES™	**AD300D™** Woven Glass Reinforced PTFE Antenna Grade Laminates	2.97 ± 0.05	2.94	0.0021	-73	1.7 X 10^8	5.1 X 10^7	0.04
AD SERIES™	**AD350A™** Woven Glass Reinforced PTFE Antenna Grade Laminates	3.50 ± 0.05	3.54	0.0033	-57	1.5 X 10^9	9.5 X 10^7	[22] 0.10
ANTEO™	**Anteo™** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Laminates	4.10 ± 0.08	4.38	0.005	-21	2.9 X 10^9	6.2 X 10^7	0.12
CLTE SERIES™	**CLTE-XT™** Woven Glass Reinforced PTFE	2.94* ± 0.03	2.94	0.0012	-9	4.3 X 10^8	2.5 X 10^8	[22] 0.02
CLTE SERIES™	**CLTE™** Woven Glass Reinforced PTFE	2.98 ± 0.04	2.98	0.0023	-9	1.4 X 10^9	1.3 X 10^6	[22] 0.04
CLTE SERIES™	**CLTE-AT™** Woven Glass Reinforced PTFE	3.00 ± 0.04	3.00	0.0013	-10	4.3 X 10^8	2.0 X 10^8	[22] 0.03
CLTE SERIES™	**CLTE-MW™** Woven Glass Reinforced PTFE	2.94 - 3.02 ± 0.04	3.03 to 3.10	0.0015	-35	1.3 X 10^7	2.5 X 10^6	[22] 0.03
CUCLAD® SERIES	**CuClad® 217** Cross-Plied Woven Glass Reinforced PTFE	2.17, 2.20 ± 0.02	2.17, 2.20	0.0009	-151	2.3 X 10^8	3.4 X 10^6	[22] 0.02
CUCLAD® SERIES	**CuClad 233** Cross-Plied Woven Glass Reinforced PTFE	2.33 ± 0.02	2.40	0.0013	-171	8.0 X 10^8	2.4 X 10^6	[22] 0.02
CUCLAD® SERIES	**CuClad 250** Cross-Plied Woven Glass Reinforced PTFE	2.40 to 2.55* ± 0.04	2.40 to 2.60*	0.0017	-170	8.0 X 10^9	1.5 X 10^8	[22] 0.03
DICLAD® SERIES	**DiClad® 880** Woven Glass Reinforced PTFE	2.17, 2.20 ± 0.02	2.2	0.0009	-160	1.4 X 10^9	2.9 X 10^6	[22] 0.02
DICLAD® SERIES	**DiClad 870** Woven Glass Reinforced PTFE	2.33 ± 0.04	2.33	0.0013	-161	1.5 X 10^9	3.4 X 10^7	[22] 0.02
DICLAD® SERIES	**DiClad 527** Woven Glass Reinforced PTFE	2.40 to 2.60* ± 0.04	2.40 to 2.60*	0.0017	-153	1.2 X 10^9	4.5 X 10^7	[22] 0.03
ISOCLAD® SERIES	**IsoClad® 917** Non-Woven Glass Reinforced PTFE	2.17 ± 0.02	2.17	0.0013	-157	1.5 X 10^{10}	1.0 X 10^9	[22] 0.04
ISOCLAD® SERIES	**IsoClad 933** Non-Woven Glass Reinforced PTFE	2.33 ± 0.04	2.33	0.0016	-132	3.5 X 10^8	1.0 X 10^8	[22] 0.05
KAPPA®	**Kappa® 438** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Laminates	4.10 ± 0.08	4.38	0.005	-21	2.9 X 10^9	6.2 X 10^7	0.12
MAGTREX®	**MAGTREX® 555** Magneto-Dielectric Laminates	$\varepsilon_r = 6.5 \pm 0.5$ $\mu_r = 6.0 \pm 0.2$	-	See Data Sheet	~+1000	6.15 X 10^8	1.74 X 10^8	0.25
RO1000®	**XtremeSpeed™ RO1200™** PTFE Ceramic Woven Glass Reinforced	3.03 - 3.10 ± 0.10	3.03 - 3.10	0.0017	-35	1.3 X 10^7	2.5 X 10^6	0.03

*Refer to Data Sheets for Dielectric Constant and Thickness Options

Thermal Conductivity W/(m•K) (Typical) 50°C ASTM D5470	Coefficient of Thermal Expansion[6] -55° to 288°C ppm/°C (Typical) X	Y	Z	Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density g/cm³ (Typical)	Flammability Rating UL 94	Lead-Free[9] Process Compatible	PIM [23] dBc (Typical)	Product	
0.33	47	29	196	14.8 (2.6)	2.28	V-0	YES	-160 / -163	**AD250C™** Woven Glass Reinforced PTFE Antenna Grade Laminates	AD SERIES™
0.35	34	26	196	13.6 (2.4)	2.28	V-0	YES	-160 / -163	**AD255C™** Woven Glass Reinforced PTFE Antenna Grade Laminates	AD SERIES™
0.37	24	23	98	18.3 (3.2)	2.23	V-0	YES	-159 / -163	**AD300D™** Woven Glass Reinforced PTFE Antenna Grade Laminates	AD SERIES™
0.44	18	18	63	14.7 (2.6)	2.43	V-0	YES	-160 / -163	**AD350A™** Woven Glass Reinforced PTFE Antenna Grade Laminates	AD SERIES™
0.64	13	16	42	5.3	1.99	V-0	YES	-	**Anteo™** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Laminates	ANTEO™
0.56	12.7	13.7	40.8	7.2 (1.29)	2.02	V-0	YES	-	**CLTE-XT™** Woven Glass Reinforced PTFE	CLTE SERIES™
0.50	9.9	9.4	57.9	7.0 (1.25)	2.38	V-0	YES	-	**CLTE™** Woven Glass Reinforced PTFE	CLTE SERIES™
0.64	8	8	20	6.5 (1.16)	2.06	V-0	YES	-	**CLTE-AT™** Woven Glass Reinforced PTFE	CLTE SERIES™
0.42	8	8	30	6.0 (1.1)	2.1	V-0	YES	-	**CLTE-MW™** Woven Glass Reinforced PTFE	CLTE SERIES™
0.26	29	28	246	14.0 (2.50)	2.23	V-0	YES	-	**CuClad® 217** Cross-Plied Woven Glass Reinforced PTFE	CUCLAD® SERIES
0.26	23	24	194	14.0 (2.50)	2.26	V-0	YES	-	**CuClad 233** Cross-Plied Woven Glass Reinforced PTFE	CUCLAD® SERIES
0.25	18	19	177	14.0 (2.50)	2.31	V-0	YES	-	**CuClad 250** Cross-Plied Woven Glass Reinforced PTFE	CUCLAD® SERIES
0.26	25	34	252	14.0 (2.50)	2.23	V-0	YES	-	**DiClad® 880** Woven Glass Reinforced PTFE	DICLAD® SERIES
0.26	17	29	217	14.0 (2.50)	2.26	V-0	YES	-	**DiClad 870** Woven Glass Reinforced PTFE	DICLAD® SERIES
0.25	14	21	173	14.0 (2.50)	2.31	V-0	YES	-	**DiClad 527** Woven Glass Reinforced PTFE	DICLAD® SERIES
0.26	46	47	236	10.0 (1.79)	2.23	V-0	YES	-	**IsoClad® 917** Non-Woven Glass Reinforced PTFE	ISOCLAD® SERIES
0.26	31	35	203	10.0 (1.79)	2.27	V-0	YES	-	**IsoClad 933** Non-Woven Glass Reinforced PTFE	ISOCLAD® SERIES
0.64	13	16	42	5.8	1.99	V-0	YES	-	**Kappa® 438** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Laminates	KAPPA®
0.47	22	25	25	3.1	3.45	N/A	YES	-	**MAGTREX® 555** Magneto-Dielectric Laminates	MAGTREX®
0.42	8	8	30	>4.5 (>0.79)	2.1	V-0	YES	-	**XtremeSpeed™ RO1200™** PTFE Ceramic Woven Glass Reinforced	RO1000®

LAMINATES

	Product	Dielectric Constant, ε_r @ 10 GHz (Typical) Process[1]	Dielectric Constant, ε_r @ 10 GHz (Typical) Design[11]	Dissipation[1] Factor TAN δ @ 10 GHz (2.5 GHz) (Typical)	Thermal[2] Coefficient of ε_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm • cm (Typical)	Surface Resistivity Mohm (Typical)	Water[4] Absorption D48/50 % (Typical)
RO3000® SERIES	**RO3003G2™** PTFE Ceramic	3.00 ± 0.04	[29]3.07	0.0011	-35	1.4×10^9	2.6×10^8	0.06
	RO3003™ PTFE Ceramic	[7]3.00 ± 0.04	[29]3.16	0.0010	-3	1×10^7	1×10^7	0.04
	RO3203™ PTFE Ceramic Woven Glass Reinforced	[7]3.02 ± 0.04	3.02	0.0016	-13	1×10^7	1×10^7	0.03
	RO3035™ PTFE Ceramic	3.50± 0.05	3.60	0.0015	-45	1×10^7	1×10^7	0.04
	RO3006™ PTFE Ceramic	6.15 ± 0.15	6.4	0.002	-262	1×10^5	1×10^5	0.02
	RO3206™ PTFE Ceramic Woven Glass Reinforced	6.15 ± 0.15	6.6	0.0027	-212	1×10^3	1×10^3	0.03
	RO3010™ PTFE Ceramic	10.20 ± 0.30	11.2	0.0022	-395	1×10^5	1×10^5	0.05
	RO3210™ PTFE Ceramic Woven Glass Reinforced	10.20 ± 0.50	10.8	0.0027	-459	1×10^3	1×10^3	0.12
RO4000® SERIES	**RO4003C™** Hydrocarbon / Ceramic / Woven Glass	3.38 ± 0.05	3.55	0.0027	+40	1.7×10^{10}	4.2×10^9	0.04
	RO4350B™ Hydrocarbon / Ceramic / Woven Glass	3.48 ± 0.05	3.66	0.0037	+50	1.2×10^{10}	5.7×10^9	0.05
	RO4360G2™ Hydrocarbon / Ceramic / Woven Glass	6.15 ± 0.15	6.4	0.0038	-131	4×10^7	9×10^6	0.08
	RO4830™ Hydrocarbon/ Ceramic/ Spread Woven Glass	3.25 ± 0.05	[29]3.24	0.0033	-30	9.6×10^9	1.1×10^8	0.15
	[16]**RO4835T™** Hydrocarbon/ Ceramic/ Spread Woven Glass	3.33 ± 0.05	3.48	0.0030	+35 ppm/°C (from -50 to +50°C) -35 ppm/°C (from +50 to +150°C)	1.34×10^8	1.17×10^6	0.20
	RO4835™ Hydrocarbon / Ceramic / Woven Glass	3.48 ± 0.05	3.66	0.0037	+50	5×10^8	7×10^8	0.05
	RO4533™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.30 ± 0.08	3.45	0.0025 (0.0020)	+40	1.1×10^{10}	9.9×10^8	0.02
	RO4534™ Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	3.40 ± 0.08	3.55	0.0027 (0.0022)	+40	1.7×10^{10}	4.2×10^9	0.06
	RO4535™ Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Antenna Grade Laminates	3.44 ± 0.08	3.60	0.0037 (0.0032)	+50	1.2×10^{10}	5.7×10^9	0.09
	RO4725JXR™ Hydrocarbon / Ceramic / Woven Glass	2.55 ± 0.05	2.64	0.0026 (0.0022)	+34	2.16×10^8	4.8×10^7	0.24
	RO4730G3™ Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Antenna Grade Laminates	3.00 ± 0.05	2.98	0.0028	+34	9.0×10^7	7.2×10^5	0.093

Thermal Conductivity W/(m•K) (Typical) 50°C ASTM D5470	Coefficient of Thermal Expansion[6] -55° to 288°C ppm/°C (Typical) X	Y	Z	Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density g/cm³ (Typical)	Flammability Rating UL 94	Lead-Free[9] Process Compatible	PIM [23] dBc (Typical)	Product	
0.43	16	17	18	[30]12.0	2.15	V-0	YES	-	**RO3003G2™** PTFE Ceramic	RO3000® SERIES
0.50	17	16	25	12.7 (2.2)	2.1	V-0	YES	-	**RO3003™** PTFE Ceramic	
0.48	13	13	58	10.2 (1.8)	2.1	V-0	YES	-	**RO3203™** PTFE Ceramic Woven Glass Reinforced	
0.50	17	17	24	10.2 (1.8)	2.1	V-0	YES	-	**RO3035™** PTFE Ceramic	
0.79	17	17	24	7.1 (1.2)	2.6	V-0	YES	-	**RO3006™** PTFE Ceramic	
0.67	13	13	34	10.7 (1.9)	2.7	V-0	YES	-	**RO3206™** PTFE Ceramic Woven Glass Reinforced	
0.95	13	11	16	9.4 (1.6)	2.8	V-0	YES	-	**RO3010™** PTFE Ceramic	
0.81	13	13	34	11.0 (1.9)	3	V-0	YES	-	**RO3210™** PTFE Ceramic Woven Glass Reinforced	
0.71	11	14	46	6.0 (1.05)	1.8	NON FR	YES	-	**RO4003C™** Hydrocarbon / Ceramic / Woven Glass	RO4000® SERIES
0.69	10	12	32	5.0 (0.88)	1.9	V-0	YES	-	**RO4350B™** Hydrocarbon / Ceramic / Woven Glass	
0.75	13	14	28	5.2 (0.91)	2.16	V-0	YES	-	**RO4360G2™** Hydrocarbon / Ceramic / Woven Glass	
0.45	23	23	110	3.8 (0.67)	1.68	V-0	YES	-	**RO4830™** Hydrocarbon/ Ceramic/ Spread Woven Glass	
0.53 0.52 @ 80°	14	16	62	3.0 (0.53)	1.81	V-0	YES	-	[16]**RO4835T™** Hydrocarbon/ Ceramic/ Spread Woven Glass	
0.66	10	12	31	5.0 (0.88)	1.92	V-0	YES	-	**RO4835™** Hydrocarbon / Ceramic / Woven Glass	
0.60	13	11	37	6.9 (1.2)	1.8	NON FR	YES	-157 / -160	**RO4533™** Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	
0.60	11	14	46	6.3 (1.1)	1.8	NON FR	YES	-157 / -160	**RO4534™** Hydrocarbon / Ceramic / Woven Glass Antenna Grade Laminates	
0.6	16	17	50	5.1 (0.9)	1.9	V-0	YES	-157 / -160	**RO4535™** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Antenna Grade Laminates	
[19]0.38	13.9	19.0	25.6	8.5 (1.49)	1.27	NON FR	YES	-160 / -163	**RO4725JXR™** Hydrocarbon / Ceramic / Woven Glass	
0.45	15.9	14.4	35.2	4.1	1.58	V-0	YES	-160 / -163	**RO4730G3™** Hydrocarbon / Ceramic / Woven Glass UL 94 V-0 Antenna Grade Laminates	

LAMINATES

	Product	Dielectric Constant, ε_r @ 10 GHz (Typical) Process[1]	Dielectric Constant, ε_r @ 10 GHz (Typical) Design[11]	Dissipation[1] Factor TAN δ @ 10 GHz (2.5 GHz) (Typical)	Thermal[2] Coefficient of ε_r -50°C to 150°C ppm/°C (Typical)	Volume Resistivity Mohm • cm (Typical)	Surface Resistivity Mohm (Typical)	Water[4] Absorption D48/50 % (Typical)	Thermal Conductivity W/(m•K) (Typical) 50°C ASTM D5470	Coefficient of Thermal Expansion[6] -55° to 288°C ppm/°C (Typical) X	Y	Z	Peel Strength 1 oz (35µm) ED Foil lbs/in. (N/mm) (Typical)	Density g/cm³ (Typical)	Flammability Rating UL 94	Lead-Free[9] Process Compatible	PIM [23] dBc (Typical)	Product	
RT/DUROID 5000	**RT/duroid® 5880LZ** Filled PTFE Composite	2.00 ± 0.04	2.00	0.0021	+20	1.74 X 10^7	2.08 X 10^6	0.31	0.33	54	47	40	>4.0	1.4	V-0	YES	-	**RT/duroid® 5880LZ** Filled PTFE Composite	RT/DUROID 5000
	RT/duroid 5880 PTFE Random Glass Fiber	2.20 ± 0.02	2.20	0.0009	-125	2 X 10^7	3 X 10^7	0.02	0.20	31	48	237	31.2 (5.5)	2.2	V-0	YES	-	**RT/duroid 5880** PTFE Random Glass Fiber	
	RT/duroid 5870 PTFE Random Glass Fiber	2.33 ± 0.02	2.33	0.0012	-115	2 X 10^7	2 X 10^7	0.02	0.22	22	28	173	27.2 (4.8)	2.2	V-0	YES	-	**RT/duroid 5870** PTFE Random Glass Fiber	
RT/DUROID 6000	**RT/duroid 6002** PTFE Ceramic	2.94 ± 0.04	2.94	0.0012	+12	1 X 10^6	1 X 10^7	0.02	0.60	16	16	24	8.9 (1.6)	2.1	V-0	YES	-	**RT/duroid 6002** PTFE Ceramic	RT/DUROID 6000
	RT/duroid 6202PR [20] PTFE Ceramic Woven Glass Reinforced	2.94 or 2.98 ± 0.04	2.94 or 2.98 ± 0.04	0.0020	[8] +5 to -15	1 X 10^{10}	1 X 10^9	0.03	0.68	15	15	30	14.3 (2.5)	2.1	V-0	YES	-	**RT/duroid 6202PR** [20] PTFE Ceramic Woven Glass Reinforced	
	RT/duroid 6202 PTFE Ceramic Woven Glass Reinforced	2.94 ± 0.04[8]	2.94 ± 0.04[8]	0.0015	[8] +5 to -15	1 X 10^6	1 X 10^9	0.04	0.68	15	15	30	9.1 (1.6)	2.1	V-0	YES	-	**RT/duroid 6202** PTFE Ceramic Woven Glass Reinforced	
	RT/duroid 6035HTC PTFE Ceramic	3.50 ± 0.05	3.60	0.0013	-66	1 X 10^8	1 X 10^8	[12] 0.06	1.44	19	19	39	7.9 (1.4)	2.2	V-0	YES	-	**RT/duroid 6035HTC** PTFE Ceramic	
	RT/duroid 6006 PTFE Ceramic	6.15 ± 0.15	6.45	0.0027	-410	2 X 10^7	7 X 10^7	0.05	0.49	47	34	117	14.3 (2.5)	2.7	V-0	YES	-	**RT/duroid 6006** PTFE Ceramic	
	RT/duroid 6010.2LM PTFE Ceramic	10.20 ± 0.25	10.7	0.0023	-425	5 X 10^5	5 X 10^6	0.01	0.86	24	24	47	12.3 (2.1)	3.1	V-0	YES	-	**RT/duroid 6010.2LM** PTFE Ceramic	
TC SERIES	**TC350™** PTFE Ceramic Woven Glass Reinforced	3.50 ± 0.05	3.50	0.0020	-9	7.4 X 10^6	3.2 X 10^7	[22] 0.05	[27] 1.0	7	7	23	7.0 (1.2)	2.3	V-0	YES	-	**TC350™** PTFE Ceramic Woven Glass Reinforced	TC SERIES
	TC350 Plus PTFE Ceramic Woven Glass Reinforced	3.50 ± 0.05	3.62	0.0017	-42	9.4 X 10^{11}	3.3 X 10^{12}	[25] 0.05	1.24	10	9	38	4.0 (0.7)	TBD	V-0	YES	TBD	**TC350 Plus** PTFE Ceramic Woven Glass Reinforced	
	TC600™ PTFE Ceramic Woven Glass Reinforced	6.15 ± 0.15	6.15	0.0020	-75	1.6 X 10^9	3.1 X 10^9	[22] 0.03	1.10	9	9	35	8.0 (1.4)	3.0	V-0	YES	-	**TC600™** PTFE Ceramic Woven Glass Reinforced	
TMM SERIES	**TMM® 3** Hydrocarbon Ceramic	3.27 ± 0.032	3.45	0.0020	+37	3 X 10^9	9 x 10^9	[10] 0.06	0.70	15	15	23	5.7 (1.0)	1.8	NON FR	YES	-	**TMM® 3** Hydrocarbon Ceramic	TMM SERIES
	TMM 4 Hydrocarbon Ceramic	4.50 ± 0.045	4.7	0.0020	+15	6 X 10^{8*}	1 x 10^9	[10] 0.07	0.70	16	16	21	5.7 (1.0)	2.1	NON FR	YES	-	**TMM 4** Hydrocarbon Ceramic	
	TMM 6 Hydrocarbon Ceramic	6.00 ± 0.08	6.3	0.0023	-11	1 X 10^{8*}	1 x 10^9	[10] 0.06	0.72	18	18	26	5.7 (1.0)	2.4	NON FR	YES	-	**TMM 6** Hydrocarbon Ceramic	
	TMM 10 Hydrocarbon Ceramic	9.20 ± 0.23	9.8	0.0022	-38	2 X 10^8	4 X 10^7	[10] 0.09	0.76	21	21	20	5 (0.9)	2.8	NON FR	YES	-	**TMM 10** Hydrocarbon Ceramic	
	TMM 10i Hydrocarbon Ceramic	9.80 ± 0.245	9.9	0.0020	-43	2 X 10^8	4 X 10^7	[10] 0.16	0.76	19	19	20	5 (0.9)	2.8	NON FR	YES	-	**TMM 10i** Hydrocarbon Ceramic	
	TMM 13i Hydrocarbon Ceramic	[14] 12.85 ± 0.35	12.2	0.0019	-70	-	-	0.13	[17] 0.76	19	19	20	4 (0.7)	3.0	NON FR	YES	-	**TMM 13i** Hydrocarbon Ceramic	

BONDING MATERIALS

Product	Dielectric[1] Constant, ε_r (Typical)	Dissipation[1] Factor TAN δ @ 10 GHz (Typical)	Volume Resistivity Mohm • cm (Typical)	Water[4] Absorption D48/50 % (Typical)	Thermal[5] Conductivity W/(m•K) (Typical) 50°C ASTM D5470
2929 Thermoset Bondply	2.94 ± 0.05	0.0030	[21] 7.4 X 10^9	0.1	0.40
COOLSPAN® TECA Thermoset Thermally & Electrically Conductive Adhesive (TECA) Film	N/A	N/A	3.8 X 10^{-10} (Conductive)	N/A	6.00
6250 Thermoplastic Bonding Film	2.32	0.0013	1.0 X 10^{10}	0.01[22]	0.17
6700 Thermoplastic Bonding Film	2.35	0.0025	1.0 X 10^{12}	0.01[22]	0.17
RO4450F™ Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg	3.52 ± 0.05	0.0040	8.93 X 10^8	0.09	0.65
[28]**RO4450T™** Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg	3.23 ± 0.05	0.0039	2.9 X 10^9	0.11	0.50
RO4460G2™ Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg	6.15 ± 0.15	0.0040	9.1 X 10^8	0.13	0.67
XtremeSpeed™ RO1200™ Ceramic Filled PTFE Bondply	2.97	0.0012	8.9 X 10^7	0.13[25]	0.5
SpeedWave® 300P Thermoset Glass Reinforced Prepreg	3.16	0.0021	1.0 X 10^9	0.12[25]	0.48

Coefficient of Thermal Expansion[6] 0° - 100°C ppm/°C (Typical)			Density g/cm^3 (Typical)	Flammability Rating UL 94	Lead-Free[9] Process Compatible	Press Temperatures		Product
X	Y	Z				F	C	
50	50	50	1.50	NON-FR	YES	450	232	**2929** Thermoset Bondply
45	45	45	4.60	NON-FR	YES	350	175	**COOLSPAN® TECA** Thermoset Thermally & Electrically Conductive Adhesive (TECA) Film
-	-	-	0.93	-	NO	275	135	**6250** Thermoplastic Bonding Film
-	-	-	2.10	-	NO	450	232	**6700** Thermoplastic Bonding Film
19	17	50	1.83	V-0	YES	350	175	**RO4450F™** Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg
20	21	57	1.83	V-0	YES	350	175	[28]**RO4450T™** Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg
15	18	43	2.22	V-0	YES	350	175	**RO4460G2™** Thermoset- Hydrocarbon / Ceramic / Woven Glass / Prepreg
29	29	29	-	V-0	YES	700	370	**XtremeSpeed™ RO1200™** Ceramic Filled PTFE Bondply
15	15	35	-	V-0	YES	392	200	**SpeedWave® 300P** Thermoset Glass Reinforced Prepreg

Properties Notes:

(1) Measured by IPC-TM-650 method 2.5.5.5 @ ~10 GHz, 23°C. Materials were based on testing raw substrate material. ε_r values and tolerance reported by IPC-TM-650 method 2.5.5.5 are the basis for quality acceptance, but for some products these values may be incorrect for design engineering applications, especially those in microstrip. Rogers Corporation recommends that prototype boards of a new design be verified for electrical performance.
(2) Measured by IPC-TM-650 method 2.5.5.5 at ~10GHz modified.
(3) Typical values are mean values derived from populations of measurements involving multiple lots of the specific foil type.
(4) Measured after 48±1 hours immersion at 50±1°C in accordance with the ASTM D570 standard.
(5) Tested by ASTM C518.
(6) Tested by IPC-TM-650 2.4.41. Values are average over temperature range but not necessarily linear. However for RT/duroid 6002 and TMM grades the response is essentially linear.
(7) The nominal dielectric constant of a 0.060" thick RO3003/RO3203 laminate as measured by IPC-TM-2.5.5.5 will be 3.04 due to the elimination of biasing caused by air gaps in the test fixture. For further information refer to Rogers' T.R. 5242.
(8) Due to construction limitations, the dielectric constant of 0.005" laminates are 3.06 ± 0.04; 0.010" and 0.015" laminates are 3.02 ± 0.04; ≥0.020" laminates are 2.94 ± 0.04".
(9) Rogers' high frequency laminates and prepregs are lead-free process compatible and in accordance with IEC 61249-2-21.
(10) TMM® material test conditions D24/50 (twenty-four hours at 50°C) on 0.050" (1.27mm) thick specimens. TMM13i test condition D48/50.
(11) Design Dk is determined by testing thick microstrip transmission line circuits and reporting the thickness-axis dielectric constant of the raw material without the influence of copper. For more information, refer to the article on the Rogers website titled "The Influence of Test Method, Conductor Profile, and Substrate Anisotropy on the Permittivity Values Required for Accurate Modeling of High Frequency Planar Circuits", which was featured in a publication Sept. 2012. http://www.rogerscorp.com/articles
(12) Testing conditions: 24 hours @ 23 C, specimens etched free of copper.
(13) Available only with LoPro® copper foil.
(14) Measured by IPC-TM-650 method 2.5.5.6 .
(15) 2oz available on TC350™ Plus only.
(16) Value for 5.0 mil thickness.
(17) Estimated

Properties Notes Continued:

(18) IPC-TM-650.2.5.5.5.1
(19) Test method: ASTM D5470-12 @ 50°C.
(20) PR stands for Planar Resistor. Resistive foil, if required, must be specified when ordering 6202PR laminate.
(21) Conditions 125°C/24 hours. Test method IPC-TM-650 2.5.17.1
(22) Measured after 24+½-0 hours immersion at 23 ± 1°C in accordance with the ASTM D570 standard.
(23) PIM Performance is heavily influenced by the copper choice. PIM values provided are typical values using Rogers' internal test method on 0.030" thick and 0.060" thick laminates.
(24) N/A
(25) (D24/23) IPC TM-650 2.6.2.1
(26) ASTM E1461
(27) 1.0 W/(m•K) based on ASTM E1461
(28) Values for 3 mil thickness.
(29) Measured using differential phase length method at 77GHz.
(30) Value shown is for 1/2 oz ED copper.

Typical values are a representation of an average value for the population of the property.
For specification values contact Rogers Corporation.

The information contained in this Product Selector Guide is intended to assist you in designing with Rogers' circuit materials. It is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. The user should determine the suitability of Rogers' circuit materials for each application.

Prolonged exposure in an oxidative environment may cause changes to the dielectric properties of hydrocarbon based materials. The rate of change increases at higher temperatures and is highly dependent on the circuit design. Although Rogers' high frequency materials have been used successfully in innumerable applications and reports of oxidization resulting in performance problems are extremely rare, Rogers recommends the customer evaluate each material and design combination to determine fitness for use over the entire life of the end product.

Metal Claddings

Foil Type	Weight or Thickness	Surface Roughness Sq(µm) or RMS(µm)		Products
		Dielectric Side	Top Side	
Rolled	1 oz (35 µm)	0.4	0.3	XtremeSpeed™ RO1200™, RO3003™, RO3203™, RO3206™, RT/duroid® 5870, 5880, 6002, 6202, DiClad®527, DiClad®870, DiClad®880
	½ oz. (18 µm)	0.4	0.3	
Electrodeposited	1 oz (35 µm)	1.5	0.4	TC350™, TC600™, AD250™, AD255™, AD300™, AD350™
	½ oz. (18 µm)	1.6	0.4	
	2 oz (70 µm)	3.0	0.4	CuClad 217, CuClad 233, CuClad 250, DiClad 527, DiClad 870, DiClad 880, IsoClad 917, IsoClad 933, CLTE, CLTE-AT, CLTE-XT, CLTE-MW
	1 oz (35 µm)	1.7	0.4	
	½ oz. (18 µm)	1.5	0.4	
	1 oz (35 µm)	2.4	0.4	RO3003, RO3006, RO3010, RO3035, RO3203, RO3206, RO3210 RT/duroid 5870, 5880, 5880LZ, 6002, 6035HTC, 6202, 6006, 6010.2LM, TMM® 3, 4, 6, 10, 10i, 13i
	½ oz. (18 µm)	2.0	0.4	
	2 oz. (70 µm)	3.5	0.4	Anteo™, Kappa® 438, RO4003C™, RO4350B™, RO4360G2™ RO4533™, RO4534™, RO4535™, RO4730G3™, RO4835™, CU4000
	1 oz. (35 µm)	3.2	0.4	
	½ oz. (18 µm)	2.8	0.4	
	1 oz. (35 µm)	0.5	0.4	AD300D™-IM™, AD255C™-IM, DiClad® 880-IM
	1 oz. (35 µm)	2.2	0.4	RO4835T™, RO3003G2™, CLTE-MW™
	½ oz. (18 µm)	0.4	0.4	
	¼ oz. (9 µm)	0.4	0.4	RO3003G2, CLTE-MW™
Electrodeposited Low Profile Reverse Treated	2 oz. (70 µm)	1.0	2.0	DiClad 527, DiClad 870, DiClad 880, CLTE, CLTE-AT, CLTE-XT, CLTE-MW (only product grade with 2oz)
	1 oz. (35 µm)	1.0	1.3	
	½ oz. (18 µm)	1.0	0.8	
	1 oz. (35 µm)	1.0	1.5	RT/duroid 6035HTC, AD250, AD255, AD300, AD350, TC350, TC600, TC350 Plus
	½ oz. (18 µm)	1.0	1.0	
LoPro® Foil	1 oz. (35 µm)	0.9	1.3	RO4003C, RO4350B, RO4533, RO4534, RO4535, RO4725JXR™, RO4730G3™, RO4830™, RO4835, CU4000 LoPro
	½ oz. (18 µm)	0.9	0.8	
Resistive Foil	NiCr Ticer TCR ½ oz. (18 µm)	1.4	0.4	RO4003C, RO4350B, RO4360G2, RO4835, RO3000
	Ticer TCR NCAS	1.4	0.4	RO3000, CLTE, CLTE-XT, CLTE-AT, CLTE-MW, CuClad, TC600
	OhmegaPly® ½ oz (18 µm)	1.7	0.4	RO4003C
	OhmegaPly ½ oz. (18 µm)	1.2	0.4	CLTE, CLTE-AT, CLTE-XT, DiClad 527, DiClad 870, DiClad 880, RO3003, RO3006, RO3010, RO3035, RO3203, RO3206, RO3210, RT/duroid 5870, 5880, 6002, 6006, 6010.2LM, 6202, 6202PR

Property	Electrodeposited (ED)				Rolled (RLD)		
	¼ oz (9 µm)	0.5 oz (18 µm)	1 oz. (35 µm)	2 oz (70 µm)	0.5 oz (18 µm)	1 oz. (35 µm)	2 oz.(70 µm)
Tensile Strength, kpsi	15	33	40	40	20	22	28
Elongation, %	2	2	3	3	8	13	27
Vol Resistivity Microhm-cm	-	1.66	1.62	1.62	1.78	1.74	1.74
Thickness: in (µm)	0.0004 (10.2)	0.0007 (17.8)	0.0014 (35.6)	0.0028 (71.1)	0.0007 (17.8)	0.0014 (35.6)	0.0028 (71.1)

Rogers produces upon request a select number of copper clad laminates using commercially available, subtractively processed resistive foils. Resistive foil technology enables the use of planar resistors within the circuit boards that are made from our laminate products. The availability of these resistive foils varies depending on each particular copper clad laminate product offered by Rogers. However, in general Rogers uses both OhmegaPly® foil from Ohmega Technologies, Inc. (http://ohmega.com/) and TCR® foil from Ticer Technologies (http://www.ticertechnologies.com/). Rogers customers are encouraged to research the specific resistive foil products that are available as well as the performance and processing details from each foil supplier prior to placing orders with Rogers. As a service, Rogers offers customers the option of purchasing resistive foils bonded to certain substrates. Rogers does not guarantee the performance of resistive layers, and as such, shall not be liable for any loss or damage suffered by the buyer. Rogers products manufactured with resistive foils are offered on a "best efforts" basis for appearance and resistive expectations. Please reference *Rogers Statement on Resistive Foil Visual Appearance and Resistiveiy Expectations* at the Rogers Document Library website: https://rogerscorp.com/downloads

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without Cladding)	Standard Cladding	Standard Panel Sizes
AD250C™	0.020" (0.508mm) ± 0.002" 0.030" (0.762mm) ± 0.002" 0.060" (1.524mm) ± 0.003"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	AD250C .020": 18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm) All Other Thicknesses 12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
AD255C™	0.020" (0.508mm) ± 0.002" 0.030" (0.762mm) ± 0.002" 0.040" (1.016mm) ± 0.002" 0.060" (1.524mm) ± 0.002" 0.125" (3.175mm) ± 0.006"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Interferometry Method Electrodeposited Copper Foil 1 oz. (35 µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
AD300D™	0.030" (0.762mm) ± 0.002" 0.040" (1.016mm) ± 0.002" 0.060" (1.524mm) ± 0.002" 0.120" (3.048mm) ± 0.005"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Interferometry Method Electrodeposited Copper Foil 1 oz. (35 µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
AD350A™	0.030" (0.762mm) ± 0.002" 0.060" (1.524mm) ± 0.003" 0.120" (3.048mm) ± 0.008"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
Anteo™	0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.002" 0.040" (1.02mm) ± 0.003" 0.060" (1.52mm) ± 0.004" 0.090" (2.29mm) ± 0.004" 0.120" (3.05mm) ± 0.006"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24.25" X 18.25" (616mm X 464mm) 48" X 36" (1219mm X 915mm) 48.25" X 36.25" (1226mm X 921mm)
CLTE-XT™	0.0051" (0.13mm) ± 0.0005" 0.0094" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0010"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CLTE™	0.0053" (0.13mm) ± 0.0005" 0.010" (0.025mm) ± 0.0010" 0.020" (0.51mm) ± 0.0020" 0.030" (0.76mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CLTE-AT™	0.005" (0.13mm) ± 0.0005" 0.010" (0.25mm) ± 0.0007 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CLTE-MW™	0.003" (0.08mm) ± 0.0005" 0.004"(0.10mm) ± 0.0005" 0.005" (0.13mm) ± 0.0007" 0.006"(0.15mm) ± 0.0007" 0.007" (0.18mm) ± 0.0010" 0.008" (0.20mm) ± 0.0010" 0.010" (0.25mm) ± 0.0010"	Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm), 2 oz (70µm) Very Low Profile Electrodeposited Copper Foil ¼ oz (9µm), ½ oz (18µm), 1 oz (35µm)	12"x 18" (305mm x 457mm) 24"x 18" (610mm x 457mm)
CuClad® 217	0.010" (0.25mm) ± 0.0010" 0.020" (0.51mm) ± 0.0020" 0.031" (0.79mm) ± 0.0020" 0.062" (1.57mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CuClad 233	0.010" (0.25mm) ± 0.0010" 0.020" (0.51mm) ± 0.0015" 0.031" (0.79mm) ± 0.0020" 0.062" (1.57mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
CuClad 250	0.010" (0.25mm) ± 0.0009" 0.020" (0.51mm) ± 0.0020" 0.031" (0.79mm) ± 0.0020" 0.062" (1.57mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

* Additional configurations available (Dielectric Thickness, Panel Size, Cladding). Contact Sales Engineer or Customer Service for more information.

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without Cladding)	Standard Cladding	Standard Panel Sizes
DiClad® 880	0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 18" X 12" (457mm X 305mm) 24" X 18" (610mm X 457mm) 18" X 24" (457mm X 610mm)
DiClad 870	0.031" (0.79mm) ± 0.0020" 0.093" (2.36mm) ± 0.0030" 0.125" (3.18mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Interferometry Method Electrodeposited Copper Foil 1 oz (35 µm) Rolled Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (305mm X 457mm) 18" X 24" (457mm X 610mm)
DiClad 527	0.020" (0.51mm) ± 0.0020" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 18" X 12" (457mm X 305mm) 24" X 18" (610mm X 457mm) 18" X 24" (457mm X 610mm)
IsoClad® 917	0.031" (0.79mm) ± 0.0020" 0.062" (1.57mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
IsoClad 933	0.015" (0.38mm) ± 0.0015" 0.031" (0.79mm) ± 0.0020" 0.062" (1.57mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
Kappa® 438	0.010" (0.25mm) ± 0.001" 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.002" 0.040" (1.02mm) ± 0.003" 0.060" (1.52mm) ± 0.004" 0.090" (2.29mm) ± 0.004" 0.120" (3.05mm) ± 0.006"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24.25" X 18.25" (616mm X 464mm) 48" X 36" (1219mm X 915mm) 48.25" X 36.25" (1226mm X 921mm)
MAGTREX® 555	0.040" (1.02mm) ± 0.002" 0.060" (1.52mm) ± 0.003" 0.080" (2.03mm) ± 0.004" 0.100" (2.54mm) ± 0.005" 0.140" (3.56mm) ± 0.007" 0.200" (5.08mm) ± 0.010" 0.260" (6.60mm) ± 0.013"	Electrodeposited Copper Foil 1 oz (35µm) Unclad	12" X 18" (305mm X 457mm)
XtremeSpeed™ RO1200™	0.003" (0.08mm) ± 0.0005" 0.004" (0.10mm) ± 0.0005" 0.005" (0.13mm) ± 0.0007" 0.006" (0.15mm) ± 0.0007" 0.007" (0.18mm) ± 0.001" 0.008" (0.20mm) ± 0.001" 0.010" (0.25mm) ± 0.001"	Rolled Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil 2 oz (70µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO3003G2™	0.005" (0.13mm) ± 0.0005" 0.010" (0.25mm) ± 0.0007"	Hyper Very Low Profile Electrodeposited Copper Foil ¼ oz (9µm), ½ oz (18µm) Uneven Clad ¼ oz (9µm), ½ oz (18µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm)
RO3003™	0.005" (0.13mm) ± 0.0005" 0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Rolled Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) RO3003 .0005" and 0.010": 12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm)
RO3035™	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO3203™	0.020" (0.51mm) ± 0.0010"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO3006™ RO3010™	0.005" (0.13mm) ± 0.0005" 0.010" (0.25mm) ± 0.0007" 0.025" (0.64mm) ± 0.0010" 0.050" (1.27mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO3206™ RO3210™	0.025" (0.64mm) ± 0.0010" 0.050" (1.27mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)

 * Additional configurations available (Dielectric Thickness, Panel Size, Cladding). Contact Sales Engineer or Customer Service for more information.

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without Cladding)	Standard Cladding	Standard Panel Sizes
RO4725JXR™	0.0307" (0.780mm) ± 0.0020" 0.0457" (0.160mm) ± 0.0030" 0.0607" (1.542mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4730G3 ED	0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4730G3 LoPro®	0.0057" (0.15mm) ± 0.0007" 0.0107" (0.27mm) ± 0.0010" 0.0207" (0.53mm) ± 0.0015" 0.0307" (0.78mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4533™	0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4533 LoPro®	0.0207" (0.53mm) ± 0.0015" 0.0307" (0.78mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4003C™	0.008" (0.20mm) ± 0.0010" 0.012" (0.30mm) ± 0.0010" 0.016" (0.41mm) ± 0.0015" 0.020" (0.51mm) ± 0.0015" 0.032" (0.81mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) OhmegaPly Foil (0.008"- 0.032" Only) 1/2 oz (18µm) Ticer Resistive Foil 1/2 oz (18um)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4360G2™	0.008" (0.20mm) ± 0.0007" 0.016" (0.41mm) ± 0.0015" 0.020" (0.51mm) ± 0.0015" 0.024" (0.61mm) ± 0.0015" 0.032" (0.81mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Ticer Resistive Foil 1/2 oz (18um)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4003C LoPro®	0.0087" (0.22mm) ± 0.0010" 0.0127" (0.32mm) ± 0.0010" 0.0167" (0.42mm) ± 0.0015" 0.0207" (0.53mm) ± 0.0015" 0.0327" (0.83mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4350B™	0.0066" (0.17mm) ± 0.0007" 0.010" (0.25mm) ± 0.0010" 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Ticer Resistive Foil 1/2 oz (18um)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4350B LoPro®	0.0040" (0.10mm) ± 0.0007" 0.0073" (0.19mm) ± 0.0007" 0.0107" (0.27mm) ± 0.0010" 0.0207" (0.53mm) ± 0.0015" 0.0307" (0.78mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4835™	0.0066" (0.17mm) ± 0.0007" 0.010" (0.25mm) ± 0.0010" 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Ticer Resistive Foil 1/2 oz (18um)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4835 LoPro®	0.0040" (0.10mm) ± 0.0007" 0.0073" (0.19mm) ± 0.0007" 0.0107" (0.27mm) ± 0.0010" 0.0207" (0.53mm) ± 0.0015" 0.0307" (0.78mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4835IND™ LoPro	0.0040" (0.10mm) ± 0.0007"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 48" X 36" (1219mm X 915mm)
RO4835T™	0.0025" (0.06mm) ± 0.0006" 0.0030" (0.08mm) ± 0.0006" 0.0040" (0.10mm) ± 0.0006" 0.0050" (0.13mm) ± 0.0008"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)

* Additional configurations available (Dielectric Thickness, Panel Size, Cladding). Contact Sales Engineer or Customer Service for more information.

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without Cladding)	Standard Cladding	Standard Panel Sizes
RO4830™	0.005" (0.13mm) ± 0.0006" 0.0094" (0.24mm) ± 0.0060"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4534™	0.020" (0.51mm) ± 0.0015" 0.032" (0.81mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4534 LoPro®	0.0207" (0.53mm) ± 0.0015" 0.0327" (0.83mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4535™	0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RO4535 LoPro	0.0207" (0.53mm) ± 0.0015" 0.0307" (0.78mm) ± 0.0020" 0.0607" (1.54mm) ± 0.0040"	LoPro Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RT/duroid 5880LZ	0.010" (0.25mm) ± 0.0010" 0.020" (0.51mm) ± 0.0010" 0.050" (1.27mm) ± 0.0020" 0.100" (2.54mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RT/duroid® 5870 **RT/duroid 5880**	0.005" (0.13mm) ± 0.0005" 0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.031" (0.79mm) ± 0.0010" 0.062" (1.57mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Rolled Copper Foil ½ oz (18µm), 1 oz (35µm)	24" X 18" (610mm X 457mm) 24" X 21" (610mm X 533mm) 24" X 36" (610mm X 915mm) 48" X 36" (1219mm X 915mm)
RT/duroid 6002	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0010" 0.060" (1.52mm) ± 0.0020"	Electrodeposited Copper Foil ½ oz (18µm, 1 oz (35µm) Rolled Copper Foil ½ oz (18µm, 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
RT/duroid 6202	0.005" (0.13mm) ± 0.0005" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0010"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Rolled Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RT/duroid 6202PR	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Rolled Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RT/duroid 6035HTC	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RT/duroid 6010.2LM **RT/duroid 6006**	0.025" (0.64mm) ± 0.0010" 0.050" (1.27mm) ± 0.0020" 0.075" (1.91mm) ± 0.0040"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	10" X 10" (254mm X 254mm) 10" X 20" (254mm X 508mm) 18" X 12" (457mm X 305mm)
TC350™	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) TC350 0.010": 18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)
TC350 Plus	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0015" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
TC600™	0.010" (0.25mm) ± 0.0007" 0.020" (0.51mm) ± 0.0010" 0.030" (0.76mm) ± 0.0020" 0.060" (1.52mm) ± 0.0030"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm) Reverse Treated Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)

* Additional configurations available (Dielectric Thickness, Panel Size, Cladding). Contact Sales Engineer or Customer Service for more information.

Thickness, Tolerance & Panel Size inches (mm)

Laminates

Product	Standard Dielectric Thickness (Without Cladding)	Standard Cladding	Standard Panel Sizes
TMM® 3 **TMM 4** **TMM 6** **TMM 10** **TMM 10i** **TMM 13i**	0.015" (0.38mm) ± 0.0015" 0.025" (0.64mm) ± 0.0015" 0.030" (0.76mm) ± 0.0015" 0.050" (1.27mm) ± 0.0015" 0.060" (1.52mm) ± 0.0015" 0.075" (1.91mm) ± 0.0015" 0.100" (2.54mm) ± 0.0015" 0.125" (3.18mm) ± 0.0015" 0.150" (3.81mm) ± 0.0015" 0.200" (5.08mm) ± 0.0015" 0.250" (6.35mm) ± 0.0015" 0.500" (12.70mm) ± 0.0015"	Electrodeposited Copper Foil ½ oz (18µm), 1 oz (35µm)	18" X 12" (457mm X 305mm) 18" X 24" (457mm X 610mm)

* Additional configurations available (Dielectric Thickness, Panel Size, Cladding). Contact Sales Engineer or Customer Service for more information.

Thickness, Tolerance & Panel Size inches (mm)

Bonding Materials

Product	Standard Dielectric Thickness (Without Cladding)	Standard Panel Sizes
2929 Thermoset Bondply	0.0015" (0.038mm) 0.0020" (0.051mm) 0.0030" (0.076mm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
COOLSPAN® TECA Thermoset Thermally & Electrically Conductive Adhesive (TECA) Film	0.002" (0.051mm) 0.004" (0.102mm)	10" X 12" (254mm X 305mm)
CuClad® 6250 Thermoplastic Bonding Film	0.0015" (0.038mm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
CuClad 6700 Thermoplastic Bonding Film	0.0015" (0.038mm) 0.0030" (0.076mm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm)
RO4450F™ Thermoset - Hydrocarbon / Ceramic / Woven Glass / Prepreg	0.0040" (0.102mm)	16" X 18" (406mm X 457mm) 24" X 18" (610mm X 457mm) 24.5" X 18.5" (622mm X 470mm) 24" X 36" (610mm X 915mm)
RO4450T Thermoset– Hydrocarbon / Ceramic / Spread Woven Glass / Prepreg	0.0025" (0.064mm) 0.0030" (0.076mm) 0.0035" (0.089mm) 0.0040" (0.102mm) 0.0050" (0.127mm) 0.0060" (0.150mm)	
RO4460G2 Thermoset - Hydrocarbon / Ceramic / Woven Glass / Prepreg	0.0040" (0.102mm)	
XtremeSpeed™ RO1200™ Ceramic Filled PTFE Bondply	0.0025" (0.064mm) 0.0030" (0.076mm) 0.0040" (0.102mm) 0.0050" (0.127mm)	12" X 18" (305mm X 457mm) 24" X 18" (610mm X 457mm) 24" X 36" (610mm X 915mm)
SpeedWave® 300P Thermoset Glass Reinforced Prepreg	0.0020" (0.051 mm) 0.0025" (0.064 mm) 0.0030" (0.076 mm) 0.0035" (0.089 mm) 0.0040" (0.102 mm) 0.0050" (0.127 mm) 0.0055" (0.140 mm)	24" X 18" (610mm X 457mm)

Ordering Materials From Rogers :

Rogers Corporation has global customer service locations to assist with the order process. Please see the back of the guide to determine which office in the Americas, Europe or Asia is most convenient for you.

The following represents a typical process for determining a material to purchase and placing an order:

Step 1
Determining the Rogers Material Product Grade to Use
Rogers provides a wide range of specialty material types (PTFE, hydrocarbon ceramic, LCP, etc.) to offer unique combinations of electrical, thermal and mechanical properties. Performance requirements usually determine which Rogers Product Grade best suits the application. For example, if requirements point to material with the lowest dissipation factor (tan d) combined with a high dielectric constant that may lead to one of our PTFE offerings. In another example mechanical strength may be required, pointing to a thermoset product, such as RO4000® laminate.

Common examples of Rogers product grades include: RT/duroid® 5880, CLTE-XT™, RO4350B™, RO3003™, and TMM®. It is critical to pick the correct material grade when you order. Our technical experts are happy to assist you in making that determination.

Step 2
Choosing Thickness and Thickness Tolerance
Following IPC guidelines, laminate thickness is specified as dielectric thickness and does not include thickness of copper foil or other metal claddings. In most cases, thickness tolerance is defined by product grade and thickness. However, custom tolerances are considered upon request for certain high reliability products (RT/duroid and CLTE Series™ laminates are examples).

Step 3
Selecting Cladding Type
Rogers offers cladding options which include ¼, ½, 1, & 2 oz. electrodeposited copper foil; ½ , 1, & 2 oz. reverse treated copper foil; and ½, 1, & 2 oz. rolled copper foil. Not all laminate systems are available with all copper foil claddings.

Thick metal claddings, such as aluminum, copper and brass are available on many grades of Rogers laminates. As well, some material grades may be supplied unclad. Contact a Rogers Sales Engineer or Customer Service Representative to discuss options.

Step 4
Picking your Panel Size*
Finally, you need to select the panel size dimensions you desire. For example, a very common panel size in the printed circuit board industry is 24" (610mm) x 18" (457mm).

Please note, different product grades may have different available panel sizes.

*Various terminology is used in the industry to represent panel dimensions. Rogers' panel dimensions are always listed as: Cross machine(Y) x Machine direction(X).

Specification Requirements and Terms and Conditions of Sale
Rogers' material specifications are applicable unless otherwise agreed upon prior to order. Certificates of conformance are available for purchased goods. All other requirements must be discussed at the time the order is placed. If special testing or data generation is required, additional costs may be incurred.

For Rogers' Terms and Conditions of Sale, please go to:
https://www.rogerscorp.com/terms-and-conditions

About Rogers' Materials
Rogers manufactures high frequency laminates and prepregs for applications in wireless base station, aerospace and defense, automotive, high speed digital and advanced chip packaging industries. All of our products are manufactured in ISO-9001:2015 certified facilities.

IPC Slash Sheet Definitions

Laminates	IPC 4103B Legacy Slash Sheet	IPC 4103B Enhanced Slash Sheet	Laminates	IPC 4103B Legacy Slash Sheet	IPC 4103B Enhanced Slash Sheet
RO3003™	6	230	CLTE-XT™	6	230
RO3003G2™	6	230	CLTE™	6	230
RO3006™	7	270	CLTE-MW™	6	230
RO3010™	8	280	CLTE-AT™	6	230
RO3035™	4	240	CuClad® 217	5	200
RO3203™	6	230	CuClad 233	5	220
RO3206™	7	270	CuClad 250	5	220
RO3210™	8	280	DiClad® 880	5	200
RO4003C™	10	240	DiClad 870	5	210
RO4003C LoPro®	10	240	DiClad 527	2	220
RO4350B™	11	240	IsoClad® 917	4	200
RO4350B LoPro	11	240	IsoClad 933	4	210
RO4835™	11	240	RT/duroid 6035HTC	N/A	240
RO4835T™	N/A	240	TC350™	9	240
RO4835 LoPro	11	240	TC350 Plus	9	240
RO4360G2™	N/A	270	TC600™	7	270
RO4533™	10	240	TMM® 3	N/A	240
RO4534™	10	240	TMM 4	N/A	250
RO4535™	11	240	TMM 6	N/A	270
RO4725JXR™	N/A	220	TMM 10	N/A	280
RO4730G3™	N/A	230	TMM 10i	N/A	280
RT/duroid® 5870	4	210	TMM 13i	N/A	290
RT/duroid 5880	4	200	XtremeSpeed™ RO1200™	N/A	230
RT/duroid 5880LZ	N/A	200	Anteo™	N/A	250
RT/duroid 6010.2 LM	8	280	Kappa 438	N/A	250
RT/duroid 6006	7	270	**Prepregs and Bondplys**	**Legacy**	**Enhanced**
RT/duroid 6002	6	230	RO4450T™	N/A	540
RT/duroid 6202	6	230	RO4450F™	11	540
RT/duroid 6202PR 0.005"	6	270	RO4460G2™	N/A	570
RT/duroid 6202PR 0.010"	6	230	2929	N/A	530
RT/duroid 6202PR 0.020"	6	230	CuClad® 6250	15	510
AD250C™	2	220	CuClad 6700	15	520
AD255C™	2	220	XtremeSpeed RO1200	15	530
AD300D™	9	230	**Prepregs and Bondplys**		**IPC 4101E**
AD350A™	9	240	SpeedWave® 300P	N/A	102

Rogers' high frequency laminates can be purchased by contacting a Rogers' Customer Service Representative. Refer to back cover for contact information.

Interpreting Rogers Part Descriptions:

The thickness in the example below is for 20 Mils +/- 1

5880	18x12	H1/H1	R3	0200+-001	DI
Product Grade	Panel Size	Metal Cladding	Revision Number (When Applicable)	Dielectric Thickness & Tolerance	Dielectric Thickness (When Applicable)

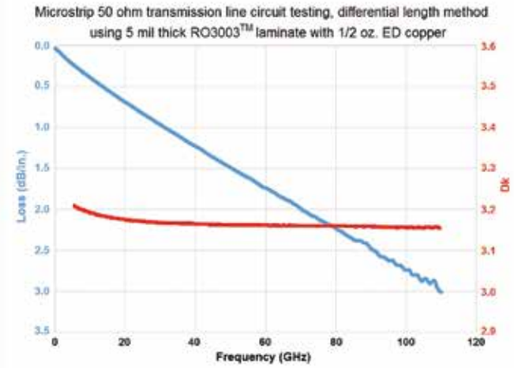
ROGERS Copper Foil Designation

Copper Weight	Rogers Clad Designation	IPC-4562A Foil Grade (1.2.4)	IPC-4562A Foil Thickness (1.2.5)	IPC-4562A Bond Enhancement Treatment (1.2.6)	IPC-4562A Foil Profile (1.2.7)
1/4 oz	HQ	Standard Electrodeposited (STD-E)	Q (9 µm)	Single-sided treatment (S)	Low (L)
	CQ				Very low (V)
1/2 oz	5E				Standard (S)
	5ED				
	5E	High Temperature Elongation Electrodeposited (HTE-E)		S	L
	5ED				
	HH				
	5TC			Reverse-treated (R) LoPro	
	SH			R	
	AH	As Rolled Wrought	H (1/2 oz, 18 µm)	S	V
	TH	HTE-E			
	5R	As Rolled Wrought (AR-W)			
	5RD				
	25RFO(1)(2)-5E(D)	HTE-E		S-25 OPS Ohmega	S
	50RFO(1)(2)-5E(D)			S-50 OPS Ohmega	
	100RFO(1)(2)-5E(D)			S-100 OPS Ohmega	
	25RFT(7)(5)-5E(D)(HH)			S-25 OPS Ticer	
	50RFT(7)(5)-5E(D)(HH)			S-50 OPS Ticer	
	100RFT(7)(5)-5E(D)(HH)			S-100 OPS Ticer	
1 oz	1E	HTE-E	1 (1 oz, 35 µm)	S	S
	1ED				
	1E			S	L
	1ED				
	H1				
	1TC			R-LoPro	
	S1			R	
	A1	AR-W		S	V
	T1	HTE-E			
	1R	AR-W			
	1RD				
	25RFO(1)(2)-1E(D)	HTE-E		S-25 OPS Ohmega	S
	50RFO(1)(2)-1E(D)			S-50 OPS Ohmega	
	100RFO(1)(2)-1E(D)			S-100 OPS Ohmega	
	25RFT(7)(5)-1E(D)(H1)			S-25 OPS Ticer	
	50RFT(7)(5)-1E(D)(H1)			S-50 OPS Ticer	
	100RFT(7)(5)-1E(D)(H1)			S-100 OPS Ticer	
2 oz	2E	HTE-E	2 (2 oz, 70 µm)	S	S
	2ED				
	H2				
	S2			R	L
	A2	AR-W		S	V
	2R				
	2RD				

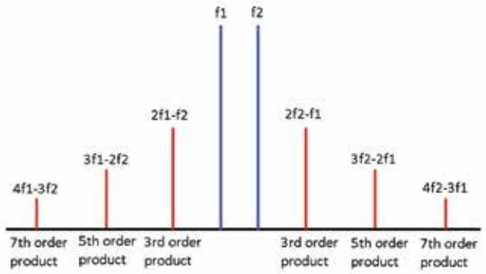
Electrical Characterization Capabilities

Multiple Test Methods Used:

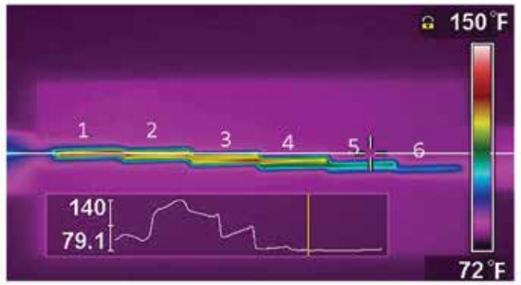
- Clamped Stripline Resonator
- Split Post Dielectric Resonator
- Full Sheet Resonance
- Ring Resonators
- Waveguide Perturbation



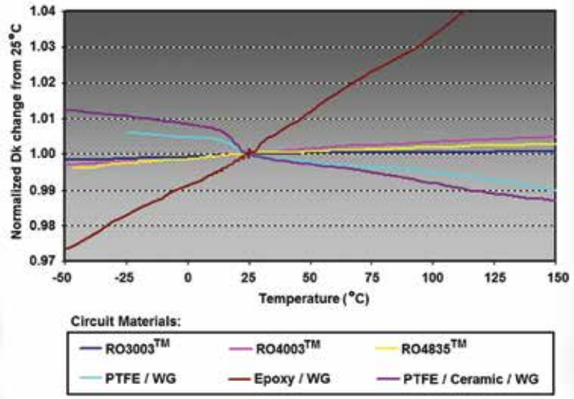
Very wideband insertion loss & phase measurements



PIM Testing Capabilities



Thermal management evaluation capabilities



Testing material for Dk vs. Temperature (TCDk)

Notes

Notes

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- Microwave Impedance Calculator
- Dk Calculator
- Conversion Calculator

ROG Mobile is available for the iPhone, iPad and Android Devices, go to the App Store to Download.

Available on the App Store

CONTACT INFORMATION:

The Americas:	Rogers Corporation Tel: 480-961-1382
Europe/Africa:	Rogers BV Tel: +32 9 235 3611
Asia:	Rogers Suzhou Tel: 86-512-6258-2872

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