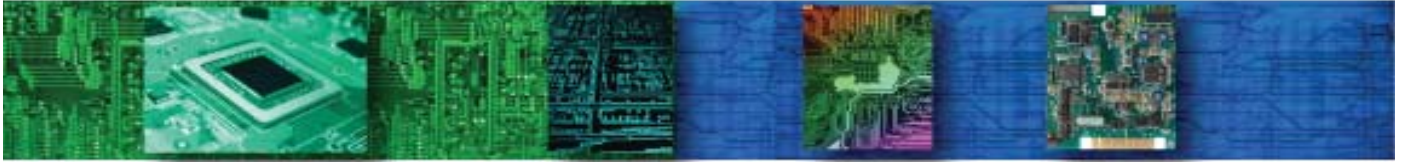


SYRON™ 7100 High Performance Circuit Material



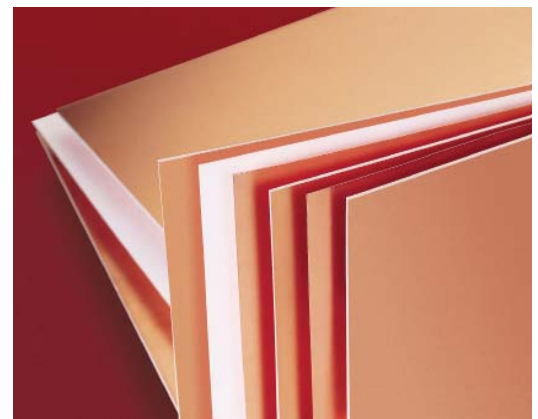
Features:	Benefits:
High maximum operating temperature	<ul style="list-style-type: none"> • Can be used in applications where high temperature stability is necessary
Excellent chemical resistance	<ul style="list-style-type: none"> • Ease of processing • Resistant to solvents and reagents used to process circuit boards. • Operates in harsh chemical environments
Environmentally friendly	<ul style="list-style-type: none"> • Halogen free/inherently flame retardant • Lead-free solder capable • Low smoke/toxicity

Typical Applications:	
<ul style="list-style-type: none"> • Flex-to-install applications 	<ul style="list-style-type: none"> • Conformal circuitry
<ul style="list-style-type: none"> • Lightweight feed manifolds 	<ul style="list-style-type: none"> • Oil and gas exploration
<ul style="list-style-type: none"> • Automotive sensors 	<ul style="list-style-type: none"> • Airborne lightning strike protection

SYRON™ 7100 thermoplastic circuit materials provide an excellent solution for printed circuit board applications used in demanding environmental conditions.

SYRON 7100 is thermally stable, with a melt temperature higher than PTFE materials and an estimated relative thermal index (RTI) greater than 210°C (410°F). The SYRON products possess impressive chemical and radiation resistance. These lead-free solder capable laminates are green materials which are naturally flame retardant and halogen free.

Dielectric thickness of 0.002" (0.0508mm) and 0.004" (0.102mm) are available with ½ oz very low profile electrodeposited copper foil cladding.



Property	TYPICAL [1] SYRON 7100		Direction	Units	Condition	Test Method
	.002" 0.0508mm	.004" 0.102mm				
Dielectric Constant, ϵ_r Process	3.61 max	3.39 max	Z		10 GHz/23°C	IPC-TM-2.5.5.5.1
Dissipation Factor	0.006 max	0.005 max	Z		10 GHz/23°C	IPC-TM-650, 2.5.5.5.1
Thermal Coefficient of ϵ_r	9	9	Z	ppm/°C	-100°C to 250°C	IPC-TM-650, 2.5.5.5.1
Copper Peel Strength	6.2 (1.1)	6.3 (1.1)		pli (N/mm)		IPC-TM-650 2.4.8
Outgassing	TBD	TBD				ASTM E-595
T260	PASS	PASS				
T288	PASS	PASS				
Flammability*	VTM-0	VTM-0				UL94
UL RTI*	>210	>210		°C		
Volume Resistivity		10 ¹⁰	Z	MΩ•cm	COND A	IPC-TM-650, 2.5.17.1
Surface Resistivity		10 ⁶	X, Y	MΩ	COND A	IPC-TM-650, 2.5.17.1
Dielectric Strength	2.58	2.27	Z	KV/mil		IPC-TM-650, 2.5.6.2
Young's Modulus	11543	7853		MPa (kpsi)	RT	ASTM D638
Tensile Strength	216	190		MPa (kpsi)	RT	ASTM D638
Dimensional Stability	0.03 0.037	-0.025 -0.01	X - MD Y - CMD	mm/m (mils/inch)	150°C Bake	IPC-TM-650, 2.4.39A
Coefficient of Thermal Expansion	16.5	19	X	ppm/°C	0-150°C	IPC-TM-650, 2.1.41
	18	21	Y			
	57	76	Z			
Thermal Conductivity	0.3	0.3		W/m/K		ASTM C518
Moisture Absorption	0.05 0.15	0.21 0.32		%	D24/23 D48/50	IPC-TM-650 2.6.2.1 ASTM D570
Tg	172	176		°C TMA		ASTM D3850
Lead-Free Process Compatible	YES	YES				
Halogen Free	YES	YES				

* Reported UL values are preliminary and reflect anticipated results of full UL testing.

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

[2] The design Dk is an average number from several different tested lots of material and on the most common thickness/s. If more detailed information is required, please contact Rogers Corporation. Refer to Rogers' technical paper "Dielectric Properties of High Frequency Materials" available at <http://www.rogerscorp.com/acm>

Standard Thicknesses:	Panel Sizes	Copper Cladding
0.002" (0.0508mm) ± 12.5% 0.004" (0.102mm) ± 12.5%	12" X 18" (305 X 457mm) 24" X 18" (610 X 457 mm) Other panel sizes and rolls are available.	½ oz. (18 μm) very low profile electrodeposited copper foil.

The information in this data sheet is intended to assist you in designing with Rogers' circuit material laminates. 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 or that the results shown on this data sheet will be achieved by a user for a particular purpose. The user should determine the suitability of Rogers' circuit material laminates for each application.

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