

Rogers Corporation Syron™ 7100 Thermoplastic Circuit Material

Category : Polymer , Thermoplastic

Material Notes:

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. The SYRON products possess impressive chemical and radiation resistance. Features and Benefits: High maximum operating temperature - suitable for applications where high temperature stability is required. Excellent chemical resistance - Ease of processing, Resistant to solvents and reagents used to process circuit boards, and Operates in harsh chemical environments. Environmentally friendly - Halogen free/inherently flame retardant, Lead-free solder capable, low smoke/toxicity. 1/2 oz. (18 micron) very low profile electrodeposited copper foil cladding. Typical Applications: Flex-to-install applications, Lightweight feed manifolds, Automotive sensors, Conformal circuitry, Oil and gas exploration, Airborne lightning strike protection. Information provided by Rogers Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Rogers-Corporation-Syron-7100-Thermoplastic-Circuit-Material.php

Physical Properties	Metric	English	Comments
Moisture Absorption at Equilibrium	0.050 %	0.050 %	D24/23; IPC-TM-650 2.6.2.1
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
	0.15 %	0.15 %	D48/50; ASTM D570
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
	0.21 %	0.21 %	D24/23; IPC-TM-650 2.6.2.1
	@Thickness 0.102 mm	@Thickness 0.00400 in	
	0.32 %	0.32 %	D48/50; ASTM D570
	@Thickness 0.102 mm	@Thickness 0.00400 in	
Thickness	50.8 - 102 microns	2.00 - 4.00 mil	

Mechanical Properties	Metric	English	Comments
Tensile Strength	190 MPa	27600 psi	RT; ASTM D638
	@Thickness 0.102 mm	@Thickness 0.00400 in	
	216 MPa	31300 psi	RT; ASTM D638
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
Tensile Modulus	7.86 GPa	1140 ksi	RT; ASTM D638
	@Thickness 0.102 mm	@Thickness 0.00400 in	

Mechanical Properties	Metric ^{Pa}	English	Comments
	@Thickness 0.0508 mm	@Thickness 0.00200 in	RT; ASTM D638
Peel Strength	1.09 kN/m	6.20 pli	IPC-TM-650 2.4.8
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
	1.10 kN/m	6.30 pli	IPC-TM-650 2.4.8
	@Thickness 0.102 mm	@Thickness 0.00400 in	

Thermal Properties	Metric	English	Comments
CTE, linear	16.5 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.17 $\mu\text{in}/\text{in}\cdot\text{°F}$	X-Direction; IPC-TM-650 2.1.41
	@Thickness 0.0508 mm, Temperature 0.000 - 150 °C	@Thickness 0.00200 in, Temperature 32.0 - 302 °F	
	18.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.0 $\mu\text{in}/\text{in}\cdot\text{°F}$	Y-Direction; IPC-TM-650 2.1.41
	@Thickness 0.0508 mm, Temperature 0.000 - 150 °C	@Thickness 0.00200 in, Temperature 32.0 - 302 °F	
	19.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	10.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	X-Direction; IPC-TM-650 2.1.41
	@Thickness 0.102 mm, Temperature 0.000 - 150 °C	@Thickness 0.00400 in, Temperature 32.0 - 302 °F	
	21.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	11.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	Y-Direction; IPC-TM-650 2.1.41
	@Thickness 0.102 mm, Temperature 0.000 - 150 °C	@Thickness 0.00400 in, Temperature 32.0 - 302 °F	
	57.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	31.7 $\mu\text{in}/\text{in}\cdot\text{°F}$	Z-Direction; IPC-TM-650 2.1.41
	@Thickness 0.0508 mm, Temperature 0.000 - 150 °C	@Thickness 0.00200 in, Temperature 32.0 - 302 °F	
	76.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	42.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	Z-Direction; IPC-TM-650 2.1.41
	@Thickness 0.102 mm, Temperature 0.000 - 150 °C	@Thickness 0.00400 in, Temperature 32.0 - 302 °F	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² - °F	ASTM C518
Maximum Service Temperature, Air	$\geq 210 \text{°C}$	$\geq 410 \text{°F}$	pending UL RTI
Glass Transition Temp, Tg	172 °C	342 °F	TMA; ASTM D3850

Thermal Properties	@Thickness <=0.0508 Metric	@Thickness <=0.00200 English	Comments
	176 °C	349 °F	
	@Thickness <=0.102 mm	@Thickness <=0.00400 in	TMA; ASTM D3850
Flammability, UL94	V-0	V-0	pending
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
	V-0	V-0	pending
	@Thickness 0.102 mm	@Thickness 0.00400 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	Condition A; IPC 2.5.17.1
	@Thickness 0.102 mm	@Thickness 0.00400 in	
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	Condition A; IPC 2.5.17.1
	@Thickness 0.102 mm	@Thickness 0.00400 in	
Dielectric Constant	<= 3.39	<= 3.39	Z direction; IPC-TM-650 2.5.5.5
	@Thickness 0.102 mm, Frequency 1.00e+10 Hz	@Thickness 0.00400 in, Frequency 1.00e+10 Hz	
	<= 3.61	<= 3.61	Z direction; IPC-TM-650 2.5.5.5
	@Thickness 0.0508 mm, Frequency 1.00e+10 Hz	@Thickness 0.00200 in, Frequency 1.00e+10 Hz	
Dielectric Strength	89.4 kV/mm	2270 kV/in	Z Direction; IPC-TM-650 2.5.6.2
	@Thickness 0.102 mm	@Thickness 0.00402 in	
	102 kV/mm	2580 kV/in	Z Direction; IPC-TM-650 2.5.6.2
	@Thickness 0.0508 mm	@Thickness 0.00200 in	
Dissipation Factor	<= 0.0050	<= 0.0050	Z direction; IPC-TM-650 2.5.5.5.1
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
	<= 0.0060	<= 0.0060	Z direction; IPC-TM-650 2.5.5.5.1
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	

Descriptive Properties	Value	Comments
Dimensional Stability	-0.01 mm/m	Y-CMD; IPC-TM-650, 2.4.39A; 150°C bake; 0.004"

Descriptive Properties	Value	Comments
	0.035 mm/m	TM-650, 2.4.39A; 150°C bake; 0.004"
	0.03 mm/m	X-MD; IPC-TM-650, 2.4.39A; 150°C bake; 0.002"
	0.037 mm/m	Y-CMD; IPC-TM-650, 2.4.39A; 150°C bake; 0.002"
T260	pass	
Thermal Coefficient of Dielectric Constant	9 ppm/°C	IPC-TM-650 2.5.5.5; -100°C to 250°C; Z-Direction
Time to Delamination (T-288)	pass	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China