

Rogers Corporation Syron™ 7000 Thermoplastic Circuit Material

Category : Polymer , Thermoplastic

Material Notes:

SYRON™ 7000 thermoplastic circuit materials provide an excellent solution for printed circuit board applications used in demanding environmental conditions. SYRON 7000 is thermally stable, with a melt temperature higher than PTFE materials and an estimated relative thermal index (RTI) greater than 200°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. 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-7000-Thermoplastic-Circuit-Material.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.55 g/cc	1.55 g/cc	ASTM D792
Moisture Absorption at Equilibrium	0.20 %	0.20 %	D24/23; IPC-TM-650 2.6.2.1
Thickness	50.8 microns	2.00 mil	
Outgassing - Total Mass Loss	0.010 %	0.010 %	CVCM; ASTM E595
	0.090 %	0.090 %	TML; ASTM E595
	0.090 %	0.090 %	WVR; ASTM E595

Mechanical Properties	Metric	English	Comments
Tensile Strength	100 MPa	14500 psi	ASTM D638
Elongation at Break	4.0 %	4.0 %	ASTM D638
Tensile Modulus	8.27 GPa	1200 ksi	ASTM D638
Peel Strength	0.877 kN/m	5.00 pli	Copper; IPC-TM-650 2.4.8

Thermal Properties	Metric	English	Comments
CTE, linear	18.0 µm/m-°C	10.0 µin/in-°F	X-Direction; IPC-TM-650 2.1.41
	@Temperature 0.000 - 150 °C	@Temperature 32.0 - 302 °F	
	23.0 µm/m-°C	12.8 µin/in-°F	Y-Direction; IPC-TM-650 2.1.41
	@Temperature 0.000 -	@Temperature 32.0 -	

Thermal Properties	150 °C Metric	302 °F English	Comments
	68.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	37.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Z-Direction; IPC-TM-650 2.1.41
	@Temperature 0.000 - 150 °C	@Temperature 32.0 - 302 °F	
Thermal Conductivity	0.350 W/m-K	2.43 BTU-in/hr-ft ² -°F	ASTM C518
Maximum Service Temperature, Air	>= 200 °C	>= 392 °F	pending UL RTI
Flammability, UL94	V-0	V-0	pending
	@Thickness 0.0508 mm	@Thickness 0.00200 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	Condition A and C96/35/90; IPC 2.5.17.1
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	Condition A and C96/35/90; IPC 2.5.17.1
Dielectric Constant	<= 3.4	<= 3.4	Z direction; IPC-TM-650 2.5.5.5.1
	@Frequency 1.00e+10 Hz	@Frequency 1.00e+10 Hz	
Dielectric Strength	177 kV/mm	4500 kV/in	IPC-TM-650 2.5.6.2
Dissipation Factor	<= 0.0045	<= 0.0045	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	-0.04 mm/m	MD; IPC-TM-650, 2.2.4; After bake 120°C
	0.1 mm/m	CMD; IPC-TM-650, 2.2.4; After bake 120°C
T260	pass	
Thermal Coefficient of Dielectric Constant	7 ppm/°C	IPC-TM-650 2.5.5.5.1; -50°C to 150°C
Time to Delamination (T-288)	pass	

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