

## Parker Chomerics PREMIER™ PEI-140 High Temperature Conductive Plastic for EMI Shielding

Category : Polymer

### Material Notes:

PEI-140 can provide up to a 65% cost reduction by eliminating secondary operations such as assembly, machining, painting/plating and the logistics that accompany these processes. The shielding effectiveness, high temperature performance, low smoke generation, chemical resistance and UL 94V-0 flammability rating combined with a weight savings of 50-75%, make using PEI-140 for aerospace applications economically viable. PEI-140 specific gravity is 40% less than aluminum and 80% less than steel. PEI-140 offers an opportunity to reduce the weight of airborne electronic housings by up to 75%. PEI-140 housings will not only cost less themselves, but also improve aircraft operating cost through weight reduction. Information provided by Chomerics

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Parker-Chomerics-PREMIER-PEI-140-High-Temperature-Conductive-Plastic-for-EMI-Shielding.php](http://www.lookpolymers.com/polymer_Parker-Chomerics-PREMIER-PEI-140-High-Temperature-Conductive-Plastic-for-EMI-Shielding.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.61 g/cc	1.61 g/cc	ASTM D792
Linear Mold Shrinkage	0.0065 cm/cm @Thickness 3.17 mm	0.0065 in/in @Thickness 0.125 in	ASTM D995

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	103 MPa	15000 psi	ASTM D638
Elongation at Break	4.3 %	4.3 %	ASTM D638
Flexural Strength	138 MPa	20000 psi	ASTM D790
Flexural Modulus	8.20 GPa	1190 ksi	ASTM D790
Izod Impact, Notched	0.600 J/cm	1.12 ft-lb/in	ASTM D412
Izod Impact, Unnotched	2.10 J/cm	3.93 ft-lb/in	ASTM D412
Impact	0.84 @Temperature 23.0 °C	0.84 @Temperature 73.4 °F	[ft-lb/in], Charpy; ASTM D6110-05a

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.710 W/m-K	4.93 BTU-in/hr-ft <sup>2</sup> -°F	ASTM D5470
Deflection Temperature at 1.8 MPa (264 psi)	363 °C	685 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 1.80 mm	V-0 @Thickness 0.0709 in	

Thermal Properties	Metric	English	Comments
NBS Smoke Density	@Thickness 3.00 mm, Time 240 sec	@Thickness 0.118 in, Time 0.0667 hour	[D5], BSS 7238/7239
Oxygen Index	41 %	41 %	Limited; ASTM D2863

Electrical Properties	Metric	English	Comments
Surface Resistance	0.38 ohm	0.38 ohm	
Surface Resistivity per Square	0.45 ohm	0.45 ohm	MIL-DTL-83528C
Shielding Effectiveness	60 dB	60 dB	ASTM D4935
	@Frequency 3.00e+7 Hz	@Frequency 3.00e+7 Hz	
	64 dB	64 dB	ASTM D4935
	@Frequency 1.00e+8 Hz	@Frequency 1.00e+8 Hz	
	85 dB	85 dB	ASTM D4935
	@Frequency 1.00e+9 Hz	@Frequency 1.00e+9 Hz	
	72 dB	72 dB	ASTM D4935
	@Thickness 1.80 mm, Frequency 3.00e+7 - 1.00e+9 Hz	@Thickness 0.0709 in, Frequency 3.00e+7 - 1.00e+9 Hz	
	80 dB	80 dB	IEEE 299
	@Thickness 1.80 mm, Frequency 8.00e+8 - 1.80e+10 Hz	@Thickness 0.0709 in, Frequency 8.00e+8 - 1.80e+10 Hz	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	360 - 385 °C	680 - 725 °F	
Front Barrel Temperature	370 - 395 °C	698 - 743 °F	
Nozzle Temperature	370 - 395 °C	698 - 743 °F	
Melt Temperature	370 - 395 °C	698 - 743 °F	
Mold Temperature	90.0 - 115 °C	194 - 239 °F	
Dry Time	5 - 7 hour	5 - 7 hour	Typical
	@Temperature 150 - 160 °C	@Temperature 302 - 320 °F	
	24.0 hour	24.0 hour	

Processing Properties	Metric @ Temperature 150 - 160 °C	English @ Temperature 302 - 320 °F	Maximum Comments
Moisture Content	0.020 %	0.020 %	Suggested Maximum
Back Pressure	0.517 - 0.862 MPa	75.0 - 125 psi	
Clamp Pressure	55.0 - 80.0 MPa	7980 - 11600 psi	[Mpa/cm <sup>2</sup> ]
Cushion	1.02 - 1.27 cm	0.400 - 0.500 in	
Screw Speed	95 - 130 rpm @Diameter 25.4 mm	95 - 130 rpm @Diameter 1.00 in	760 - 1000 cm/min

## Contact Songhan Plastic Technology Co.,Ltd.

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