

Polymer Resources PC-GP1-D Polycarbonate, General Purpose, Low Flow

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Molded

Material Notes:

Polycarbonate, General Purpose, Low Flow Features: • Ultra High Impact Resistance • Self Extinguishing Process: Injection Molding Notes:

All physical, mechanical and thermal testing conducted on 1/8-inch thick, un-pigmented, test samples. Information provided by Polymer Resources Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Polymer-Resources-PC-GP1-D-Polycarbonate-General-Purpose-Low-Flow.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	5.0 - 10 g/10 min @Load 1.20 kg, Temperature 300 °C	5.0 - 10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	72.4 MPa	10500 psi	ASTM D638
Tensile Strength, Yield	62.1 MPa	9000 psi	ASTM D638
Elongation at Break	130 %	130 %	ASTM D638
Elongation at Yield	7.0 %	7.0 %	ASTM D638
Flexural Strength	96.5 MPa	14000 psi	ASTM D790
Flexural Modulus	2.31 GPa	335 ksi	ASTM D790
Izod Impact, Notched	9.08 J/cm @Temperature 22.8 °C	17.0 ft-lb/in @Temperature 73.0 °F	ASTM D256
Gardner Impact	36.2 J	26.7 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	138 °C	280 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	132 °C	270 °F	ASTM D648

Thermal Properties	Metric	English	Comments
UL RTI, Electrical	80.0 °C	176 °F	UL 746
	@Thickness 0.749 mm	@Thickness 0.0295 in	
	132 °C	270 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	154 °C	310 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746
	@Thickness 0.749 mm	@Thickness 0.0295 in	
	125 °C	257 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	125 °C	257 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	80.0 °C	176 °F	UL 746
	@Thickness 0.749 mm	@Thickness 0.0295 in	
	115 °C	239 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	115 °C	239 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-2	V-2	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-2	V-2	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Optical Properties	Metric	English	Comments
Haze	1.0 %	1.0 %	ASTM D1003
UV Transmittance	88 %	88 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D257
Dielectric Strength	28.0 kV/mm	710 kV/in	ASTM D149

Comparative Tracking Index Electrical Properties	250 - 400 V Metric	250 - 400 V English	UL 746 Comments
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	60 - 120 sec	60 - 120 sec	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	288 - 310 °C	550 - 590 °F	
Middle Barrel Temperature	299 - 321 °C	570 - 610 °F	
Front Barrel Temperature	310 - 332 °C	590 - 630 °F	
Melt Temperature	316 - 343 °C	600 - 650 °F	
Mold Temperature	82.2 - 116 °C	180 - 240 °F	
Drying Temperature	118 - 124 °C	245 - 255 °F	
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	

Descriptive Properties	Value	Comments
Vent	0.0005	

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