

Polymer Resources PC-FR1-D Polycarbonate, Improved Flame Retardant, Low Flow

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

Polycarbonate, Improved Flame Retardant, Low Flow Features: • High Impact Resistance • High Viscosity • 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-FR1-D-Polycarbonate-Improved-Flame-Retardant-Low-Flow.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.21 g/cc	1.21 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	60.0 MPa	8700 psi	ASTM D638
Tensile Strength, Yield	55.2 MPa	8000 psi	ASTM D638
Elongation at Break	90 %	90 %	ASTM D638
Elongation at Yield	7.0 %	7.0 %	ASTM D638
Flexural Strength	89.6 MPa	13000 psi	ASTM D790
Flexural Modulus	2.21 GPa	320 ksi	ASTM D790
Izod Impact, Notched	6.41 J/cm @Temperature 22.8 °C	12.0 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)	135 °C	275 °F	ASTM D648
Deflection Temperature at 1.8 MPa	129 °C	265 °F	

(264 psi) Thermal Properties	Metric	English	ASTM D648 Comments
Vicat Softening Point	149 °C	300 °F	120°C/h, 50 N; ASTM D1525
UL RTI, Electrical	125 °C	257 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	125 °C	257 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	125 °C	257 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	125 °C	257 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	110 °C	230 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	110 °C	230 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0 - 5VA	V-0 - 5VA	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	ASTM D257
Dielectric Strength	22.8 kV/mm	580 kV/in	ASTM D149
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	30 - 60 sec	30 - 60 sec	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
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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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