

Polymer Resources TP-FR2 Polybutylene Terephthalate, Flame Retardant

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Flame Retardant

Material Notes:

Polybutylene Terephthalate, Flame Retardant 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-TP-FR2-Polybutylene-Terephthalate-Flame-Retardant.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.39 g/cc	1.39 g/cc	ASTM D792
Linear Mold Shrinkage	0.015 - 0.020 cm/cm	0.015 - 0.020 in/in	ASTM D955
Melt Flow	10 - 18 g/10 min @Load 2.16 kg, Temperature 250 °C	10 - 18 g/10 min @Load 4.76 lb, Temperature 482 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	57.2 MPa	8300 psi	ASTM D638
Tensile Strength, Yield	57.2 MPa	8300 psi	ASTM D638
Flexural Strength	96.5 MPa	14000 psi	ASTM D790
Flexural Modulus	2.59 GPa	375 ksi	ASTM D790
Izod Impact, Notched	0.534 J/cm @Temperature 22.8 °C	1.00 ft-lb/in @Temperature 73.0 °F	ASTM D256
Gardner Impact	16.9 J	12.5 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	149 °C	300 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	68.3 °C	155 °F	ASTM D648
UL RTI, Electrical	130 °C @Thickness 0.800 mm	266 °F @Thickness 0.0315 in	UL 746
	130 °C @Thickness 1.50 mm	266 °F @Thickness 0.0591 in	UL 746
	130 °C	266 °F	UL 746

Thermal Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	Comments
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	130 °C	266 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	130 °C	266 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	120 °C	248 °F	UL 746
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	120 °C	248 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	120 °C	248 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-0	V-0	UL 746
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0 - 5VA	V-0 - 5VA	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Dielectric Strength	39.0 kV/mm	990 kV/in	ASTM D149
Comparative Tracking Index	0.00 - 100 V	0.00 - 100 V	UL 746
Hot Wire Ignition, HWI	7.0 - 15 sec	7.0 - 15 sec	UL 746
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	15 - 30 sec	15 - 30 sec	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	30 - 60 sec	30 - 60 sec	
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	>= 120 arcs	>= 120 arcs	
			UL 746

Electrical Properties	@Thickness 1.50 mm Metric	@Thickness 0.0591 in English	Comments
	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	232 - 249 °C	450 - 480 °F	
Middle Barrel Temperature	238 - 254 °C	460 - 490 °F	
Front Barrel Temperature	243 - 260 °C	470 - 500 °F	
Melt Temperature	232 - 260 °C	450 - 500 °F	
Mold Temperature	43.3 - 60.0 °C	110 - 140 °F	
Drying Temperature	116 - 121 °C	240 - 250 °F	
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	

Descriptive Properties	Value	Comments
Vent	0.0005	

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