

Polymer Resources TP-GP1 Polybutylene Terephthalate, General Purpose, Flow Modified

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Unreinforced, Molded

Material Notes:

Polybutylene Terephthalate, General Purpose, Flow Modified 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-GP1-Polybutylene-Terephthalate-General-Purpose-Flow-Modified.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Linear Mold Shrinkage	0.016 - 0.022 cm/cm	0.016 - 0.022 in/in	ASTM D955
Melt Flow	12 - 25 g/10 min @Load 2.16 kg, Temperature 250 °C	12 - 25 g/10 min @Load 4.76 lb, Temperature 482 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	78	78	ASTM D785
Hardness, Rockwell R	117	117	ASTM D785
Tensile Strength at Break	48.3 MPa	7000 psi	ASTM D638
Tensile Strength, Yield	48.3 MPa	7000 psi	ASTM D638
Elongation at Break	200 %	200 %	ASTM D638
Elongation at Yield	3.5 %	3.5 %	ASTM D638
Flexural Strength	79.3 MPa	11500 psi	ASTM D790
Flexural Modulus	2.31 GPa	335 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
Charpy Impact, Notched	0.525 J/cm ² @Temperature 22.8 °C	2.50 ft-lb/in ² @Temperature 73.0 °F	ISO 179/1eA
Gardner Impact	16.9 J	12.5 ft-lb	ASTM D3029

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa			

(56 psi) Thermal Properties	149 °C Metric	300 °F English	ASTM D648 Comments
Deflection Temperature at 1.8 MPa (264 psi)	52.8 °C	127 °F	ASTM D648
Vicat Softening Point	190 °C	374 °F	ISO 306/B50
Flammability, UL94	HB	HB	
	@Thickness 1.59 mm	@Thickness 0.0626 in	
	HB	HB	
	@Thickness 3.17 mm	@Thickness 0.125 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Dielectric Constant	3.1	3.1	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.3	3.3	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	15.4 kV/mm	390 kV/in	in air; ASTM D149
	@Thickness 3.17 mm	@Thickness 0.125 in	
	15.4 kV/mm	390 kV/in	in oil; ASTM D149
	@Thickness 3.17 mm	@Thickness 0.125 in	
	22.8 kV/mm	580 kV/in	in air; ASTM D149
	@Thickness 1.59 mm	@Thickness 0.0625 in	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.020	0.020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

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	

Processing Properties	Metric	English	Comments
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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