

Polymer Resources

Classic® Engineering Plastic Compounds

Wednesday, August 30, 2023

PRL TP-GP1

Units English

Polymer Resources Ltd. - Polybutylene Terephthalate

Action

Legend (Open)



General Information

General

Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Lubricant		
Features	• General Purpose	• Good Processability	• Lubricated
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity			
–	1.31		ASTM D792
–	1.31		ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	12 to 25	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.125 in)	0.016 to 0.022	in/in	ASTM D955
Water Absorption (24 hr)	0.080	%	ASTM D570
Water Absorption (Equilibrium, 73°F)	0.34	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 0.125 in)	7500	psi	ASTM D638
Tensile Strength (Break, 0.125 in)	7500	psi	ASTM D638
Tensile Elongation (Yield, 0.125 in)	3.5	%	ASTM D638
Tensile Elongation (Break, 0.125 in)	200	%	ASTM D638
Flexural Modulus (0.125 in)	335000	psi	ASTM D790
Flexural Strength (0.125 in)	11500	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	2.5	ft·lb/in ²	ISO 179/1eA
Notched Izod Impact (73°F, 0.125 in)	1.0	ft·lb/in	ASTM D256
Notched Izod Impact Strength (73°F)	2.2	ft·lb/in ²	ISO 180/1A
Unnotched Izod Impact (73°F, 0.125 in)	30	ft·lb/in	ASTM D4812
Gardner Impact (0.125 in)	320	in·lb	ASTM D3029
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	117		ASTM D785
Rockwell Hardness (M-Scale)	78		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)	300	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)	127	°F	ASTM D648
Vicat Softening Temperature	374	°F	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.0625 in, in Oil	580	V/mil	
0.125 in, in Air	390	V/mil	
0.125 in, in Oil	390	V/mil	
Dielectric Constant			ASTM D150
100 Hz	3.30		
1 MHz	3.10		
Dissipation Factor			ASTM D150

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	240 to 250	°F
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	450 to 480	°F
Middle Temperature	460 to 490	°F
Front Temperature	470 to 500	°F
Processing (Melt) Temp	450 to 500	°F
Mold Temperature	110 to 170	°F

Notes

1 Typical properties: these are not to be construed as specifications.

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