Polymer Resources
Classic® Engineering Plastic Compounds

Wednesday, August 30, 2023

PRL TP-GP1

Polymer Resources Ltd. - *Polybutylene Terephthalate*

Units English

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/in²	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/in²	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

100 Hz	2.0E-3
1 MHz	0.020

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.