



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/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

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.		

The information contained herein is based on our best knowledge and we believe it to be true and accurate. Please read all statements and recommendations in conjunction with our conditions of sale, which apply to all goods sold by us. Statements concerning possible uses of materials described herein are not to be construed as recommendations for use of such materials in the infringement of any patent or copyright. Lot data is available upon request. The user of this material must make their own evaluations to determine the suitability of this material from a technical as well as health, safety and environmental standpoint. This data is not intended for specification purposes.