

PRL TP-GP1

Polybutylene Terephthalate

Polymer Resources Ltd.

Message:

PRL TP-GP1 is a Polybutylene Terephthalate (PBT) product. It can be processed by injection molding and is available in North America.

Characteristics include:

RoHS Compliant

Good Processability

Lubricated

General Information			
Additive	Lubricant		
Features	General Purpose		
	Good Processability		
	Lubricated		
RoHS Compliance	RoHS Compliant		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (250°C/2.16 kg)	12 to 25	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	1.6 to 2.2	%	ASTM D955
Water Absorption			ASTM D570
24 hr	0.080	%	
Equilibrium, 23°C	0.34	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			
R-Scale	117		ASTM D785
M-Scale	78		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, 3.18 mm	51.7	MPa	
Break, 3.18 mm	51.7	MPa	
Tensile Elongation			ASTM D638
Yield, 3.18 mm	3.5	%	
Break, 3.18 mm	200	%	
Flexural Modulus (3.18 mm)	2310	MPa	ASTM D790
Flexural Strength (3.18 mm)	79.3	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	5.3	kJ/m ²	ISO 179/1eA

Notched Izod Impact			
23°C, 3.18 mm	53	J/m	ASTM D256
23°C	4.6	kJ/m ²	ISO 180/1A
Unnotched Izod Impact (23°C, 3.18 mm)	1600	J/m	ASTM D4812
Gardner Impact (3.18 mm)	36.2	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	149	°C	
1.8 MPa, Unannealed, 3.18 mm	52.8	°C	
Vicat Softening Temperature	190	°C	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
1.59 mm, in Oil	23	kV/mm	
3.18 mm, in Air	15	kV/mm	
3.18 mm, in Oil	15	kV/mm	
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		
Injection	Nominal Value	Unit	
Drying Temperature	116 to 121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	8.0	hr	
Rear Temperature	232 to 249	°C	
Middle Temperature	238 to 254	°C	
Front Temperature	243 to 260	°C	
Processing (Melt) Temp	232 to 260	°C	
Mold Temperature	43.3 to 76.7	°C	

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