



Wednesday, August 30, 2023

PRL PC-GP1-D

Polymer Resources Ltd. - Polycarbonate

Units

English ▼

Action

Legend ([Open](#))

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• General Purpose	• Medium Heat Resistance	• Ultra High Impact Resistance
	• Low Flow	• Self Extinguishing	
RoHS Compliance	• RoHS Compliant		
UL File Number	• E113219		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical		Nominal Value	Unit	Test Method
Density / Specific Gravity		1.20		ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)		5.0 to 10	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.125 in)		5.0E-3 to 7.0E-3	in/in	ASTM D955
Mechanical		Nominal Value	Unit	Test Method
Tensile Strength (Yield, 0.125 in)		9000	psi	ASTM D638
Tensile Strength (Break, 0.125 in)		10500	psi	ASTM D638
Tensile Elongation (Yield, 0.125 in)		7.0	%	ASTM D638
Tensile Elongation (Break, 0.125 in)		130	%	ASTM D638
Flexural Modulus (0.125 in)		335000	psi	ASTM D790
Flexural Strength (0.125 in)		14000	psi	ASTM D790
Impact		Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.125 in)		17	ft·lb/in	ASTM D256
Gardner Impact (0.125 in)		> 320	in·lb	ASTM D3029
Hardness		Nominal Value	Unit	Test Method
Rockwell Hardness				ASTM D785
M-Scale		70		
R-Scale		118		
Thermal		Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)		280	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)		270	°F	ASTM D648
Vicat Softening Temperature		310	°F	ASTM D1525 ²
RTI Elec				UL 746B
0.030 in		176	°F	
0.06 in		257	°F	
0.12 in		257	°F	
RTI Imp				UL 746B
0.030 in		176	°F	
0.06 in		239	°F	
0.12 in		239	°F	
RTI Str				UL 746B
0.030 in		176	°F	
0.06 in		257	°F	
0.12 in		257	°F	
Electrical		Nominal Value	Unit	Test Method
Volume Resistivity		1.0E+15	ohms·cm	ASTM D257
Dielectric Strength (0.0295 in)		710	V/mil	ASTM D149

Arc Resistance (0.0295 in)	PLC 5	ASTM D495
Comparative Tracking Index (CTI) (0.0295 in)	PLC 2	UL 746A
High Amp Arc Ignition (HAI)		UL 746A
0.06 in	PLC 0	
0.12 in	PLC 1	
High Voltage Arc Tracking Rate (HVTR) (0.0295 in)	PLC 2	UL 746A
Hot-wire Ignition (HWI)		UL 746A
0.06 in	PLC 2	
0.12 in	PLC 1	
Flammability	Nominal Value	Unit
Flame Rating		UL 94
0.06 in	V-2	
0.12 in	V-2	
Optical	Nominal Value	Unit
Light Transmittance (100.0 mil)	88.0	%
Haze (100.0 mil)	1.00	%

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	245 to 255	°F
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	550 to 590	°F
Middle Temperature	570 to 610	°F
Front Temperature	590 to 630	°F
Processing (Melt) Temp	600 to 650	°F
Mold Temperature	180 to 240	°F

Notes

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

² Rate B (120°C/h), Loading 2 (50 N)

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