

PRL PEI-GP1

Polyether Imide
Polymer Resources Ltd.

Message:

PRL PEI-GP1 is a Polyether Imide (PEI) product. It can be processed by injection molding and is available in North America.
Characteristics include:
Flame Rated
RoHS Compliant
Flame Retardant
Heat Resistant

General Information			
UL YellowCard	E113219-219252		
Additive	Flame Retardant		
Features	Flame Retardant		
	High Heat Resistance		
RoHS Compliance	RoHS Compliant		
UL File Number	E113219		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.27	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	6.0 to 22	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.50 to 0.70	%	ASTM D955
Water Absorption			ASTM D570
24 hr	0.25	%	
Equilibrium, 23°C	1.3	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	109		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (3.18 mm)	3520	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield, 3.18 mm	103	MPa	
Break, 3.18 mm	103	MPa	
Tensile Elongation			ASTM D638
Yield, 3.18 mm	7.0	%	
Break, 3.18 mm	60	%	
Flexural Modulus (3.18 mm)	3450	MPa	ASTM D790
Flexural Strength (3.18 mm)	159	MPa	ASTM D790
Poisson's Ratio	0.36		ASTM D638
Impact	Nominal Value	Unit	Test Method

Notched Izod Impact (23°C, 3.18 mm)	53	J/m	ASTM D256
Unnotched Izod Impact (23°C, 3.18 mm)	1300	J/m	ASTM D4812
Reverse Notch Izod Impact (23°C, 3.18 mm)	1100	J/m	ASTM D256
Gardner Impact (3.18 mm)	2.26	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	204	°C	
1.8 MPa, Unannealed, 3.18 mm	196	°C	
Vicat Softening Temperature	218	°C	ASTM D1525 ¹
CLTE			ASTM E831
Flow : -20 to 150°C	5.6E-5	cm/cm/°C	
Transverse : -20 to 150°C	5.4E-5	cm/cm/°C	
Thermal Conductivity	0.22	W/m/K	ASTM C177
RTI Elec			UL 746
1.50 mm	105	°C	
3.00 mm	105	°C	
RTI Imp			UL 746
1.50 mm	105	°C	
3.00 mm	105	°C	
RTI Str			UL 746
1.50 mm	105	°C	
3.00 mm	105	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms · cm	ASTM D257
Dielectric Strength			ASTM D149
1.59 mm, in Air	32	kV/mm	
1.59 mm, in Oil	28	kV/mm	
3.18 mm, in Oil	20	kV/mm	
Dielectric Constant			ASTM D150
100 Hz	3.15		
1 kHz	3.15		
Dissipation Factor			ASTM D150
100 Hz	1.5E-3		
1 kHz	1.2E-3		
2.00 GHz	2.5E-3		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		
3.00 mm	V-0		
Injection	Nominal Value	Unit	
Drying Temperature	143 to 149	°C	

Drying Time	4.0 to 6.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	332 to 399	°C
Middle Temperature	338 to 399	°C
Front Temperature	343 to 399	°C
Processing (Melt) Temp	338 to 399	°C
Mold Temperature	107 to 177	°C

NOTE

1. Rate B (120°C/h), Loading 2 (50 N)

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