



Wednesday, August 30, 2023

PRL PEI-G30

Units English ▼

Polymer Resources Ltd. - Polyether Imide

Action

Legend ([Open](#))

General Information

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Additive	• Flame Retardant
Features	• Flame Retardant • High Heat Resistance
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	1.51		ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	5.0 to 22	g/10 min	ASTM D1238
Molding Shrinkage - Flow	1.0E-3 to 4.0E-3	in/in	ASTM D955
Water Absorption (24 hr)	0.16	%	ASTM D570
Water Absorption (Equilibrium, 73°F)	0.90	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (0.125 in)	1.35E+6	psi	ASTM D638
Tensile Strength (Yield, 0.125 in)	23500	psi	ASTM D638
Tensile Strength (Break, 0.125 in)	23500	psi	ASTM D638
Tensile Elongation (Break, 0.125 in)	3.0	%	ASTM D638
Flexural Modulus (0.125 in)	1.29E+6	psi	ASTM D790
Flexural Strength (0.125 in)	32000	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.125 in)	1.5	ft·lb/in	ASTM D256
Unnotched Izod Impact (73°F, 0.125 in)	8.0	ft·lb/in	ASTM D4812
Reverse Notch Izod Impact (73°F, 0.125 in)	8.7	ft·lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness	114		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)	412	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)	410	°F	ASTM D648
Vicat Softening Temperature	440	°F	ASTM D1525 ²
CLTE - Flow (-4 to 302°F)	1.0E-5	in/in/°F	ASTM E831
CLTE - Transverse (-4 to 302°F)	2.3E-5	in/in/°F	ASTM E831
RTI Elec			UL 746B
0.06 in	221	°F	
0.12 in	221	°F	
RTI Imp			UL 746B
0.06 in	221	°F	
0.12 in	221	°F	
RTI Str			UL 746B
0.06 in	221	°F	
0.12 in	221	°F	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	3.0E+16	ohms·cm	ASTM D257

Dielectric Strength		ASTM D149
0.0625 in, in Air	620 V/mil	
0.0625 in, in Oil	760 V/mil	
Dielectric Constant (1 kHz)	3.70	ASTM D150
Dissipation Factor		ASTM D150
1 kHz	1.5E-3	
2.00 GHz	5.3E-3	
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.06 in, ALL	V-0	
0.12 in, ALL	V-0	

Processing Information

Injection	Nominal Value Unit
Drying Temperature	290 to 300 °F
Drying Time	4.0 to 6.0 hr
Drying Time, Maximum	8.0 hr
Suggested Max Moisture	0.020 %
Suggested Shot Size	40 to 60 %
Rear Temperature	630 to 750 °F
Middle Temperature	640 to 750 °F
Front Temperature	650 to 750 °F
Processing (Melt) Temp	640 to 750 °F
Mold Temperature	225 to 350 °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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