



Wednesday, August 30, 2023

PRL PEI-G20

Units English ▼

Polymer Resources Ltd. - Polyether Imide

Action

Legend ([Open](#))

General Information

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Glass Fiber, 20% 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	1.42		ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	5.0 to 22	g/10 min	ASTM D1238
Molding Shrinkage - Flow	2.0E-3 to 5.0E-3	in/in	ASTM D955
Water Absorption (24 hr)	0.19	%	ASTM D570
Water Absorption (Equilibrium, 73°F)	1.1	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (0.125 in)	990000	psi	ASTM D638
Tensile Strength (Yield, 0.125 in)	20000	psi	ASTM D638
Tensile Strength (Break, 0.125 in)	20000	psi	ASTM D638
Tensile Elongation (Break, 0.125 in)	4.0	%	ASTM D638
Flexural Modulus (0.125 in)	990000	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)	1.3	ft·lb/in	ASTM D256
Unnotched Izod Impact (73°F, 0.125 in)	9.0	ft·lb/in	ASTM D4812
Reverse Notch Izod Impact (73°F, 0.125 in)	8.5	ft·lb/in	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	114		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)	410	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)	405	°F	ASTM D648
Vicat Softening Temperature	430	°F	ASTM D1525 ²
CLTE - Flow (-4 to 302°F)	1.4E-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	7.0E+16	ohms·cm	ASTM D257
Dielectric Strength (0.0625 in, in Oil)	660	V/mil	ASTM D149

Dielectric Constant (1 kHz)	3.50	ASTM D150
Dissipation Factor		ASTM D150
1 kHz	1.5E-3	
2.00 GHz	4.9E-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	24	hr
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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