PRL PEI-GP1-TFE5

Polyether Imide

Polymer Resources Ltd.

Message:

PRL PEI-GP1-TFE5 is a Polyether Imide (PEI) product. It can be processed by injection molding and is available in North America.
Characteristics include:
RoHS Compliant
Flame Retardant
Heat Resistant
Lubricated

General Information			
Additive	Flame Retardant PTFE Lubricant (5%)		
Features	Flame Retardant High Heat Resistance		
RoHS Compliance	RoHS Compliant		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.27	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	5.0 to 30	g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow : 3.18 mm	0.50 to 0.70	%	
Across Flow : 3.18 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	1.1	%	
Equilibrium, 23°C, 50% RH	0.60	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	110		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
3.18 mm	3450	MPa	ASTM D638
--	3280	MPa	ISO 527-2/1
Tensile Strength			ASTM D638
Yield, 3.18 mm	103	MPa	
Break, 3.18 mm	103	MPa	
Tensile Elongation			ASTM D638
Yield, 3.18 mm	5.0	%	
Break, 3.18 mm	40	%	

Flexural Modulus			
3.18 mm	3380	MPa	ASTM D790
--	3030	MPa	ISO 178
Flexural Strength			
3.18 mm	145	MPa	ASTM D790
-- [1]	130	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	11	kJ/m^2	ISO 179/1eA
Notched Izod Impact			
-30°C, 3.18 mm	53	J/m	ASTM D256
23°C, 3.18 mm	53	J/m	ASTM D256
-30°C	7.4	kJ/m^2	ISO 180/1A
23°C	8.8	kJ/m^2	ISO 180/1A
Unnotched Izod Impact (23°C, 3.18 mm)	530	J/m	ASTM D4812
Reverse Notch Izod Impact (23°C, 3.18 mm)	1200	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 [2]
--	214	°C	ISO 306/B50
--	209	°C	ISO 306/B120
CLTE			
Flow : 23 to 150°C	4.0E-5	cm/cm/°C	ISO 11359-2
Flow : -20 to 150°C	4.0E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 150°C	4.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -20 to 150°C	4.0E-5	cm/cm/°C	ASTM E831
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.	Yield		
2.	Rate B (120°C/h), Loading 2 (50 N)		

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