

PRL PPX-FR1

Polyphenylene Ether + PS

Polymer Resources Ltd.

Message:

PRL PPX-FR1 is a Polyphenylene Ether + PS (PPE+PS) product. It can be processed by injection molding and is available in North America.

Characteristics include:

- Flame Rated
- RoHS Compliant
- Flame Retardant
- Halogen Free
- Heat Resistant

General Information			
UL YellowCard	E113219-219254		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Medium Heat Resistance		
	Self Extinguishing		
RoHS Compliance	RoHS Compliant		
UL File Number	E113219		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.08	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/11.6 kg)	25 to 50	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.50 to 0.70	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (3.18 mm)	2410	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield, 3.18 mm	55.2	MPa	
Break, 3.18 mm	48.3	MPa	
Tensile Elongation			ASTM D638
Yield, 3.18 mm	3.5	%	
Break, 3.18 mm	9.0	%	
Flexural Modulus (3.18 mm)	2280	MPa	ASTM D790
Flexural Strength (3.18 mm)	89.6	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	19	kJ/m ²	ISO 179
Notched Izod Impact			
-30°C, 3.18 mm	80	J/m	ASTM D256
23°C, 3.18 mm	270	J/m	ASTM D256
23°C	19	kJ/m ²	ISO 180/1A
Unnotched Izod Impact (23°C, 3.18 mm)	690	J/m	ASTM D4812
Gardner Impact (3.18 mm)	16.9	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	87.8	°C	
1.8 MPa, Unannealed, 3.18 mm	82.2	°C	
Vicat Softening Temperature	103	°C	ASTM D1525 ¹
RTI Elec			UL 746
1.50 mm	110	°C	
1.70 mm	110	°C	
3.00 mm	110	°C	
RTI Imp			UL 746
1.50 mm	95.0	°C	
1.70 mm	95.0	°C	
3.00 mm	95.0	°C	
RTI Str			UL 746
1.50 mm	110	°C	
1.70 mm	110	°C	
3.00 mm	110	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms · cm	ASTM D257
Dielectric Strength (1.50 mm)	22	kV/mm	ASTM D149
Comparative Tracking Index (CTI) (1.50 mm)	PLC 2		UL 746
High Amp Arc Ignition (HAI)			UL 746
1.50 mm	PLC 1		
1.70 mm	PLC 1		
3.00 mm	PLC 1		
High Voltage Arc Tracking Rate (HVTR) (1.50 mm)	PLC 3		UL 746
Hot-wire Ignition (HWI)			UL 746
1.50 mm	PLC 0		
1.70 mm	PLC 0		
3.00 mm	PLC 0		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		

1.70 mm	V-0	
3.00 mm	V-0	
Injection	Nominal Value	Unit
Drying Temperature	71.1 to 82.2	°C
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	216 to 266	°C
Middle Temperature	227 to 271	°C
Front Temperature	238 to 277	°C
Processing (Melt) Temp	246 to 274	°C
Mold Temperature	54.4 to 76.7	°C
NOTE		
1.	Rate B (120°C/h), Loading 2 (50 N)	

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