

PRL PC-FR1A-D

Polycarbonate
Polymer Resources Ltd.

Message:

PRL PC-FR1A-D is a Polycarbonate (PC) product. It can be processed by injection molding and is available in North America.

Characteristics include:

- Flame Rated
- RoHS Compliant
- Flame Retardant
- Heat Resistant
- High Viscosity

General Information			
UL YellowCard	E113219-219240		
Additive	Flame Retardant		
Features	Flame Retardant		
	High Impact Resistance		
	High Viscosity		
	Low Flow		
	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	1.21	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.0 to 10	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	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, 3.18 mm	62.1	MPa	
Break, 3.18 mm	55.2	MPa	
Tensile Elongation			ASTM D638
Yield, 3.18 mm	7.0	%	

Break, 3.18 mm	90	%	
Flexural Modulus (3.18 mm)	2210	MPa	ASTM D790
Flexural Strength (3.18 mm)	89.6	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	640	J/m	ASTM D256
Gardner Impact (3.18 mm)	> 36.2	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.18 mm	135	°C	
1.8 MPa, Unannealed, 3.18 mm	129	°C	
Vicat Softening Temperature	149	°C	ASTM D1525 ¹
RTI Elec			UL 746
1.50 mm	125	°C	
3.00 mm	125	°C	
RTI Imp			UL 746
1.50 mm	110	°C	
3.00 mm	110	°C	
RTI Str			UL 746
1.50 mm	125	°C	
3.00 mm	125	°C	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms · cm	ASTM D257
Dielectric Strength (1.50 mm)	25	kV/mm	ASTM D149
Arc Resistance (1.50 mm)	PLC 5		ASTM D495
Comparative Tracking Index (CTI) (1.50 mm)	PLC 2		UL 746
High Amp Arc Ignition (HAI)			UL 746
1.50 mm	PLC 3		
3.00 mm	PLC 2		
High Voltage Arc Tracking Rate (HVTR) (1.50 mm)	PLC 3		UL 746
Hot-wire Ignition (HWI)			UL 746
1.50 mm	PLC 2		
3.00 mm	PLC 1		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm, ALL	V-2		
3.00 mm, ALL	V-0		
Optical	Nominal Value	Unit	Test Method
Transmittance (2540 µm)	85.0	%	ASTM D1003
Haze (2540 µm)	1.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	118 to 124	°C	

Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	288 to 310	°C
Middle Temperature	299 to 321	°C
Front Temperature	310 to 332	°C
Processing (Melt) Temp	316 to 343	°C
Mold Temperature	82.2 to 116	°C

NOTE

1. Rate B (120°C/h), Loading 2 (50 N)

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