



Wednesday, August 30, 2023

PRL PC-FD1

Polymer Resources Ltd. - Polycarbonate

Units English

Action

Legend [\(Open\)](#)

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• Food Contact Acceptable • Low Flow • Ultra High Impact Resistance • General Purpose • Medium Heat Resistance		
Agency Ratings	• FDA		
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20		ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.0 to 10	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.125 in)	5.0E-3 to 7.0E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.125 in)	5.0E-3 to 7.0E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 0.125 in)	9000	psi	ASTM D638
Tensile Strength (Break, 0.125 in)	10500	psi	ASTM D638
Tensile Elongation (Yield, 0.125 in)	7.0	%	ASTM D638
Tensile Elongation (Break, 0.125 in)	130	%	ASTM D638
Flexural Modulus (0.125 in)	335000	psi	ASTM D790
Flexural Strength (Break, 0.125 in)	14000	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.125 in)	17	ft·lb/in	ASTM D256
Gardner Impact (0.125 in)	> 320	in·lb	ASTM D3029
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed, 0.125 in)	280	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)	270	°F	ASTM D648
Vicat Softening Temperature	310	°F	ASTM D1525 ²
Optical	Nominal Value	Unit	Test Method
Light Transmittance (100.0 mil)	88.0	%	ASTM D1003
Haze (100.0 mil)	1.00	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	245 to 255	°F
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Rear Temperature	550 to 590	°F
Middle Temperature	570 to 610	°F
Front Temperature	590 to 630	°F
Processing (Melt) Temp	600 to 650	°F
Mold Temperature	180 to 240	°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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