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Polymer Resources
Classic® Engineering Plastic Compounds

Wednesday, August 30, 2023

PRL PC-FD3

Polymer Resources Ltd. - *Polycarbonate*

Units English

Action **Legend (Open)**

General Information

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• Food Contact Acceptable • General Purpose	• High Flow • High Impact Resistance	• 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)	14 to 20	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)	10000	psi	ASTM D638
Tensile Elongation (Yield, 0.125 in)	6.0	%	ASTM D638
Tensile Elongation (Break, 0.125 in)	120	%	ASTM D638
Flexural Modulus (0.125 in)	335000	psi	ASTM D790
Flexural Strength (0.125 in)	13900	psi	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (73°F, 0.125 in)	13	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)	270	°F	ASTM D648
Deflection Temperature Under Load (264 psi, Unannealed, 0.125 in)	260	°F	ASTM D648
Vicat Softening Temperature	300	°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	500 to 540	°F
Middle Temperature	520 to 560	°F
Front Temperature	540 to 580	°F
Processing (Melt) Temp	550 to 600	°F
Mold Temperature	160 to 200	°F

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Rate B (120°C/h), Loading 2 (50 N)