

Polifil® PC GFPC-20

Polycarbonate

The Plastics Group

Message:

Polifil® GFPC series compounds offer a combination of improved dimensional stability and decreased flammability. The excellent balance of physical properties make the Polifil® glass-filled polycarbonate line an excellent choice for electrical, appliance, and hardware applications. Standard processing techniques are applicable. Use this information as a guide to aid you in selecting the proper resin for your application. TPG will custom compound and fine-tune our formulations for your application.

General Information			
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Features	Flame Retardant		
	Good Dimensional Stability		
Uses	Appliance Components		
	Electrical Parts		
Agency Ratings	CSA Unspecified Rating		
Appearance	Black		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.35	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.18 mm)	0.30	%	ASTM D955
Water Absorption (24 hr)	0.20	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	5870	MPa	ASTM D638
Tensile Strength (23°C)	109	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield, 23°C	3.0	%	
Break, 23°C	5.0	%	
Flexural Modulus - Tangent (23°C)	5380	MPa	ASTM D790
Flexural Strength (23°C)	131	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	130	J/m	ASTM D256
Gardner Impact (23°C, 12.7 mm)	0.452	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648

0.45 MPa, Unannealed	149	°C
1.8 MPa, Unannealed	146	°C
Injection	Nominal Value	Unit
Drying Temperature	121	°C
Drying Time	4.0 to 5.0	hr
Rear Temperature	266 to 277	°C
Middle Temperature	271 to 282	°C
Front Temperature	277 to 293	°C
Nozzle Temperature	282 to 299	°C
Processing (Melt) Temp	277 to 304	°C
Mold Temperature	76.7 to 98.9	°C
Injection Rate	Moderate	
Back Pressure	0.172 to 0.517	MPa
Screw Speed	30 to 60	rpm

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