

NORYL™ GFN2F resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

PPE+PS blend. 20% Glass reinforced. FDA compliance (restrictions apply). Low water absorption. Hydrolytic stability. Dimensional stability. Suitable for fluid engineering applications including pump housings and impellers, valve components and others.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Features	Good dimensional stability		
	Hydrolysis stability		
	Low or no water absorption		
Uses	Pump parts		
	Valve/valve components		
	Shell		
Agency Ratings	FDA not rated		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	12	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	2.40	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	0.20 - 0.40	%	Internal method
Water Absorption			
24 hr	0.060	%	ASTM D570
23°C, 24 hr	0.12	%	ISO 62
Equilibrium, 23°C, 50% RH	0.040	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	6500	MPa	ASTM D638
--	6000	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	100	MPa	ASTM D638
Yield ³	88.0	MPa	Internal method
Yield	90.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	6.0 - 8.0	%	Internal method
Fracture ⁵	3.0	%	ASTM D638
Fracture	3.0	%	ISO 527-2/5

Flexural Modulus			
100mm span ⁶	5570	MPa	ASTM D790
-- ⁷	5400	MPa	ISO 178
Flexural Stress			
--	150	MPa	ISO 178
Yield, 100mm span ⁸	131	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	8.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	88	J/m	ASTM D256
-30°C ¹⁰	9.0	kJ/m ²	ISO 180/1A
23°C ¹¹	10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	550	J/m	ASTM D4812
23°C ¹²	30	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	20.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	137	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	138	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	135	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	140	°C	ISO 306/B50
--	147	°C	ISO 306/B120
CLTE - Flow (-30 to 30°C)	2.8E-5 - 4.5E-5	cm/cm/°C	ASTM E831
Flammability	Nominal Value		Test Method
Flame Rating (1.50 mm)	HB		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	110 - 121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	30 - 70	%	
Rear Temperature	266 - 316	°C	
Middle Temperature	277 - 321	°C	
Front Temperature	288 - 327	°C	
Nozzle Temperature	299 - 327	°C	
Processing (Melt) Temp	299 - 327	°C	
Mold Temperature	82.2 - 110	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	20 - 100	rpm	

NOTE	
1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 10mm/min
4.	Type 1, 10mm/min
5.	Type 1, 5.0 mm/min
6.	2.6 mm/min
7.	2.0 mm/min
8.	2.6 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4
13.	80*10*4 mm

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