NORYL™ GFN3F resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

PPE+PS blend. 30% Glass reinforced. NSF 61 listing in several colors (restrictions apply). FDA compliance (restrictions apply). Low water absorption. Hydrolytic stability. Dimensional stability. Suitable for fluid engineering applications including pump housings, pump impellers and water meter components.

General Information			
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Features	Good Dimensional Stability Hydrolytically Stable Low to No Water Absorption		
Uses	Housings Pump Parts		
Agency Ratings	FDA Unspecified Rating NSF 61		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.29	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	8.7	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/5.0 kg)	7.82	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.10 to 0.40	%	Internal Method
Water Absorption (24 hr)	0.060	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (L-Scale)	108		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [1]	9150	MPa	ASTM D638
--	8740	MPa	ISO 527-2/1
Tensile Strength			
Break [2]	116	MPa	ASTM D638
Break	117	MPa	ISO 527-2
Tensile Elongation			
Break [3]	2.0	%	ASTM D638
Break	1.8	%	ISO 527-2
Flexural Modulus			

50.0 mm Span [4]	8000	MPa	ASTM D790
100 mm Span [5]	7170	MPa	ASTM D790
--	8710	MPa	ISO 178
Flexural Stress			
--	183	MPa	ISO 178
Yield, 50.0 mm Span [6]	180	MPa	ASTM D790
Yield, 100 mm Span [7]	162	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/2C
-30°C	12	kJ/m^2	
23°C	13	kJ/m^2	
Charpy Unnotched Impact Strength [8]			ISO 179/1eU
-30°C	47	kJ/m^2	
23°C	39	kJ/m^2	
Notched Izod Impact			
-30°C	120	J/m	ASTM D256
23°C	120	J/m	ASTM D256
-30°C [9]	12	kJ/m^2	ISO 180/1A
23°C [10]	12	kJ/m^2	ISO 180/1A
Unnotched Izod Impact			
23°C	590	J/m	ASTM D4812
-30°C [11]	36	kJ/m^2	ISO 180/1U
23°C [12]	32	kJ/m^2	ISO 180/1U
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	142	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	158	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span [13]	143	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	137	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	138	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span [14]	137	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	143	°C	ISO 306/B50
--	147	°C	ISO 306/B120
CLTE			ASTM E831
Flow : -40 to 40°C	3.1E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.2E-5	cm/cm/°C	
RTI Elec	90.0	°C	UL 746
RTI Imp	90.0	°C	UL 746
RTI Str	90.0	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength (3.20 mm, in Oil)	22	kV/mm	ASTM D149

Dielectric Constant			ASTM D150
50 Hz	2.93		
60 Hz	2.93		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
Arc Resistance [15]	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 4		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 4		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	HB		UL 94
Oxygen Index	26	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	110 to 121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	30 to 70	%	
Rear Temperature	266 to 316	°C	
Middle Temperature	277 to 321	°C	
Front Temperature	288 to 327	°C	
Nozzle Temperature	299 to 327	°C	
Processing (Melt) Temp	299 to 327	°C	
Mold Temperature	82.2 to 110	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	20 to 100	rpm	
NOTE			
1.	5.0 mm/min		
2.	Type I, 5.0 mm/min		
3.	Type I, 5.0 mm/min		
4.	1.3 mm/min		
5.	2.6 mm/min		
6.	1.3 mm/min		
7.	2.6 mm/min		
8.	80*10*4 sp=62mm		
9.	80*10*4		
10.	80*10*4		
11.	80*10*4		
12.	80*10*4		
13.	80*10*4 mm		

14.	80*10*4 mm
15.	Tungsten Electrode

Recommended distributors for this material

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