

**Product Texts**

NORYL™ GFN1F resin is a 10% glass reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This injection moldable grade exhibits very low moisture absorption, high strength, hydrolytic stability, Low warpage, low specific gravity, and dimensional stability. NORYL GFN1F carries a UL746C outdoor suitability rating of F1 along with FDA food contact compliance and NSF 61 listings in several colors. The properties of this material makes it an excellent candidate for water management applications such as water filter and meter components, pump housings / impellers, shower + faucet, and valves.\*See NORYL GFN1 resin for NON FDA / NSF version.

UL Yellow Card Link [E45587-237019](https://www.ul.com/Products/Plastics/Engineering-Plastics/NORYL-GFN1F)

<b>Processing/Physical Characteristics</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Melt volume-flow rate, MVR	4	cm <sup>3</sup> /10min	ISO 1133
Temperature	280	°C	-
Load	5	kg	-
<b>ASTM Data</b>			
Melt Flow Index, MFI	4	g/10min	ASTM D 1238
Temperature	280	°C	-
Load	5	kg	-

<b>Mechanical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Tensile Modulus	3900	MPa	ISO 527
Yield stress	60	MPa	ISO 527
Yield strain	4.5	%	ISO 527
Stress at break	60	MPa	ISO 527
Strain at break	4.5	%	ISO 527
Flexural modulus	3700	MPa	ISO 178
Charpy notched impact strength, +23°C	8	kJ/m <sup>2</sup>	ISO 179/1eA
Izod impact strength, +23°C, 4mm	30	kJ/m <sup>2</sup>	ISO 180/1U
Izod impact strength, -30°C, 4mm	30	kJ/m <sup>2</sup>	ISO 180/1U
Izod notched impact strength, +23°C, 4mm	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	9	kJ/m <sup>2</sup>	ISO 180/1A
<b>ASTM Data</b>			
Tensile Modulus	4400	MPa	ASTM D 638
Tensile Strength at Yield	75	MPa	ASTM D 638
Tensile Strength at Break	75	MPa	ASTM D 638
Elongation at Yield	3.5	%	ASTM D 638
Elongation at Break	3.5	%	ASTM D 638
Flexural Modulus	3400	MPa	ASTM D 790
Izod Impact notched, 1/8 in	84	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	80	J/m	ASTM D 256
Temperature	-30	°C	-
Izod Impact unnotched, 1/8 in	410	J/m	ASTM D 256

<b>Thermal properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Temp. of deflection under load, 1.80 MPa	129	°C	ISO 75-1/-2
Vicat softening temperature, B	138	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	140	°C	ISO 306
Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
<b>ASTM Data</b>			
DTUL @ 66 psi	135	°C	ASTM D 648
DTUL @ 264 psi	130	°C	ASTM D 648
Vicat Temperature	138	°C	ASTM D 1525

<b>Other properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Water absorption	0.12	%	Sim. to ISO 62

**NORYL™ Resin GFN1F - Asia**

(PPE+PS)-GF10

Saudi Basic Industries Corporation (SABIC)

Humidity absorption	<b>0.04</b>	%	Sim. to ISO 62
Density	<b>1170</b>	kg/m <sup>3</sup>	ISO 1183
Density	<b>1170</b>	kg/m <sup>3</sup>	ASTM D 792

<b>Processing Recommendation Injection Molding</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Pre-drying - Temperature	<b>105 - 110</b>	°C	-
Pre-drying - Time	<b>3 - 4</b>	h	-
Processing humidity	<b>≤0.02</b>	%	-
Melt temperature	<b>295 - 315</b>	°C	-
Mold temperature	<b>75 - 105</b>	°C	-
Zone 1	<b>260 - 305</b>	°C	-
Zone 2	<b>270 - 310</b>	°C	-
Zone 3	<b>280 - 315</b>	°C	-
Screw speed	<b>20 - 100</b>	rpm	-
Back pressure	<b>0.3 - 0.7</b>	MPa	-

**Characteristics****Processing**

Injection Molding

**Certifications**

Food contact, Food approval FDA 21 CFR

**Chemical Resistance**

Hydrolytically Stable

**Regional Availability**

Asia Pacific