

**NORYL GTX™ Resin GTX840 - Americas**

(PPE+PA\*)-GF40

Saudi Basic Industries Corporation (SABIC)

**Product Texts**

NORYL GTX™ 840 resin is a 40% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 11860 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX GTX840 resin is an excellent candidate for a wide variety of applications including automotive under-the-hood and water management.

<b>Processing/Physical Characteristics</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Melt volume-flow rate, MVR	<b>13</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>220</b>	°C	-
Load	<b>5</b>	kg	-
Molding shrinkage, parallel	<b>0.2</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>1.0</b>	%	ISO 294-4, 2577
<b>ASTM Data</b>			
Melt Flow Index, MFI	<b>15</b>	g/10min	ASTM D 1238
Temperature	<b>280</b>	°C	-
Load	<b>5</b>	kg	-
Mold Shrinkage, MD	<b>0.17</b>	mm/mm	ASTM D 955
Mold Shrinkage, TD	<b>0.99</b>	mm/mm	ASTM D 955

<b>Mechanical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Tensile Modulus	<b>12600</b>	MPa	ISO 527
Stress at break	<b>200</b>	MPa	ISO 527
Strain at break	<b>2.4</b>	%	ISO 527
Flexural modulus	<b>11700</b>	MPa	ISO 178
Charpy impact strength, +23°C	<b>72</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	<b>11</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Izod impact strength, +23°C, 4mm	<b>70</b>	kJ/m <sup>2</sup>	ISO 180/1U
Izod notched impact strength, +23°C, 4mm	<b>11</b>	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	<b>11</b>	kJ/m <sup>2</sup>	ISO 180/1A
<b>ASTM Data</b>			
Tensile Modulus	<b>13020</b>	MPa	ASTM D 638
Tensile Strength at Break	<b>201</b>	MPa	ASTM D 638
Elongation at Break	<b>2.2</b>	%	ASTM D 638
Flexural Modulus	<b>11800</b>	MPa	ASTM D 790
Rockwell Hardness	<b>R 108</b>	-	ASTM D 785
Izod Impact notched, 1/8 in	<b>114</b>	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	<b>90</b>	J/m	ASTM D 256
Temperature	<b>-30</b>	°C	-
Izod Impact unnotched, 1/8 in	<b>1040</b>	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	<b>244</b>	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	<b>259</b>	°C	ISO 75-1/-2
Vicat softening temperature, A	<b>257</b>	°C	ISO 306
Vicat softening temperature, B	<b>248</b>	°C	ISO 306
Coeff. of linear therm. expansion, parallel	<b>17</b>	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	<b>70</b>	E-6/K	ISO 11359-1/-2
<b>ASTM Data</b>			
Vicat Temperature	<b>247</b>	°C	ASTM D 1525

<b>Other properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Water absorption	<b>1.64</b>	%	Sim. to ISO 62
Density	<b>1450</b>	kg/m <sup>3</sup>	ISO 1183
Density	<b>1450</b>	kg/m <sup>3</sup>	ASTM D 792

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<b>Processing Recommendation Injection Molding</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Pre-drying - Temperature	<b>95 - 105</b>	°C	-
Pre-drying - Time	<b>3 - 4</b>	h	-
Processing humidity	<b>≤0.07</b>	%	-
Melt temperature	<b>295 - 315</b>	°C	-
Mold temperature	<b>75 - 120</b>	°C	-
Zone 1	<b>275 - 315</b>	°C	-
Zone 2	<b>280 - 315</b>	°C	-
Zone 3	<b>290 - 315</b>	°C	-
Screw speed	<b>20 - 100</b>	rpm	-
Back pressure	<b>0.3 - 1.4</b>	MPa	-

**Characteristics****Processing**

Injection Molding

**Regional Availability**

North America

**Applications**

Automotive