

**NORYL™ Resin NH8000**

(PPE+PS)

Saudi Basic Industries Corporation (SABIC)

**Product Texts**

NORYL NH8000 resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VA at 2mm and V0 at 1.5mm. NORYL NH8000 resin offers strong electrical performance, low moisture absorption, dimensional stability, and hydrolytic stability. NH8000 is targeted for indoor and outdoor electrical housings, components and connectors.

UL Yellow Card [E207780-104521255](https://www.ul.com/yellow-card/E207780-104521255)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
Melt volume-flow rate, MVR	3.6	cm <sup>3</sup> /10min	ISO 1133
Temperature	280	°C	-
Load	5	kg	-
<b>ASTM Data</b>			
Melt Flow Index, MFI	3.8	g/10min	ASTM D 1238
Temperature	280	°C	-
Load	5	kg	-

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Tensile Modulus	2390	MPa	ISO 527
Yield stress	70	MPa	ISO 527
Yield strain	4.9	%	ISO 527
Stress at break	53	MPa	ISO 527
Strain at break	11.9	%	ISO 527
Flexural modulus, 23°C	2460	MPa	ISO 178
Flexural strength	107	MPa	ISO 178
Charpy impact strength, +23°C	N	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	N	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, +23°C	17	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m <sup>2</sup>	ISO 179/1eA
Izod impact strength, +23°C	N	kJ/m <sup>2</sup>	ISO 180/1U
Izod notched impact strength, +23°C	16	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	7	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-
<b>ASTM Data</b>			
Tensile Modulus	2360	MPa	ASTM D 638
Tensile Strength at Yield	70	MPa	ASTM D 638
Tensile Strength at Break	53	MPa	ASTM D 638
Elongation at Yield	5	%	ASTM D 638
Elongation at Break	11.1	%	ASTM D 638
Flexural Modulus	2220	MPa	ASTM D 790
Flexural Strength	102	MPa	ASTM D 790
Izod Impact notched, 1/8 in	198	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	76	J/m	ASTM D 256
Temperature	-30	°C	-

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Temp. of deflection under load, 1.80 MPa	146	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	161	°C	ISO 75-1/-2
Vicat softening temperature, B	164	°C	ISO 306
Burning behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
Yellow Card available	yes	-	-
Burning behav. 5V at thickness h	5VA	class	IEC 60695-11-20
Thickness tested	2.0	mm	-
Yellow Card available	yes	-	-

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Glow Wire Flammability Index (GWFI)	<b>960</b>	°C	IEC 60695-2-12
GWFI - thickness tested (1)	<b>1.5</b>	mm	-
Glow Wire Flammability Index (GWFI)	<b>960</b>	°C	IEC 60695-2-12
GWFI - thickness tested (2)	<b>2</b>	mm	-
Glow Wire Flammability Index (GWFI)	<b>960</b>	°C	IEC 60695-2-12
GWFI - thickness tested (3)	<b>3</b>	mm	-
Glow Wire Ignition Temperature (GWIT)	<b>825</b>	°C	IEC 60695-2-13
GWIT - thickness tested (1)	<b>1</b>	mm	-
Glow Wire Ignition Temperature (GWIT)	<b>825</b>	°C	IEC 60695-2-13
GWIT - thickness tested (2)	<b>1.5</b>	mm	-
Glow Wire Ignition Temperature (GWIT)	<b>825</b>	°C	IEC 60695-2-13
GWIT - thickness tested (3)	<b>2</b>	mm	-
<b>ASTM Data</b>			
Coefficient of Thermal Expansion, MD	<b>66</b>	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	<b>73</b>	E-6/K	ASTM D 696
DTUL @ 66 psi	<b>161</b>	°C	ASTM D 648
DTUL @ 264 psi	<b>146</b>	°C	ASTM D 648

<b>Electrical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Comparative tracking index	<b>212</b>	-	IEC 60112

<b>Other properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1100</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>110 - 120</b>	°C	-
Pre-drying - Time	<b>3 - 4</b>	h	-
Processing humidity	<b>≤0.02</b>	%	-
Melt temperature	<b>290 - 325</b>	°C	-
Mold temperature	<b>80 - 110</b>	°C	-
Zone 1	<b>265 - 315</b>	°C	-
Zone 2	<b>275 - 320</b>	°C	-
Zone 3	<b>290 - 325</b>	°C	-
Nozzle temperature	<b>290 - 325</b>	°C	-
Screw speed	<b>20 - 100</b>	rpm	-

**Characteristics****Processing**

Injection Molding

**Special Characteristics**

Flame retardant, Halogen-free, Heat stabilized or stable to heat

**Chemical Resistance**

Hydrolytically Stable

**Applications**

Electrical and Electronical

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America