

**Product Texts**

NORYL™ HS2000X resin is a 17% mineral reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). 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 along with UL746C Outdoor Suitability rating of F1. NORYL HS2000X resin exhibits strong electrical performance, dimensional stability, very low moisture absorption, and hydrolytic stability. This material is an excellent candidate for electronic / electrical indoor and outdoor applications including air conditioner parts, smoke detector covers, pool + spa pump parts and housings.

UL Yellow Card Link [E121562-221170](https://www.ulprospector.com/usa/Products/Plastics/Engineering-Plastics/221170)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
Melt volume-flow rate, MVR	6	cm <sup>3</sup> /10min	ISO 1133
Temperature	300	°C	-
Load	5	kg	-
<b>ASTM Data</b>			
Melt Flow Index, MFI	7.6	g/10min	ASTM D 1238
Temperature	300	°C	-
Load	5	kg	-

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Tensile Modulus	4000	MPa	ISO 527
Yield stress	71	MPa	ISO 527
Yield strain	3.7	%	ISO 527
Stress at break	57	MPa	ISO 527
Strain at break	10.5	%	ISO 527
Flexural modulus	3800	MPa	ISO 178
Flexural strength	117	MPa	ISO 178
Izod notched impact strength, +23°C, 4mm	9	kJ/m <sup>2</sup>	ISO 180/1A
<b>ASTM Data</b>			
Tensile Modulus	3650	MPa	ASTM D 638
Tensile Strength at Yield	74	MPa	ASTM D 638
Tensile Strength at Break	60	MPa	ASTM D 638
Elongation at Yield	3.8	%	ASTM D 638
Elongation at Break	8.4	%	ASTM D 638
Flexural Modulus	3670	MPa	ASTM D 790
Izod Impact notched, 1/8 in	131	J/m	ASTM D 256
Izod Impact unnotched, 1/8 in	2230	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Vicat softening temperature, B	132	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	136	°C	ISO 306
Burning behav. at 1.5 mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
Burning behav. 5V at thickness h	5VA	class	IEC 60695-11-20
Thickness tested	2.0	mm	-
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	850	°C	IEC 60695-2-13
GWIT - thickness tested (1)	1	mm	-
Glow Wire Ignition Temperature (GWIT)	800	°C	IEC 60695-2-13
GWIT - thickness tested (2)	2	mm	-
Glow Wire Ignition Temperature (GWIT)	800	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-
<b>ASTM Data</b>			
DTUL @ 66 psi	117	°C	ASTM D 648
DTUL @ 264 psi	108	°C	ASTM D 648

**NORYL™ Resin HS2000X - Americas**

(PPE+PS)-MF17

Saudi Basic Industries Corporation (SABIC)

Electrical properties	Value	Unit	Test Standard
<b>ASTM Data</b>			
Dielectric Strength, Short Time	<b>17.3</b>	kV/mm	ASTM D 149
Dissipation Factor, 60 Hz	<b>0.017</b>	-	ASTM D 150
Dissipation Factor, 1 MHz	<b>0.0044</b>	-	ASTM D 150
Dielectric Constant, 60 Hz	<b>2.89</b>	-	ASTM D 150
Dielectric Constant, 1 MHz	<b>2.7</b>	-	ASTM D 150
Surface Resistivity	<b>&gt;1E15</b>	Ohm	ASTM D 257
Volume Resistivity	<b>&gt;1E15</b>	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Density	<b>1250</b>	kg/m <sup>3</sup>	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
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>280 - 310</b>	°C	-
Mold temperature	<b>75 - 105</b>	°C	-
Zone 1	<b>250 - 300</b>	°C	-
Zone 2	<b>260 - 305</b>	°C	-
Zone 3	<b>270 - 310</b>	°C	-
Screw speed	<b>20 - 100</b>	rpm	-
Back pressure	<b>0.3 - 0.7</b>	MPa	-

**Characteristics****Processing**

Injection Molding

**Additives**

Flame retarding agent

**Special Characteristics**

Flame retardant

**Chemical Resistance**

Hydrolytically Stable

**Regional Availability**

North America