

Product Texts

NORYL™ SE1X resin is a non-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 V0/V1 at 1.5mm along with a UL746C Outdoor Suitability rating of F1. NORYL SE1X resin offers strong electrical performance, low moisture absorption, dimensional stability, and hydrolytic stability. This material is an excellent candidate for indoor and outdoor electrical enclosures, heating ventilation / air conditioning (HVAC) applications, and solar / photovoltaic (PV) junction box applications. *for enhanced processing version, please see NORYL NH5120 resin grade.

UL Yellow Card Link [E121562-100107130](https://www.ul.com/Products/Plastics/Engineering-Plastics/NORYL-SE1X)

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	8	cm ³ /10min	ISO 1133
Temperature	280	°C	-
Load	5	kg	-
ASTM Data			
Melt Flow Index, MFI	8.5	g/10min	ASTM D 1238
Temperature	280	°C	-
Load	5	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2670	MPa	ISO 527
Yield stress	61	MPa	ISO 527
Yield strain	4.3	%	ISO 527
Stress at break	50	MPa	ISO 527
Strain at break	20.7	%	ISO 527
Flexural modulus	2560	MPa	ISO 178
Izod notched impact strength, +23°C, 4mm	14	kJ/m ²	ISO 180/1A
ASTM Data			
Tensile Modulus	2500	MPa	ASTM D 638
Tensile Strength at Yield	65	MPa	ASTM D 638
Tensile Strength at Break	53	MPa	ASTM D 638
Elongation at Yield	4	%	ASTM D 638
Elongation at Break	15	%	ASTM D 638
Flexural Modulus	2700	MPa	ASTM D 790
Izod Impact notched, 1/8 in	180	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	106	J/m	ASTM D 256
Temperature	-30	°C	-
Izod Impact unnotched, 1/8 in	2600	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ISO Data			
Vicat softening temperature, B	132	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	135	°C	ISO 306
Burning behav. at 1.5 mm nom. thickn.	V-1	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
Burning behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	6.0	mm	-
Glow Wire Flammability Index (GWFI)	900	°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)	700	°C	IEC 60695-2-13
GWIT - thickness tested (1)	1	mm	-
Glow Wire Ignition Temperature (GWIT)	725	°C	IEC 60695-2-13
GWIT - thickness tested (2)	2	mm	-
Glow Wire Ignition Temperature (GWIT)	725	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-
ASTM Data			
DTUL @ 66 psi	126	°C	ASTM D 648

NORYL™ Resin SE1X - Americas
(PPE+PS)

Saudi Basic Industries Corporation (SABIC)

DTUL @ 264 psi	112	°C	ASTM D 648
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Electrical properties	Value	Unit	Test Standard
ASTM Data			
Dielectric Strength, Short Time	18.1	kV/mm	ASTM D 149
Dissipation Factor, 60 Hz	0.0034	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0021	-	ASTM D 150
Dielectric Constant, 60 Hz	2.52	-	ASTM D 150
Dielectric Constant, 1 MHz	2.46	-	ASTM D 150
Surface Resistivity	1E15	Ohm	ASTM D 257
Volume Resistivity	>1E15	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Density	1100	kg/m ³	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	105 - 110	°C	-
Pre-drying - Time	3 - 4	h	-
Processing humidity	≤0.02	%	-
Melt temperature	280 - 310	°C	-
Mold temperature	75 - 105	°C	-
Zone 1	250 - 300	°C	-
Zone 2	260 - 305	°C	-
Zone 3	270 - 310	°C	-
Screw speed	20 - 100	rpm	-
Back pressure	0.3 - 0.7	MPa	-

Characteristics

Processing

Injection Molding

Additives

Flame retarding agent

Special Characteristics

Flame retardant

Chemical Resistance

Hydrolytically Stable

Applications

Automotive

Regional Availability

North America