

**Product Texts**

NORYL™ N190 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 5VA at 3mm and V0 at 1.5mm along with UL746C Outdoor Suitability rating of F1. NORYL N190 resin exhibits high impact strength, dimensional stability, hydrolytic stability, and very low moisture absorption. This material is an excellent candidate for a variety of applications such as solar frames, unattended power supply (UPS) inverter/charger, indoor and outdoor electrical enclosures / housings / connectors, and wall plates / sockets / switches. \*This grade is also referred to as NORYL N1900 in several regions.

UL Yellow Card Link [F45329-236763](https://www.ul.com/yellow-card/F45329-236763)

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
Melt volume-flow rate, MVR	8	cm <sup>3</sup> /10min	ISO 1133
Temperature	280	°C	-
Load	2.16	kg	-

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Tensile Modulus	2300	MPa	ISO 527
Yield stress	50	MPa	ISO 527
Yield strain	3	%	ISO 527
Stress at break	40	MPa	ISO 527
Strain at break	20	%	ISO 527
Flexural modulus	2200	MPa	ISO 178
Charpy notched impact strength, +23°C	10	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	5	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, +23°C, 4mm	10	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	6	kJ/m <sup>2</sup>	ISO 180/1A
Ball indentation hardness	87	MPa	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Vicat softening temperature, A	110	°C	ISO 306
Vicat softening temperature, B	95	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	105	°C	ISO 306
Burning behav. at 1.5 mm nom. thckn.	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	3.0	mm	-
Thermal Conductivity	0.25	W/(m K)	DIN 52616
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3.2	mm	-

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Relative permittivity, 1MHz	2.6	-	IEC 62631-2-1
Dissipation factor, 1MHz	9	E-4	IEC 62631-2-1
Volume resistivity	1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Comparative tracking index	250	-	IEC 60112

Other properties	Value	Unit	Test Standard
Water absorption	0.32	%	Sim. to ISO 62
Humidity absorption	0.06	%	Sim. to ISO 62
Density	1100	kg/m <sup>3</sup>	ISO 1183

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 100	°C	-

**NORYL™ Resin N190 - Europe**  
(PPE+PS)

Saudi Basic Industries Corporation (SABIC)

Pre-drying - Time	2 - 3	h	-
Melt temperature	260 - 280	°C	-
Mold temperature	60 - 80	°C	-
Feed temperature	60 - 80	°C	-
Zone 1	220 - 240	°C	-
Zone 2	240 - 260	°C	-
Zone 3	260 - 280	°C	-

**Characteristics**

**Processing**

Injection Molding

**Additives**

Flame retarding agent

**Special Characteristics**

Flame retardant

**Chemical Resistance**

Hydrolytically Stable

**Applications**

Automotive

**Regional Availability**

Europe