# NORYL™ RESIN N1900

REGION ASIA

## DESCRIPTION

NORYL™ N1900 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 N1900 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 N190 in several regions.

## TYPICAL PROPERTY VALUES

Revision 20191031

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL | | | |
| Tensile Stress, yield | 40 | MPa | SABIC - Japan Method |
| Tensile Strain, break | 76 | % | SABIC - Japan Method |
| Flexural Stress | 68 | MPa | ASTM D 790 |
| Flexural modulus | 2260 | MPa | ASTM D 790 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 283 | J/m | ASTM D 256 |
| THERMAL | | | |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 90 | °C | ASTM D 648 |
| CTE, -30°C to 30°C | 7.E-05 | 1/°C | TMA |
| Relative Temp Index, Elec [1] | 95 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [1] | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [1] | 95 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.08 | - | ASTM D 792 |
| Water Absorption, 24 hours | 0.07 | % | ASTM D 570 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 – 0.7 | % | SABIC method |
| Melt Flow Rate, 250°C/10.0 kgf | 29.8 | g/10 min | ASTM D 1238 |
| ELECTRICAL | | | |
| Comparative Tracking Index (UL) {PLC} | 2 | PLC Code | UL 746A |
| High Amp Arc Ignition (HAI), PLC 0 | ≥6 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 2 | ≥1.5 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 1 | ≥6 | mm | UL 746A |
| Hot-Wire Ignition (HWI), PLC 2 | ≥1.5 | mm | UL 746A |
| High Voltage Arc Track Rate {PLC} | 4 | PLC Code | UL 746A |
| Arc Resistance, Tungsten {PLC} | 7 | PLC Code | ASTM D 495 |
| FLAME CHARACTERISTICS [1] | | | |
| UL Yellow Card Link | E207780-228562 | - | - |
| UL Yellow Card Link 2 | E45587-237048 | - | - |
| UL Recognized, 94-5VA Flame Class Rating | ≥2.8 | mm | UL 94 |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5 | mm | UL 94 |
| UL Recognized, 94V-2 Flame Class Rating | ≥0.75 | mm | UL 94 |

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(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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