

NORYL™ RESIN: SOLUTIONS FOR CONNECTORS

High Performance Solutions for Electrical and Telecom Connectors

NORYL™ RESIN: SOLUTIONS FOR ELECTRICAL & TELECOM CONNECTORS

The NORYL™ resin portfolio for telecom and electrical connector applications consists of amorphous blends of polyphenylene ether (PPE) and high-impact polystyrene (HIPS).

These unique blends optimize the inherent benefits of PPE resin (high heat resistance, very good electrical properties, excellent hydrolytic stability, long-term dimensional stability, low specific gravity) with the impact resistance, flow, and processability of the HIPS.

This broad portfolio offers key attributes required for connector applications ranging from outdoor / cold temperature / harsh environment needs to thin-wall capability....all with robust , non-brominated, non-chlorinated flame retardance.



TYPICAL INDUSTRY REQUIREMENTS

- Dielectric strength
- High heat resistance
- Dimensional stability
- UL V0 or better / thin-wall capacity
- Non-brominated, non-chlorinated flame resistance
- Creep resistance

KEY PROPERTIES

- Excellent Electrical: Dielectric strength to 49 kV/mm
- UL 5VA @ 2mm, V0 @ 0.75mm
- UL746C outdoor suitability rating: F1
- Mechanical property retention
- Dimensional stability – long-term performance
- Low creep – in high heat and humid environments

PROPERTY	NORYL PX9406P resin	NORYL NH5020 resin	NORYL NH6020 resin
Flexural Stress, yld, 1.3 mm/min, 50 mm span (ASTM D 790)	113 MPa	122 MPa	121 MPa
Tensile Stress, yld, Type I, 50 mm/min (ASTM D 638)	76 MPa	79 MPa	78 MPa
Tensile Stress, brk, Type I, 50 mm/min (ASTM D 638)	55 MPa	62 MPa	67 MPa
Flexural Modulus, 1.3 mm/min, 50 mm span (ASTM D 790)	2840 MPa	3000 MPa	3020 MPa
Izod Impact, notched, 23°C (ASTM D 256)	140 J/m	91 J/m	49 J/m
Izod Impact, notched, -30°C (ASTM D 256)	60 J/m	59 J/m	36 J/m
HDT, 1.82 MPa, 3.2mm, unannealed (ASTM D 648)	118 °C	117 °C	125 °C
Vicat Softening Temp, Rate B/120 (ISO 306)	140 °C	139 °C	151 °C
Relative Temp Index, Elec (UL 746B)	110 °C	110 °C	110 °C
Ball Pressure Test, 125°C +/- 2°C (IEC 60695-10-2)	PASSES -	PASSES -	PASSES -
Specific Gravity (ASTM D 792)	1.1 -	1.11 -	1.14 -
Melt Volume Rate, MVR at 280°C/5.0 kg (ISO 1133)	10 cm ³ /10 min	10 cm ³ /10 min	11 cm ³ /10 min
Comparative Tracking Index (UL) {PLC} (UL 746A)	2 PLC Code	2 PLC Code	-
Dielectric Strength, in oil, 3.2 mm (IEC 60243-1)	49 kV/mm	49 kV/mm	-
Dielectric Strength, in oil, 1.6 mm (IEC 60243-1)	-	-	27 kV/mm
UL Recognized, 94-5VA Flame Class Rating (UL 94)	≥2.5 mm	≥2.5 mm	≥2.5 mm
UL Recognized, 94V-0 Flame Class Rating (UL 94)	≥0.75 mm	≥0.75 mm	≥0.75 mm
UL Recognized, 94-5VB Flame Class Rating (UL 94)	≥2 mm	-	-
UV-light, water exposure/immersion (UL 746C)	F1 -	F1 -	F1 -
Glow Wire Flammability Index, 0.75 mm (IEC 60695-2-12)	960 °C 0.75mm	960 °C 3mm	960 °C 1mm
Glow Wire Ignitability Temperature, 0.75 mm (IEC 60695-2-13)	750 °C 0.75mm	775 °C 3mm	825 °C 1mm

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