

NORYL™ NP6100 RESIN

LOW SMOKE SOLUTION FOR CABLE CHANNELS
(B&C /MASS TRANSIT TRAINS)



NORYL™ NP6100 resin combines excellent thermal resistance, ductility and processability. Developed to help to address stringent requirements for low smoke density and low smoke corrosion, NORYL™ NP6100 offers a unique balance of mechanical properties and flame resistance. The flame retardants used in NORYL™ resin are bromine- and chlorine-free.

TYPICAL INDUSTRY REQUIREMENTS

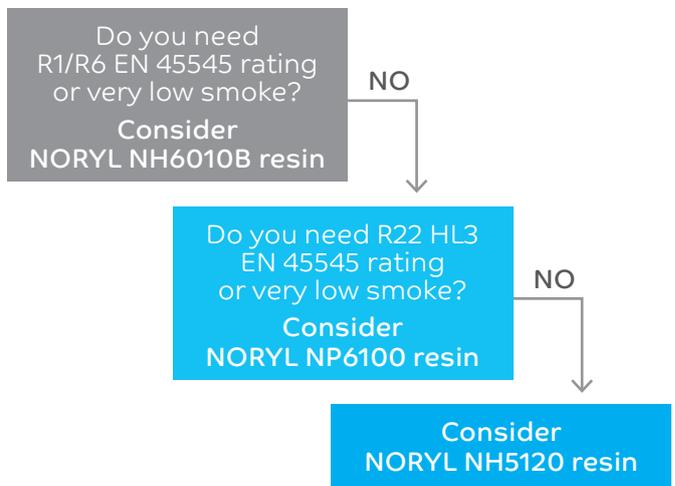
Material requirements for cable channels include:

- GWFI 960°C
- Low smoke density, low corrosivity
- BPT>75°C
- Low weight
- Good impact resistance over a wide temperature range

BENEFITS OF NORYL™ NP6100 RESIN

- Good ductility at low temperatures
- Good extrudability
- Low density: 1.1g/cm³
- High stiffness: 2.3 GPa
- Low smoke density: ISO 5659-2
- BPT 125°C
- R22 HL3 according to EN 45545

NORYL™ NP6100 RESIN POSITIONING vs. EXISTING GRADES



NORYL™ NP6100 RESIN vs. EXISTING GRADES

	NORYL™ Resin NH5120	NORYL™ Resin NP6100	NORYL™ Resin NH6010B
Density (ISO 1183)	1.1 g/cm ³	1.1 g/cm ³	1.1 g/cm ³
Tensile Strain, yield, 50 mm/min (ISO 527)	5%	5%	5%
Tensile Modulus, 1 mm/min (ISO 527)	2650 MPa	2300 MPa	2400 MPa
Tensile Stress, yield, 50 mm/min (ISO 527)	57 MPa	70MPa	65MPa
Flexural Modulus, 2 mm/min (ISO 178)	2600 MPa	2300 MPa	2400 MPa
Izod Impact, notched 80*10*4 +23°C (ISO 180/1A)	15 kJ/m ²	39.9 kJ/m²	18 kJ/m ²
Izod Impact, notched 80*10*4 -30°C (ISO 180/1A)	12 kJ/m ²	15.8 kJ/m²	14 kJ/m ²
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm (ISO 179/1eA)	17 kJ/m ²	37 kJ/m²	20 kJ/m ²
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm (ISO 179/1eA)		21 kJ/m²	
Vicat Softening Temp, Rate B/120 (ISO 306)	138 °C	153°C	146°C
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm (ISO 75/Ae)		130°C	124°C
Ball Pressure Test, 125°C +/- 2°C (IEC 60695-10-2)	PASSES 125°C	PASSES 125°C	PASSES 125°C
Melt Volume Rate, MVR at 280°C/5.0 kg (ISO 1133)	11 cm ³ /10 min	-	5 cm ³ /10 min
Melt Flow Rate, 280°C/10.0 kgf (ASTM D 1238)	-	10.5 g/10 min	
Glow Wire Flammability Index 960°C, passes at (IEC 60695-2-12)	1 mm	1 mm	1 mm
UL Flame Class Rating (UL 94)	V1 at 1.5 mm	V1 at 1.5mm	V0 at 1.5mm
Ds, max, ISO 5659-2 (25KW/M2) at 1mm	725	70	low
Ds, max, ISO 5659-2 (25KW/M2) at 2mm		45	low
Oxygen Index (LOI) (ISO 4589)	None	32%	33%
EN45545 certification	None	R22 HL3	R1/R6 HL3

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