

Product Texts

NORYL™ NH5020 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 exhibits high heat resistance with thin-wall FR performance. NORYL NH5020 resin carries a UL94 flame rating of V0 at 0.75mm along with a UL746C Outdoor Suitability rating of F1. The material offers a good balance of affordable high heat, flow, hydrolytic stability, excellent creep resistance, dimensional stability and is a good candidate for photovoltaic / solar connectors, UPS Inverters / chargers, and outdoor enclosure applications.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	10	cm ³ /10min	ISO 1133
Temperature	280	°C	-
Load	5	kg	-
Density of melt	1010	kg/m ³	-
Thermal conductivity of melt	0.2	W/(m K)	-
Spec. heat capacity of melt	1780	J/(kg K)	-
Ejection temperature	127	°C	-
ASTM Data			
Melt Flow Index, MFI	9.8	g/10min	ASTM D 1238
Temperature	280	°C	-
Load	5	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3050	MPa	ISO 527
Yield stress	80	MPa	ISO 527
Yield strain	4.7	%	ISO 527
Stress at break	77	MPa	ISO 527
Strain at break	5.6	%	ISO 527
Flexural modulus	2980	MPa	ISO 178
Charpy notched impact strength, +23°C	7	kJ/m ²	ISO 179/1eA
Izod notched impact strength, +23°C, 4mm	8	kJ/m ²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	6	kJ/m ²	ISO 180/1A
ASTM Data			
Tensile Modulus	2720	MPa	ASTM D 638
Tensile Strength at Yield	79	MPa	ASTM D 638
Tensile Strength at Break	62	MPa	ASTM D 638
Elongation at Yield	5	%	ASTM D 638
Elongation at Break	15	%	ASTM D 638
Flexural Modulus	3000	MPa	ASTM D 790
Izod Impact notched, 1/8 in	91	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	59	J/m	ASTM D 256
Temperature	-30	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	119	°C	ISO 75-1/-2
Vicat softening temperature, B	138	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	139	°C	ISO 306
Coeff. of linear therm. expansion, parallel	83.8	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	85.8	E-6/K	ISO 11359-1/-2
ASTM Data			
DTUL @ 66 psi	122	°C	ASTM D 648
DTUL @ 264 psi	117	°C	ASTM D 648
Vicat Temperature	137	°C	ASTM D 1525

Other properties	Value	Unit	Test Standard
Water absorption	0.25	%	Sim. to ISO 62
Humidity absorption	0.05	%	Sim. to ISO 62
Density	1110	kg/m ³	ISO 1183

Density	1110	kg/m ³	ASTM D 792
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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	275 - 305	°C	-
Mold temperature	70 - 100	°C	-
Zone 1	245 - 295	°C	-
Zone 2	255 - 300	°C	-
Zone 3	265 - 305	°C	-
Screw speed	20 - 100	rpm	-
Back pressure	0.3 - 0.7	MPa	-

Characteristics

Processing

Injection Molding

Chemical Resistance

Hydrolytically Stable

Additives

Flame retarding agent

Regional Availability

Asia Pacific

Special Characteristics

Flame retardant