NORYL™ RESIN NH8006

REGION AMERICAS

DESCRIPTION

NORYL NH8006 resin is a 30% glass reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This injection moldable and extrusion grade contains non-brominated, non-chlorinated flame retardant with a UL746C Outdoor Suitability rating of F1. NORYL NH8006 resin offers an exceptional balance of strength and dimensional stability and is targeted for electrical and electronic applications.

GENERAL INFORMATION	
Features	Non halogenated flame retardant, Creep resistant, High stiffness/Strength, Weatherable/UV stable, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Industrial	Electrical, Industrial General

TYPICAL PROPERTY VALUES

Revision 20240318

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	125	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	125	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	9500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	185	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	8600	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	125	MPa	ISO 527
Tensile Stress, break, 5 mm/min	125	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1.8	%	ISO 527
Tensile Strain, break, 5 mm/min	1.8	%	ISO 527
Tensile Modulus, 1 mm/min	9000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	160	MPa	ISO 178
Flexural Modulus, 2 mm/min	8000	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	500	J/m	ASTM D4812
Izod Impact, notched, 23°C	85	J/m	ASTM D256
Izod Impact, notched, -30°C	75	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	14	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	26	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m²	ISO 179/1eA
THERMAL [1]			
Vicat Softening Temp, Rate B/50	156	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	149	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	3.7E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	156	°C	ISO 306
Vicat Softening Temp, Rate B/120	160	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	149	°C	ISO 75/Af
Relative Temp Index, Elec [2]	110	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	110	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.33	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.2 – 0.25	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	2.1	g/10 min	ASTM D1238
Density	1.34	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.23	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 280°C/10.0 kg	6	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Surface Resistivity	>4.E+17	Ω	ASTM D257
Relative Permittivity, 1 MHz	3.11	-	ASTM D150
Dissipation Factor, 1 MHz	0.004	-	ASTM D150
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Surface Resistivity, ROA	4.E+17 – 5.E+17	Ω	IEC 60093
Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.1	-	IEC 60250
Dissipation Factor, 1 MHz	0.004	-	IEC 60250
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥6	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E121562-100066499	-	-
UL Yellow Card Link 2	E121562-100100468	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥2	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at [4]	3.2	mm	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING [5]			
Drying Temperature	110 – 120	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time	2 – 3	Hrs	
Melt Temperature	300 – 320	°C	
Nozzle Temperature	280 – 300	°C	
Front - Zone 3 Temperature	300 – 320	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	80 – 100	°C	
Mold Temperature	100 – 130	°C	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses, colors and regions. For details, please see the UL Yellow Card.
(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
(4) Value shown here is based on internal measurement.
(5) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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