

Noryl* Resin NH8006

Americas: COMMERCIAL

Noryl* NH8006 resin is a 30% glass reinforced, modified PPE-PS blend. The material uses non-halogenated flame retardants to achieve a UL94 V0 flame rating (color specific) while offering an exceptional balance of strength and dimensional stability. This grade can be processed via extrusion or injection molding. Noryl NH8006 is available in custom colors and may be an excellent material candidate for use in electrical and electronics markets.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	9500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	185	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	8600	MPa	ASTM D 790
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	Value	Unit	Standard
Izod Impact, unnotched, 23°C	500	J/m	ASTM D 4812
Izod Impact, notched, 23°C	85	J/m	ASTM D 256
Izod Impact, notched, -30°C	75	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	14	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	26	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	156	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	149	°C	ASTM D 648
CTE, -40°C to 40°C, flow	3.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.5E-05	1/°C	ASTM E 831
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	110	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	110	°C	UL 746B

PHYSICAL	Value	Unit	Standard
Specific Gravity	1.33	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.2 - 0.25	%	SABIC Method
Melt Flow Rate, 280°C/5.0 kgf	2.1	g/10 min	ASTM D 1238
Density	1.34	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.23	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 280°C/10.0 kg	6	cm ³ /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Surface Resistivity	>4.E+17	Ohm	ASTM D 257
Relative Permittivity, 1 MHz	3.11	-	ASTM D 150
Dissipation Factor, 1 MHz	0.004	-	ASTM D 150
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Surface Resistivity, ROA	4.E+17 - 5.E+17	Ohm	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
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Compliant, 94V-1 Flame Class Rating (3)(4)	1.5	mm	UL 94 by GE
UL Compliant, 94V-0 Flame Class Rating (3)(4)	2	mm	UL 94 by GE
UL Compliant, 94-5VA Rating (3)(4)	3	mm	UL 94 by GE
UL Compliant, 94-5VB Rating (3)(4)	3	mm	UL 94 by GE
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12

Source GMD, last updated:02/07/2008

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	110 - 120	°C
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

Source GMD, last updated:02/07/2008

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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