

Noryl* Resin HS1000X

Americas: COMMERCIAL

PPE+PS blend. 13% Mineral reinforced. Non-brominated, non-chlorinated FR system. UL94 V0 and 5VA listing. UL 746C f1. Radiant Panel listing. Dielectric strength. Dimensional stability. Suitable for E/E applications.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	65	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	51	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7.6	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	30	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	103	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	2890	MPa	ASTM D 790
Hardness, Rockwell R	121	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	1511	J/m	ASTM D 4812
Izod Impact, notched, 23°C	133	J/m	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	24	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	125	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	98	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	93	°C	ASTM D 648
Relative Temp Index, Elec	100	°C	UL 746B
Relative Temp Index, Mech w/impact	85	°C	UL 746B
Relative Temp Index, Mech w/o impact	100	°C	UL 746B
PHYSICAL			
Specific Gravity	1.23	-	ASTM D 792
Water Absorption, 24 hours	0.07	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
ELECTRICAL			
Volume Resistivity	1.6E+16	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+16	Ohm	ASTM D 257
Dielectric Strength, in oil, 3.2 mm	17.7	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.03	-	ASTM D 150
Relative Permittivity, 1 MHz	2.83	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.027	-	ASTM D 150
Dissipation Factor, 1 MHz	0.007	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.01	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.48	mm	UL 94

CSA (See File for complete listing)	LS88480	File No.	CSA LISTED
Radiant Panel Listing	YES	-	UL Tested
UV-light, water exposure/immersion	F1	-	UL 746C

Source GMD, last updated:12/29/1999

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	90 - 95	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	255 - 280	°C
Nozzle Temperature	255 - 280	°C
Front - Zone 3 Temperature	245 - 280	°C
Middle - Zone 2 Temperature	230 - 275	°C
Rear - Zone 1 Temperature	220 - 270	°C
Mold Temperature	65 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%
Vent Depth	0.038 - 0.051	mm

Source GMD, last updated:12/29/1999

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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