

Noryl* Resin N225X

Americas: COMMERCIAL

PPE+PS blend. Unfilled. Halogen-Free FR performance. UL94 V0/5VA. UL746C F1. Dielectric Strength. Suitable for E/E market indoor/outdoor applications.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	680	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	500	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	8	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	17	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1010	kgf/cm ²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	25400	kgf/cm ²	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	19	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	9	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	90	cm-kgf/cm	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	400	cm-kgf	ASTM D 3763
Instrumented Impact Energy @ peak, -30	118	cm-kgf	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	128	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	109	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	99	°C	ASTM D 648
Relative Temp Index, Elec	95	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	95	°C	UL 746B
PHYSICAL			
Specific Gravity	1.11	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.5 - 0.7	%	SABIC Method
ELECTRICAL			
Volume Resistivity	2.8E+16	Ohm-cm	ASTM D 257

(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±176.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.

(5) 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.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
Surface Resistivity	>1.E+14	Ohm	ASTM D 257
Dielectric Strength, in oil, 3.2 mm	16.2	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	2.69	-	ASTM D 150
Relative Permittivity, 1 MHz	2.55	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.01	-	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}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.4	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.47	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.99	mm	UL 94
Radiant Panel Listing	YES	-	UL Tested
UV-light, water exposure/immersion	F1	-	UL 746C

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	95 - 100	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	260 - 290	°C
Nozzle Temperature	260 - 290	°C
Front - Zone 3 Temperature	250 - 290	°C
Middle - Zone 2 Temperature	240 - 280	°C
Rear - Zone 1 Temperature	225 - 275	°C
Mold Temperature	70 - 95	°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

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