

Noryl* Resin SE1X

Asia Pacific: COMMERCIAL

PPO+PS. Improved productivity and reliability. Nonchlorinated, nonbrominated flame retardant. 244F HDT.

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	540	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	8.1	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	20	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1040	kgf/cm ²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	25500	kgf/cm ²	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	21	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	10	cm-kgf/cm	ASTM D 256
Instrumented Impact Energy @ peak, 23°C	525	cm-kgf	ASTM D 3763
Instrumented Impact Energy @ peak, -30	331	cm-kgf	ASTM D 3763
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	126	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	117	°C	ASTM D 648
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			
Specific Gravity	1.1	-	ASTM D 792
Water Absorption, 24 hours	0.06	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2)	0.5 - 0.7	%	SABIC Method
ELECTRICAL			
Volume Resistivity	2.3E+16	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+15	Ohm	ASTM D 257

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. 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) Own measurement according to UL.

Source, GMD, Last Update:10/31/2000

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
ELECTRICAL			
Dielectric Strength, in oil, 3.2 mm	18.1	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	2.52	-	ASTM D 150
Relative Permittivity, 1 MHz	2.46	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0034	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0021	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	1.47	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	5.99	mm	UL 94
Radiant Panel Listing	RP100	-	UL Tested
UV-light, water exposure/immersion	F1	-	UL 746C

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

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	105 - 110	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	280 - 310	°C
Nozzle Temperature	280 - 310	°C
Front - Zone 3 Temperature	270 - 310	°C
Middle - Zone 2 Temperature	260 - 305	°C
Rear - Zone 1 Temperature	250 - 300	°C
Mold Temperature	75 - 105	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%

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