

Noryl* Resin SE1GFN3

Americas: COMMERCIAL

PPE+PS blend. 30% Glass reinforced. Non-brominated, non-chlorinated FR system. UL94 V1 listing. RTI 110/105/110. Dielectric strength. Dimensional stability. Suitable for E/E applications.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, brk, Type I, 0.2 in/min	17400	psi	ASTM D 638
Tensile Strain, brk, Type I, 0.2 in/min	5	%	ASTM D 638
Flexural Stress, yld, 0.10 in/min, 4 in span	24900	psi	ASTM D 790
Flexural Modulus, 0.10 in/min, 4 in span	1129000	psi	ASTM D 790
Hardness, Rockwell L	108	-	ASTM D 785
IMPACT			
Izod Impact, notched, 73°F	2.2	ft-lb/in	ASTM D 256
Izod Impact, notched, -40°F	1.8	ft-lb/in	ASTM D 256
THERMAL			
HDT, 66 psi, 0.250 in, unannealed	285	°F	ASTM D 648
HDT, 264 psi, 0.250 in, unannealed	275	°F	ASTM D 648
CTE, flow, -40°F to 200°F	1.4E-05	1/°F	ASTM E 831
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	1.31	-	ASTM D 792
Water Absorption, 24 hours @ 73°F	0.06	%	ASTM D 570
Mold Shrinkage, flow, 0.125" (5)	0.1 - 0.4	%	SABIC Method
ELECTRICAL			
Dielectric Strength, in oil, 125 mils	530	V/mil	ASTM D 149
Relative Permittivity, 50/60 Hz	3.15	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.002	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A

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 this or any other material under actual fire conditions.
4) Own measurement according to UL.
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 Update:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
ELECTRICAL			
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	0.058	in	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	0.236	in	UL 94
Oxygen Index (LOI)	35.5	%	ASTM D 2863

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	230 - 250	°F
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	570 - 620	°F
Nozzle Temperature	570 - 620	°F
Front - Zone 3 Temperature	550 - 620	°F
Middle - Zone 2 Temperature	530 - 610	°F
Rear - Zone 1 Temperature	510 - 600	°F
Mold Temperature	180 - 230	°F
Back Pressure	50 - 100	psi
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%

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