



Noryl* Resin SE100HX

Americas: COMMERCIAL

Improved productivity and reliability. Nonchlorinated, nonbrominated FR.

Property

Fensile Stress, yld, Type I, 50 mm/min 61 MPa ASTM D 638 Fensile Stress, brk, Type I, 50 mm/min 46 MPa ASTM D 638 Fensile Strain, Jork, Type I, 50 mm/min 7.5 % ASTM D 638 Fensile Strain, brk, Type I, 50 mm/min 21 % ASTM D 638 Flexural Stress, yld, 2.6 mm/min, 100 mm span 89 MPa ASTM D 790 Ilexural Modulus, 2.6 mm/min, 100 mm span 2340 MPa ASTM D 790 MPACT Value Unit Standard zod Impact, notched, 23°C 229 J/m ASTM D 256 zod Impact, notched, -30°C 90 J/m ASTM D 256 nstrumented Impact Energy @ peak, 23°C 31 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 648 HDT, 0.45 MPa, 6.4 mm, unannealed 103 °C ASTM D 648 HDT, 1.82 MPa, 6.4 mm, unannealed 94 °C ASTM D 648 Relative Temp Index, Mech w/impact 80 °C UL 746B Relative Temp Index, Mech w/impact 95 °C </th <th>TYPICAL PROPERTIES ⁽¹⁾</th> <th></th> <th></th> <th></th>	TYPICAL PROPERTIES ⁽¹⁾			
Fensile Stress, brk, Type I, 50 mm/min 46 MPa ASTM D 638 Fensile Strain, yld, Type I, 50 mm/min 7.5 % ASTM D 638 Fensile Strain, brk, Type I, 50 mm/min 21 % ASTM D 638 Flesural Stress, yld, 2.6 mm/min, 100 mm span 89 MPa ASTM D 790 Iexural Modulus, 2.6 mm/min, 100 mm span 2340 MPa ASTM D 790 IMPACT Value Unit Standard Zod Impact, notched, 23°C 229 J/m ASTM D 256 Zod Impact, notched, -30°C 90 J/m ASTM D 256 Zod Impact Energy @ peak, 23°C 31 J ASTM D 3763 Instrumented Impact Energy @ peak, -30 3 J ASTM D 3763 ITHERMAL Value Unit Standard IDT, 1.82 MPa, 6.4 mm, unannealed 103 °C ASTM D 648 Relative Temp Index, Klec 95 °C UL 746B Relative Temp Index, Mech w/impact 80 °C UL 746B Selectific Gravity 1.09 - ASTM D 570 <t< th=""><th>MECHANICAL</th><th>Value</th><th>Unit</th><th>Standard</th></t<>	MECHANICAL	Value	Unit	Standard
Fensile Strain, yld, Type I, 50 mm/min 7.5 % ASTM D 638 Fensile Strain, brk, Type I, 50 mm/min 21 % ASTM D 638 Flexural Stress, yld, 2.6 mm/min, 100 mm span 89 MPa ASTM D 790 Flexural Modulus, 2.6 mm/min, 100 mm span 2340 MPa ASTM D 790 MPACT Value Unit Standard zod Impact, notched, 23°C 229 J/m ASTM D 256 zod Impact, notched, -30°C 90 J/m ASTM D 256 zod Impact in the pact Energy @ peak, -30°C 31 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 3763 relative Tempt Index Energy @ peak, -30 3 J ASTM D 3763 relative Tempt Index, Elec 91 °C ASTM D 648 Relative Temp Index, Mech w/impact 80 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C	Tensile Stress, yld, Type I, 50 mm/min	61	MPa	ASTM D 638
Fensile Strain, brk, Type I, 50 mm/min 21 % ASTM D 638 Flexural Stress, yld, 2.6 mm/min, 100 mm span 89 MPa ASTM D 790 Flexural Modulus, 2.6 mm/min, 100 mm span 2340 MPa ASTM D 790 MPACT Value Unit Standard Zod Impact, notched, 23°C 229 J/m ASTM D 256 zod Impact, notched, -30°C 90 J/m ASTM D 3763 nstrumented Impact Energy @ peak, 23°C 31 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 3763 THERMAL Value Unit Standard HDT, 0.45 MPa, 6.4 mm, unannealed 103 °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 Pel-YISICAL Yalue Unit Standard Specific Gravity 1.09 - ASTM D 792 Nater Absorption, 24 ho	Tensile Stress, brk, Type I, 50 mm/min	46	MPa	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span 89 MPa ASTM D 790	Tensile Strain, yld, Type I, 50 mm/min	7.5	%	ASTM D 638
STEMBRICH STEM	Tensile Strain, brk, Type I, 50 mm/min	21	%	ASTM D 638
MPACT Value Unit Standard zod Impact, notched, 23°C 229 J/m ASTM D 256 zod Impact, notched, -30°C 90 J/m ASTM D 256 nstrumented Impact Energy @ peak, 23°C 31 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 3763 nterman Value Unit Standard HDT, 0.45 MPa, 6.4 mm, unannealed 103 °C ASTM D 648 HDT, 1.82 MPa, 6.4 mm, unannealed 94 °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 Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Selective Temp In	Flexural Stress, yld, 2.6 mm/min, 100 mm span	89	MPa	ASTM D 790
zod Impact, notched, 23°C 229 J/m ASTM D 256 zod Impact, notched, -30°C 90 J/m ASTM D 256 nstrumented Impact Energy @ peak, 23°C 31 J ASTM D 3763 nstrumented Impact Energy @ peak, -30 3 J ASTM D 3763 THERMAL Value Unit Standard HDT, 0.45 MPa, 6.4 mm, unannealed 103 °C ASTM D 648 HDT, 1.82 MPa, 6.4 mm, unannealed 94 °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 Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B	Flexural Modulus, 2.6 mm/min, 100 mm span	2340	MPa	ASTM D 790
Second Impact, notched, -30°C 90	IMPACT	Value	Unit	Standard
Nation	Izod Impact, notched, 23°C	229	J/m	ASTM D 256
ASTM D 3763 J	Izod Impact, notched, -30°C	90	J/m	ASTM D 256
THERMAL Value Unit Standard HDT, 0.45 MPa, 6.4 mm, unannealed 103 °C ASTM D 648 HDT, 1.82 MPa, 6.4 mm, unannealed 94 °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 Value Unit Standard Specific Gravity 1.09 - 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 Acr Resistance, Tungsten {PLC} 7 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 Comparative Tracking Index (UL) {PLC} 1 PLC Code UL 746A <t< td=""><td>Instrumented Impact Energy @ peak, 23°C</td><td>31</td><td>J</td><td>ASTM D 3763</td></t<>	Instrumented Impact Energy @ peak, 23°C	31	J	ASTM D 3763
#IDT, 0.45 MPa, 6.4 mm, unannealed	Instrumented Impact Energy @ peak, -30	3	J	ASTM D 3763
#IDT, 1.82 MPa, 6.4 mm, unannealed 94 °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 Relative Temp Index, Mech w/o i	THERMAL	Value	Unit	Standard
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 Value Unit Standard Specific Gravity 1.09 - ASTM D 792 Water Absorption, 24 hours 0.06 % ASTM D 570 Mold Shrinkage, flow, 3.2 mm 0.5 - 0.7 % SABIC Method Wold Shrinkage on Tensile Bar, xflow (2) 0.5 - 0.7 % SABIC Method ELECTRICAL Value Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Value Unit Standard JL Recognized, 94V-1 Flame Class Rating (3) 1.47 mm UL 94 JL Recognized, 94V-0 Flame Class Rating (3) 5.99 mm UL 746A	HDT, 0.45 MPa, 6.4 mm, unannealed	103	°C	ASTM D 648
Relative Temp Index, Mech w/impact 80 °C UL 746B Relative Temp Index, Mech w/o impact 95 °C UL 746B PHYSICAL Value Unit Standard Specific Gravity 1.09 - 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 Value Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Value Unit Standard JL Recognized, 94V-1 Flame Class Rating (3) 1.47 mm UL 94 JL Recognized, 94V-0 Flame Class Rating (3) 5.99 mm UL 746A Radiant Panel Listing YES - UL Tested	HDT, 1.82 MPa, 6.4 mm, unannealed	94	°C	ASTM D 648
Relative Temp Index, Mech w/o impact 95 °C UL 746B PHYSICAL Value Unit Standard Specific Gravity 1.09 - 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 Value Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Comparative Tracking Index (UL) {PLC} 1 PLC Code UL 746A 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 Tested Radiant Panel Listing YES - UL Tested	Relative Temp Index, Elec	95	°C	UL 746B
PHYSICAL Value Unit Standard Specific Gravity 1.09 - 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 Mold Shrinkage on Tensile Bar, xflow (2) 0.5 - 0.7 % SABIC Method Mold Shrinkage on Tensile Bar, xflow (2) 0.5 - 0.7 % SABIC Method Mold Shrinkage on Tensile Bar, xflow (2) 0.5 - 0.7 % SABIC Method Walue Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Value Unit Standard JL Recognized, 94V-1 Flame Class Rating (3) 1.47 mm UL 94 JL Recognized, 94V-0 Flame Class Rating (3) 5.99 mm UL 746A </td <td>Relative Temp Index, Mech w/impact</td> <td>80</td> <td>°C</td> <td>UL 746B</td>	Relative Temp Index, Mech w/impact	80	°C	UL 746B
1.09	Relative Temp Index, Mech w/o impact	95	°C	UL 746B
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 Mold Shrinkage on Tensile Bar, xflow (2) 0.5 - 0.7 % SABIC Method Mold Shrinkage on Tensile Bar, xflow (2) Value Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Value Unit Standard JL Recognized, 94V-1 Flame Class Rating (3) 1.47 mm UL 94 JL Recognized, 94V-0 Flame Class Rating (3) 5.99 mm UL 94 Radiant Panel Listing YES - UL Tested	PHYSICAL	Value	Unit	Standard
Mold Shrinkage, flow, 3.2 mm Mold Shrinkage on Tensile Bar, xflow (2) ELECTRICAL Arc Resistance, Tungsten {PLC} High Voltage Arc Track Rate {PLC} Comparative Tracking Index (UL) {PLC} FLAME CHARACTERISTICS UL 746A	Specific Gravity	1.09	-	ASTM D 792
Mold Shrinkage on Tensile Bar, xflow (2) ELECTRICAL Arc Resistance, Tungsten {PLC} High Voltage Arc Track Rate {PLC} Comparative Tracking Index (UL) {PLC} FLAME CHARACTERISTICS UL 746A	Water Absorption, 24 hours	0.06	%	ASTM D 570
ELECTRICAL Value Unit Standard Arc Resistance, Tungsten {PLC} 7 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 Value Unit Standard 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 YES - UL Tested	Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Arc Resistance, Tungsten {PLC} Arc Resistance, Tungsten {PLC} High Voltage Arc Track Rate {PLC} Comparative Tracking Index (UL) {PLC} The PLC Code UL 746A The PLC Code The PLC Code UL 746A The PLC Code T	Mold Shrinkage on Tensile Bar, xflow (2)	0.5 - 0.7	%	SABIC Method
High Voltage Arc Track Rate {PLC} Comparative Tracking Index (UL) {PLC} 1 PLC Code UL 746A FLAME CHARACTERISTICS Value Unit Standard UL 94	ELECTRICAL	Value	Unit	Standard
Comparative Tracking Index (UL) {PLC} 1 PLC Code UL 746A FLAME CHARACTERISTICS Value Unit Standard UL 94	Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
FLAME CHARACTERISTICS Value Unit Standard JL Recognized, 94V-1 Flame Class Rating (3) JL Recognized, 94V-0 Flame Class Rating (3) Standard The standard	High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
JL Recognized, 94V-1 Flame Class Rating (3)1.47mmUL 94JL Recognized, 94V-0 Flame Class Rating (3)5.99mmUL 94Radiant Panel ListingYES-UL Tested	Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
JL Recognized, 94V-0 Flame Class Rating (3) 5.99 mm UL 94 Radiant Panel Listing YES - UL Tested	FLAME CHARACTERISTICS	Value	Unit	Standard
Radiant Panel Listing YES - UL Tested	UL Recognized, 94V-1 Flame Class Rating (3)	1.47	mm	UL 94
Ÿ	UL Recognized, 94V-0 Flame Class Rating (3)	5.99	mm	UL 94
JV-light, water exposure/immersion F1 - UL 746C	Radiant Panel Listing	YES	-	UL Tested
	UV-light, water exposure/immersion	F1	-	UL 746C

Source GMD, last updated:01/05/2000

Processing

Parameter		
Injection Molding	Value	Unit
Drying Temperature	75 - 80	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs

0.02	%
250 - 275	°C
250 - 275	°C
240 - 275	°C
225 - 270	°C
215 - 265	°C
55 - 75	°C
0.3 - 0.7	MPa
20 - 100	rpm
30 - 70	%
0.038 - 0.051	mm
	250 - 275 250 - 275 240 - 275 225 - 270 215 - 265 55 - 75 0.3 - 0.7 20 - 100 30 - 70

Source GMD, last updated:01/05/2000

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.

DISCIAIMER: THE MATERIALS AND PRODUCTS OF THE BUSINESSES MAKING UP THE SABIC INNOVATIVE

- (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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