

Noryl* Resin FN215X

Americas: COMMERCIAL

Structural foam resin. 170F (77C) HDT. Improved reliability and productivity. All values at 20% weight reduction.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
FOAM - MECHANICAL 6.4 mm Wt Reduction	20	%	-
Tensile Stress, yield, 6.35 mm	28	MPa	ASTM D 638
Tensile Strain, break, 6.35 mm	12	%	ASTM D 638
Flexural Stress, yield, 6.4 mm	61	MPa	ASTM D 790
Flexural Modulus, 6.4 mm	1900	MPa	ASTM D 790
IMPACT			
FOAM - IMPACT 6.4 mm Wt Reduction	20	%	-
Izod Impact, unnotched, 23°C, 6.4mm	202	J/m	ASTM D 4812
Instrumented Impact Energy @ peak, 23°C	10	J	ASTM D 3763
Instrumented Impact Energy @ peak, -30	3	J	ASTM D 3763
THERMAL			
FOAM - THERMAL 6.4mm Wt Reduction	20	%	-
HDT, 0.45 MPa, 6.4 mm, unannealed	88	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	76	°C	ASTM D 648
Relative Temp Index, Elec	85	°C	UL 746B
Relative Temp Index, Mech w/impact	85	°C	UL 746B
Relative Temp Index, Mech w/o impact	85	°C	UL 746B
PHYSICAL			
FOAM - PHYSICAL 6.4mm Wt Reduction	20	%	-
Specific Gravity	1.1	-	ASTM D 792
Specific Gravity, foam molded	0.88	-	ASTM D 792
Water Absorption, 24 hours	0.07	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.17	%	ASTM D 570
Mold Shrinkage, flow, 6.4 mm	0.6 - 0.8	%	SABIC Method
ELECTRICAL			
Surface Resistivity	>1.E+17	Ohm	ASTM D 257
Dielectric Strength, in oil, 1.6 mm	12	kV/mm	ASTM D 149
Relative Permittivity, 1 MHz	2.2	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0044	-	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			
FOAM - Flame Class Minimum Density	0.85	g/cm ³	-
UL Recognized, 94V-1 Flame Class Rating (3)	2.99	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	5.99	mm	UL 94
UL Recognized, 94-5VA Rating (3)	3.91	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
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Source GMD, last updated:09/25/1991

Processing

Parameter	Value	Unit
Structural Foam Molding		
Blowing Agent, Physical System	Nitrogen Gas	-
Blowing Agent, Chemical System	FNC30X	-
Concentration Range (Blowing Agent)	1 - 3	%
Recommended Concentration (Blowing Agent)	2	%
Drying Temperature (Resin)	70 - 80	°C
Drying Time (Resin)	2 - 4	hrs
Drying Time (Resin, Cumulative)	8	hrs
Melt Temperature	270 - 310	°C
Nozzle Temperature	270 - 305	°C
Front Temperature	270 - 305	°C
Middle Temperature	270 - 305	°C
Rear Temperature	230 - 260	°C
Mold Temperature	25 - 55	°C

Source GMD, last updated:09/25/1991

- Drying is not required/recommended.

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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