

NORYL™ FN215X resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

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

General Information	
UL YellowCard	E121562-221160
Features	Foamable property
Uses	Structural Foam
Processing Method	Foam treatment
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)
	Flexural DMA (ASTM D4065)
	Tensile Fatigue
	Tensile Stress vs. Strain (ASTM D638)
	Thermal Conductivity vs. Temperature (ASTM E1530)

Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
-- ¹	0.878	g/cm ³	ASTM D792
--	1.10	g/cm ³	ASTM D792
Molding Shrinkage - Flow (6.40 mm)	0.60 - 0.80	%	Internal method
Water Absorption			ASTM D570
24 hr	0.070	%	ASTM D570
Equilibrium, 23°C	0.17	%	ASTM D570
Outdoor Suitability	f1		UL 746C
Foam - Physical ²	20	%	Internal method
Foam - Mechanical ³	20	%	Internal method
Foam - Impact ⁴	20	%	Internal method
Foam - Thermal ⁵	20	%	Internal method
Foam - Flame Class Minimum Density	850	kg/m ³	Internal method
Radiant Panel Listing (UL)	YES		

Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 6.35 mm)	29.0	MPa	ASTM D638
Tensile Elongation (Break, 6.35 mm)	12	%	ASTM D638
Flexural Modulus (6.40 mm)	1900	MPa	ASTM D790
Flexural Strength (Yield, 6.40 mm)	61.4	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact (23°C, 6.40 mm)	200	J/m	ASTM D4812
Instrumented Dart Impact			ASTM D3763

-30°C, Energy at Peak Load	3.28	J	ASTM D3763
23°C, Energy at Peak Load	11.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	88.9	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	76.7	°C	ASTM D648
RTI Elec	85.0	°C	UL 746
RTI Imp	85.0	°C	UL 746
RTI	85.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+17	ohms	ASTM D257
Dielectric Strength (1.60 mm, in Oil)	12	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	2.20		ASTM D150
Dissipation Factor (1 MHz)	4.4E-3		ASTM D150
Arc Resistance ⁶	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
3.00 mm	V-1		UL 94
5.99 mm	V-0		UL 94
3.91 mm	5VA		UL 94
Additional Information			
Structural Foam Molding - Blowing Agent, Physical System: Nitrogen Gas Structural Foam Molding - Concentration Range (Blowing Agent): 1 - 3 % Structural Foam Molding - Drying Temperature (Resin): 71 - 82 °C Structural Foam Molding - Drying Time (Resin): 2 - 4 hrs Structural Foam Molding - Drying Time (Resin, Cumulative): 8 hrs Structural Foam Molding - Front Temperature: 271 - 304 °C Structural Foam Molding - Melt Temperature: 271 - 310 °C Structural Foam Molding - Middle Temperature: 271 - 304 °C Structural Foam Molding - Mold Temperature: 27 - 54 °C Structural Foam Molding - Nozzle Temperature: 271 - 304 °C Structural Foam Molding - Rear Temperature: 232 - 260 °C Structural Foam Molding - Recommended Concentration (Blowing Agent): 2 %			
NOTE			
1.	Foam molded		
2.	6.4 mm wt reduction		
3.	6.4 mm wt reduction		
4.	6.4 mm wt reduction		
5.	6.4 mm wt reduction		
6.	Tungsten electrode		

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