NORYL™ RESIN FNH2160

REGION AMERICAS

DESCRIPTION

Non brominated non chlorinated flame retarded NORYL resin for structural foam applications. 80C HDT. All values at 20% weight reduction.

TYPICAL PROPERTY VALUES

Revision 20181012

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Modulus, 50 mm/min	2680	MPa	ASTM D 638
Tensile Stress, yield, 50 mm/min	55	MPa	ASTM D 638
Tensile Strain, yield, 50 mm/min	3.04	%	ASTM D 638
Tensile Stress, yield, 6.35 mm	36	MPa	ASTM D 638
FOAM - MECHANICAL 6.4 mm Wt Reduction	20	%	-
Tensile Stress, break, 6.35 mm	34	MPa	ASTM D 638
Tensile Strain, break, 6.35 mm	12	%	ASTM D 638
Flexural Stress, yield, 6.4 mm	70	MPa	ASTM D 790
Flexural Modulus, 6.4 mm	2250	MPa	ASTM D 790
IMPACT			
FOAM - IMPACT 6.4 mm Wt Reduction	20	%	-
Izod Impact, unnotched, 23°C, 6.4mm	362	J/m	ASTM D 4812
Instrumented Impact Energy @ peak, 23°C	29	J	ASTM D 3763
THERMAL			
FOAM - THERMAL 6.4mm Wt Reduction	20	%	-
HDT, 0.45 MPa, 6.4 mm, unannealed	93	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	82	°C	ASTM D 648
Relative Temp Index, Elec	65	°C	UL 746B
Relative Temp Index, Mech w/impact	65	°C	UL 746B
Relative Temp Index, Mech w/o impact	65	°C	UL 746B
PHYSICAL			
FOAM - PHYSICAL 6.4mm Wt Reduction	20	%	-
Specific Gravity	1.12	-	ASTM D 792
Specific Gravity, foam molded	0.88	-	ASTM D 792
Water Absorption, 24 hours	0.07	%	ASTM D 570
Mold Shrinkage, flow, 6.4 mm	0.5 – 0.8	%	SABIC method
Melt Volume Rate, MVR at 280°C/5.0 kg	36	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS			
FOAM - Flame Class Minimum Density	0.85	g/cm³	-
UL Recognized, 94V-1 Flame Class Rating	3	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	6	mm	UL 94
UL Recognized, 94-5VA Rating	3.9	mm	UL 94
STRUCTURAL FOAM MOLDING			
Blowing Agent, Physical System	Nitrogen Gas	-	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	

DISCLAIMER