NORYL™ RESIN FN150

REGION EUROPE

DESCRIPTION

NORYL™ FN150 resin is a twin-wall foamable blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS) and offers 20% weight reduction at 6.35mm (0.250") wall. This material contains non-brominated, non-chlorinated flame retardant with a UL94 flame rating of 5VA and V0 at 4mm and has thin-wall impact resistance capability. NORYL FN150 resin exhibits good dimensional stability, low moisture absorption, and improved reliability + productivity. The unique combination of properties allow for designing optimum wall thickness in computer and business machine applications, electrical enclosures/housings, medical equipment, and hospital bed rails and components. In addition, the twin-wall foam offers structural foam at optimal cost efficiency.

TYPICAL PROPERTY VALUES

Revision 20190723

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	40	%	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2000	MPa	ISO 178
IMPACT			
Gardner Impact (GE)	10 – 20	J	SABIC method
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
THERMAL			
Thermal Conductivity	0.24	W/m·°C	ISO 8302
CTE, 23°C to 80°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/120	105	°C	ISO 306
Relative Temp Index, Elec [1]	65	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	65	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	65	°C	UL 746B
PHYSICAL			
Weight Reduction	20	%	SABIC method
Specific Gravity	1.01	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	0.6 – 0.8	%	SABIC method
Melt Volume Rate, MVR at 280°C/2.16 kg	6	cm³/10 min	ISO 1133
ELECTRICAL			
Relative Permittivity, 1 MHz	2.2	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0047	-	IEC 60250
Dissipation Factor, 1 MHz	0.0039	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.3	-	IEC 60250
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E45329-236752	-	-
UL Recognized, 94-5VA Flame Class Rating	≥4	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥4	mm	UL 94

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Oxygen Index (LOI)	29	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	80 – 100	°C	
Drying Time	2 – 3	hrs	
Melt Temperature	260 – 280	°C	
Nozzle Temperature	240 – 260	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	240 – 260	°C	
Rear - Zone 1 Temperature	220 – 240	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 80	°C	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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