NORYL™ RESIN BN31

REGION ASIA

DESCRIPTION

NORYL™ BN31 resin is a non-reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This blow moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VA at 2.5mm and V0 at 1.5mm along with a UL746C Outdoor Suitability rating of F1. NORYL BN31 resin exhibit good low temperature impact strength, heat resistance, excellent processability, Low warpage, and dimensional stability. The material is an excellent candidate for blow molded applications such as hospital bed headboard, cladding, tray.

TYPICAL PROPERTY VALUES

Revision 20191010

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	72	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2410	MPa	ASTM D 790
IMPACT			
Izod Impact, notched, 23°C	267	J/m	ASTM D 256
Izod Impact, notched, -40°C	106	J/m	ASTM D 256
Gardner, 23°C	13	J	ASTM D 3029
Gardner, -40°C	33	J	ASTM D 3029
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	82	°C	ASTM D 648
Relative Temp Index, Elec [1]	95	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	95	°C	UL 746B
PHYSICAL			
Specific Gravity	1.1	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 – 0.7	%	SABIC method
ELECTRICAL			
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-221152	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
EXTRUSION BLOW MOLDING			
Drying Temperature	95	°C	
Drying Time	2 – 4	hrs	
Melt Temperature (Parison)	210 – 215	°C	
Barrel - Zone 1 Temperature	205 – 215	°C	
Barrel - Zone 2 Temperature	205 – 215	°C	
Barrel - Zone 3 Temperature	205 – 215	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Barrel - Zone 4 Temperature	210 – 215	°C	
Adapter - Zone 5 Temperature	210 – 215	°C	
Head - Zone 6 - Top Temperature	210 – 215	°C	
Head - Zone 7 - Bottom Temperature	215 – 220	°C	
Mold Temperature	50 – 70	°C	
Die Temperature	215 – 220	°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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