NORYL™ RESIN LTA6020

REGION ASIA

DESCRIPTION

NORYL™ LTA6020 resin is a non-reinforced blend of polyphenylene ether (PPE) + high impact polystyrene (HIPS). This injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of 5VA at 2.5mm, 5VB at 2mm, and V0 at 1.5mm. NORYL LTA6020 exhibits good dimensional stability over a wide temperature range, high heat performance, low moisture uptake, and offers long-term aging / retention of mechanical properties. It is an excellent candidate for solar / photovoltaic (PV) junction boxes and outdoor electrical enclosures.

TYPICAL PROPERTY VALUES

Revision 20191010

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	72	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	105	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	2580	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	71	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	8	%	ISO 527
Tensile Modulus, 1 mm/min	2680	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
IMPACT			
Charpy Impact, unnotched, 23°C	18	kJ/m²	ISO 179/2C
Izod Impact, notched, 23°C	220	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	16	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	12	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -10°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -40°C	8	kJ/m²	ISO 180/1A
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/120	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	144	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	136	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	123	°C	ISO 75/Af
Relative Temp Index, Elec (1)	125	°C	UL 746B
Relative Temp Index, Mech w/impact (1)	125	°C	UL 746B
Relative Temp Index, Mech w/o impact (1)	125	°C	UL 746B
PHYSICAL			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Specific Gravity	1.13	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	4	g/10 min	ASTM D 1238
Density	1.13	g/cm³	ISO 1183
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C/5.0 kg	20	cm³/10 min	ISO 1133
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1	mm	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E207780-100960606	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥2	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	≥1	mm	UL 94
Glow Wire Flammability Index, 1.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	105	°C	
Drying Time	3 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Front - Zone 3 Temperature	270 – 290	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 100	°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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