NORYL™ RESIN NHP5054

REGION ASIA

DESCRIPTION

NORYL™ NHP5054 resin is a 20% glass 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 V0 at 0.75mm for thin-wall molding capability. NORYL NHP5054 is based on a unique co-polymer technology and exhibits good dimensional stability, high heat resistance, strong electrical performance, and very low specific gravity. It is an excellent candidate for electrical vehicle (EV) battery housings, automotive under-the-hood enclosures and components where thin-wall FR, modulus retention, and high heat resistance are required.

TYPICAL PROPERTY VALUES

Revision 20191010

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1] [2] [3] [4]			
Tensile Stress, yld, Type I, 5 mm/min	120	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	150	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	6000	MPa	ASTM D 790
IMPACT [1] [2] [3] [4]			
Izod Impact, notched, 23°C	100	J/m	ASTM D 256
THERMAL [1] [2] [3] [4]			
HDT, 1.82 MPa, 6.4 mm, unannealed	120	°C	ASTM D 648
Relative Temp Index, Elec [5]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [5]	115	°C	UL 746B
Relative Temp Index, Mech w/o impact [5]	125	°C	UL 746B
PHYSICAL [1] [2] [3] [4]			
Specific Gravity	1.3	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	24	g/10 min	ASTM D 1238
FLAME CHARACTERISTICS [5] [6]			
UL Yellow Card Link	E207780-101793092	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94
INJECTION MOLDING			
Drying Temperature	105 – 110	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	270 – 310	°C	
Middle - Zone 2 Temperature	260 – 305	°C	
Rear - Zone 1 Temperature	250 – 300	°C	
Mold Temperature	75 – 105	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	

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(1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity.
(2) All properties, except the melt volume rate are measured on injection moulded samples.
(3) All samples are prepared according to ISO 294.
(4) Only typical data for material selection purpose.Not to be used for part or tool design.
(5) 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.
(6) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

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