NORYL™ Resin NHP5054

REGION AMERICAS

DESCRIPTION

NORYL NHP5054 resin is a 20% glass fiber reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). 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.

GENERAL INFORMATION	
Features	Flame Retardant, Good Processability, Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Non Cl/Br flame retardant, Non halogenated flame retardant, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive EV Batteries
Electrical and Electronics	Energy Management, Electronic Components, Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260205

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1] [2] [3] [4] [5]			
Tensile Stress, yld, Type I, 5 mm/min	120	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	150	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	6000	MPa	ASTM D790
IMPACT [1] [2] [3] [4] [5]			
Izod Impact, notched, 23°C	100	J/m	ASTM D256
THERMAL [1] [2] [3] [4] [5]			
HDT, 1.82 MPa, 6.4 mm, unannealed	120	°C	ASTM D648
Relative Temp Index, Elec [6]	125	°C	UL 746B
Relative Temp Index, Mech w/impact [6]	115	°C	UL 746B
Relative Temp Index, Mech w/o impact [6]	125	°C	UL 746B
PHYSICAL [1] [2] [3] [4] [5]			
Specific Gravity	1.3	-	ASTM D792
Melt Flow Rate, 250°C/10.0 kgf	8	g/10 min	ASTM D1238
FLAME CHARACTERISTICS [6] [7]			
UL Yellow Card Link	E207780-101793092	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.75	mm	UL 94

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
INJECTION MOLDING [8]			
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	%	

(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) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(6) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses, colors and regions. For details, please see the UL Yellow Card.
(7) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(8) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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