NORYL™ Resin IGN320

REGION AMERICAS

DESCRIPTION

NORYL IGN320 resin is a 20% glass fiber reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits high heat resistance, high modulus, very low moisture absorption, and good dimensional stability. NORYL IGN320 resin is an excellent candidate for automotive applications such as ignition coils where heat and high modulus is required.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, 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 Under the Hood

TYPICAL PROPERTY VALUES

Revision 20241016

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	108	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	108	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.4	%	ASTM D638
Tensile Modulus, 5 mm/min	6260	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	170	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5720	MPa	ASTM D790
IMPACT [1]			
Izod Impact, unnotched, 23°C	512	J/m	ASTM D4812
Izod Impact, notched, 23°C	101	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	16	J	ASTM D3763
THERMAL [1]			
Vicat Softening Temp, Rate B/50	175	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	164	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	158	°C	ASTM D648
PHYSICAL [1]			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.2 – 0.4	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	12.8	g/10 min	ASTM D1238
ELECTRICAL [1]			
Dielectric Strength, in oil, 1.6 mm	33.9	kV/mm	ASTM D149

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
INJECTION MOLDING [3]			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 325	°C	
Nozzle Temperature	300 – 325	°C	
Front - Zone 3 Temperature	290 – 325	°C	
Middle - Zone 2 Temperature	275 – 320	°C	
Rear - Zone 1 Temperature	265 – 315	°C	
Mold Temperature	80 – 110	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	

(1) 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.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) 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.

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