NORYL GTX™ Resin APS130

DESCRIPTION

NORYL GTX APS130 resin is a 30% glass fiber reinforced alloy of Polyphenylene Ether (PPE) + Polyphenylene Sulfide (PPS). This injection moldable grade has high stiffness, excellent chemical resistance, and high heat resistance. NORYL APS130 resin is an excellent candidate for automotive under-the-hood applications such as ignition systems and electrical components

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, 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 + PPS (PPE+PPS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20230607

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Modulus, 1 mm/min	6640	MPa	ISO 527
Tensile Strain, break, 5 mm/min	1.5	%	ISO 527
Flexural Modulus, 2 mm/min	8110	MPa	ISO 178
Flexural Stress, break, 2 mm/min	170	MPa	ISO 178
Tensile Stress, break, 5 mm/min	120	MPa	ISO 527
Tensile Stress, yield	112	MPa	SABIC - Japan Method
Tensile Strain, break	8	%	SABIC - Japan Method
Flexural Stress	156	MPa	ASTM D790
Flexural Modulus	8430	MPa	ASTM D790
IMPACT [1]			
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	59	kJ/m²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	21	kJ/m²	ISO 179/1eA
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	22	kJ/m²	ISO 179/1eU
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
Izod Impact, notched, 23°C	88	J/m	ASTM D256
THERMAL [1]			
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	264	°C	ISO 75/Bf
HDT, 0.45 MPa, 6.4 mm, unannealed	267	°C	ASTM D648
CTE, -30°C to 30°C	0.000025 – 0.000055	1/°C	TMA
PHYSICAL [1]			
Density	1.44	g/cm³	ISO 1183
Mold Shrinkage, flow [2]	0.13	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow [2]	0.16	%	SABIC method
Specific Gravity	1.44	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.02	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [2]	0.25 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	29.1	g/10 min	ASTM D1238
ELECTRICAL [1]			
Volume Resistivity	1.2E+17	Ω.cm	ASTM D257
Comparative Tracking Index	150	V	IEC 60112
Surface Resistivity	1E+16	Ω	ASTM D257
Dielectric Strength, in oil, 1.6 mm	22.1	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.3	-	ASTM D150
INJECTION MOLDING [3]			
Drying Temperature	120 – 150	°C	
Drying Time	4 – 8	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 330	°C	
Nozzle Temperature	300 – 330	°C	
Front - Zone 3 Temperature	295 – 330	°C	
Middle - Zone 2 Temperature	290 – 320	°C	
Rear - Zone 1 Temperature	280 – 315	°C	
Mold Temperature	95 – 150	°C	
Back Pressure	0.7 – 1.4	MPa	
Screw Speed	50 – 100	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(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.

MORE INFORMATION

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

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