NORYL™ Resin PX138H

REGION AMERICAS

DESCRIPTION

NORYL PX138H resin is a 20% glass fiber reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits very low moisture absorption, high strength, hydrolytic stability, Low warpage, low specific gravity, and dimensional stability.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability, High stiffness/Strength, 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
Building and Construction	Building Component, Water Management

TYPICAL PROPERTY VALUES

Revision 20260206

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	100	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	100	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	6500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	140	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	5300	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	90	MPa	ISO 527
Tensile Stress, break, 5 mm/min	90	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	6000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	150	MPa	ISO 178
Flexural Modulus, 2 mm/min	5400	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	90	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	20	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	30	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	33	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	143	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	137	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	3.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	147	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	135	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.23	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.45 – 0.55	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	2.7	g/10 min	ASTM D1238
Density	1.23	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.12	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	2	cm³/10 min	ISO 1133
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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