

NORYL™ RESIN PX5373

REGION AMERICAS

DESCRIPTION

NORYL PX5373 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 5VA at 2mm and V1 at 1.5mm along with RTI of 110C. NORYL PX5373 exhibits high heat resistance, good dielectric strength, dimensional stability, hydrolytic stability, and very low moisture absorption. This material is an excellent candidate for a variety of applications such as, unattended power supply (UPS) inverter/charger, indoor and outdoor electrical enclosures / housings / connectors, and wall plates / sockets / switches.

GENERAL INFORMATION

Features	Flame Retardant, 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, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY

Building and Construction
Electrical and Electronics
Industrial

SUB INDUSTRY

Building Component
Energy Management, Electronic Components, Mobile Phone - Computer - Tablets
Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 5 mm/min	106	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	5	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	151	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	5720	MPa	ASTM D790
Hardness, Rockwell L	106	-	ASTM D785
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	106	J/m	ASTM D256
Izod Impact, notched, -40°C	96	J/m	ASTM D256
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D648
CTE, -40°C to 95°C, flow	3.6E-05	1/°C	ASTM E831
Relative Temp Index, Elec	110	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	110	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.23	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.06	%	ASTM D570

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CHEMISTRY THAT MATTERS™

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	0.2 – 0.5	%	SABIC method
ELECTRICAL ⁽¹⁾			
Dielectric Strength, in oil, 3.2 mm	23.6	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	2.98	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.0016	-	ASTM D150
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS ⁽³⁾			
UL Yellow Card Link	E121562-624509	-	-
UL Recognized, 94V-1 Flame Class Rating	1.47	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	5.99	mm	UL 94
Oxygen Index (LOI)	27	%	ASTM D2863
INJECTION MOLDING ⁽⁴⁾			
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) 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.

(4) 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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