NORYL PPX™ RESIN PPX7200U

REGION AMERICAS

DESCRIPTION

NORYL PPX7200U resin is a non-reinforced alloy of polyphenylene ether (PPE) + polypropylene (PP). This UV-stabilized, injection moldable grade exhibits improved chemical resistance and surface aesthetics along with high-temperature performance, excellent melt strength, modulus, impact resistance, hydrolytic and dimensional stability. NORYL PPX7200U resin is an excellent candidate for applications such as hot water tank components and outdoor housings and enclosures.

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability, High stiffness/Strength, High temperature resistance, Impact resistant, Weatherable/UV stable, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PP (PPE+PP)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component, Water Management
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	33	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	27	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	10	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D638
Tensile Modulus, 50 mm/min	1240	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	48	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1440	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	34	MPa	ISO 527
Tensile Stress, break, 50 mm/min	28	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	8.2	%	ISO 527
Tensile Strain, break, 50 mm/min	115	%	ISO 527
Tensile Modulus, 1 mm/min	1670	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	48	MPa	ISO 178
Flexural Modulus, 2 mm/min	1600	MPa	ISO 178
IMPACT [1]			
Izod Impact, unnotched, 23°C	1441	J/m	ASTM D4812
Izod Impact, notched, 23°C	149	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	36	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	14	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	80	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate B/50	146	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	110	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	71	°C	ASTM D648
CTE, -40°C to 40°C, flow	9.9E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	1.08E-04	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	103	°C	ISO 306
Vicat Softening Temp, Rate B/120	107	°C	ISO 306
PHYSICAL [1]			
Specific Gravity	0.99	-	ASTM D792
Mold Shrinkage on Tensile Bar, flow [2]	0.6 – 0.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm [2]	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	16	g/10 min	ASTM D1238
Density	0.99	g/cm³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	18	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E121562-256210	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	60 – 65	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 290	°C	
Nozzle Temperature	260 – 290	°C	
Front - Zone 3 Temperature	250 – 290	°C	
Middle - Zone 2 Temperature	240 – 280	°C	
Rear - Zone 1 Temperature	225 – 275	°C	
Mold Temperature	30 – 50	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	
Vent Depth	0.038 – 0.051	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) 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.

DISCLAIMER