NORYL PPX™ Resin PPX640

REGION EUROPE

DESCRIPTION

NORYL PPX640 resin is a 40% glass fiber reinforced alloy of polyphenylene ether (PPE) + Polypropylene (PP). This injection moldable grade exhibits high stiffness along with temperature performance, impact resistance, hydrolytic stability, and dimensional stability. NORYL PPX640 resin is an excellent candidate for applications requiring a good chemical resistance and high stiffness.

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Creep resistant, Dimensional stability, High stiffness/Strength, High temperature resistance, Impact resistant, No PFAS intentionally added
Fillers	Glass Fiber (Total fluorine >50ppm only from inorganic fluorine)
Polymer Types	Polyphenylene Ether + PP (PPE+PP)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck
Building and Construction	Water Management
Electrical and Electronics	Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Taber Abrasion, CS-17, 1 kg	85	mg/1000cy	SABIC method
Tensile Stress, break, 5 mm/min	100	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Modulus, 1 mm/min	9700	MPa	ISO 527
Flexural Stress, break, 2 mm/min	150	MPa	ISO 178
Flexural Modulus, 2 mm/min	8500	MPa	ISO 178
Ball Indentation Hardness, H358/30	100	MPa	ISO 2039-1
IMPACT [1]			
Izod Impact, unnotched 80*10*4 +23°C	35	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	30	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	13	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	12	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m²	ISO 179/1eU
THERMAL [1]			
CTE, 23°C to 60°C, flow	1.6E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 60°C, xflow	9.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	138	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	158	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	145	°C	ISO 75/Ae
PHYSICAL (1)			
Density	1.3	g/cm³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	3	cm³/10 min	ISO 1133
ELECTRICAL (1)			
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 3.2 mm	22	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0003	-	IEC 60250
Dissipation Factor, 1 MHz	0.0004	-	IEC 60250
Comparative Tracking Index (2)	425	V	IEC 60112
Relative Permittivity, 50/60 Hz	2.8	-	IEC 60250
FLAME CHARACTERISTICS (3)			
Glow Wire Flammability Index 750°C, passes at	3.2	mm	IEC 60695-2-12
INJECTION MOLDING (4)			
Drying Temperature	65 – 75	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 305	°C	
Nozzle Temperature	260 – 305	°C	
Front - Zone 3 Temperature	255 – 300	°C	
Middle - Zone 2 Temperature	250 – 290	°C	
Rear - Zone 1 Temperature	245 – 290	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	40 – 65	°C	

(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) Value shown here is based on internal measurement.

(3) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. 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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