NORYL PPX™ RESIN PPX640F

REGION AMERICAS

DESCRIPTION

NORYL PPX™ 640F resin is a 40% glass reinforced alloy of polyphenylene ether (PPE) + polypropylene (PP). This injection moldable grade is NSF 61 certified and exhibits high elongation and stiffness along with temperature performance, impact resistance, hydrolytic and dimensional stability. NORYL PPX640F resin is an excellent candidate for copper and brass replacement in water management applications such as water filtration systems, boiler systems, and heat exchangers.

TYPICAL PROPERTY VALUES

Revision 20190214

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	95	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	95	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6.4	%	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	150	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	8310	MPa	ASTM D 790
IMPACT			
Izod Impact, unnotched, 23°C	576	J/m	ASTM D 4812
Izod Impact, notched, 23°C	106	J/m	ASTM D 256
Izod Impact, notched, -30°C	96	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	16	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	14	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	163	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	158	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	146	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.08E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.3E-05	1/°C	ASTM E 831
PHYSICAL			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.17 – 0.18	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.27 – 0.61	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	1.3	g/10 min	ASTM D 1238
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-221228	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	65 – 75	°C	
Drying Time	2 – 4	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 305	°C	
Nozzle Temperature	260 – 305	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	255 – 300	°C	
Middle - Zone 2 Temperature	250 – 290	°C	
Rear - Zone 1 Temperature	245 – 290	°C	
Mold Temperature	40 – 65	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 70	%	
Vent Depth	0.051 – 0.076	mm	

(1) 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.

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