NORYL™ Resin TP0140IF

DESCRIPTION

NORYL TP0140IF resin is a non-reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits high transparency, high heat resistance, high ductility, very low water absorption and dimensional stability. TP0140IF carries FDA food contact compliance. Target applications are small appliances, steamer, water bottles, cutlery and other food contact applications.

GENERAL INFORMATION	
Features	Hydrolytic Stability, Low Warpage, Amorphous, Low Corrosivity, Low Moisture Absorption, Low Specific Gravity, Transparent/Translucent, Food contact, Dimensional stability, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PS (PPE+PS)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Consumer Goods, Commercial Appliance
Packaging	Food & Beverage

TYPICAL PROPERTY VALUES

Revision 20260904

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	70	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	48	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.3	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	15	%	ASTM D638
Tensile Modulus, 50 mm/min	2280	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	105	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2350	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	73.5	MPa	ISO 527
Tensile Stress, break, 50 mm/min	48.5	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.1	%	ISO 527
Tensile Strain, break, 50 mm/min	12	%	ISO 527
Tensile Modulus, 1 mm/min	2470	MPa	ISO 527
Flexural Strength, 2 mm/min	102	MPa	ISO 178
Flexural Modulus, 2 mm/min	2380	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	45	J/m	ASTM D256
Izod Impact, unnotched, 23°C	660	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	4.3	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	139	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	138	°C	ISO 75/Af
PHYSICAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Specific Gravity	1.05	-	ASTM D792
Melt Flow Rate, 300°C/5.0 kgf	16	g/10 min	ASTM D1238
Water Absorption, (23°C/24hrs)	0.06	%	ISO 62-1
Mold Shrinkage, flow, 3.2 mm (2)	0.9 – 1.1	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm (2)	1.0 – 1.2	%	SABIC method
OPTICAL (1)			
Light Transmission at 2.0 mm	82	%	ASTM D1003
Haze, 2mm	2	%	SABIC method
Yellowness Index	45	-	ASTM D1925
INJECTION MOLDING (3)			
Drying Temperature	90 – 100	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 310	°C	
Nozzle Temperature	290 – 310	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Middle - Zone 2 Temperature	270 – 305	°C	
Rear - Zone 1 Temperature	265 – 300	°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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