NORYL GTX™ Resin GTX973 - Americas

(PPE+PA*) Saudi Basic Industries Corporation (SABIC)

Product Texts

NORYL GTX™ 973 resin is a conductive, non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is optimized to allow for in- or on-line primer-less electrostatic and powder coat painting. NORYL GTX973 resin exhibits high impact resistance and strength and is an excellent candidate for automotive painted applications such as body panels, fenders, and tank flaps.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**12**	cm³/10min	ISO 1133
Temperature	**280**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**1.6**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.7**	%	ISO 294-4, 2577
Density of melt	**945**	kg/m³	-
Thermal conductivity of melt	**0.22**	W/(m K)	-
Spec. heat capacity of melt	**2610**	J/(kg K)	-
Ejection temperature	**240**	°C	-
ASTM Data			
Melt Flow Index, MFI	**20**	g/10min	ASTM D 1238
Temperature	**280**	°C	-
Load	**5**	kg	-
Mold Shrinkage, MD	**1.6**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**1.69**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2300**	MPa	ISO 527
Yield stress	**64**	MPa	ISO 527
Yield strain	**4.8**	%	ISO 527
Stress at break	**56**	MPa	ISO 527
Strain at break	**41**	%	ISO 527
Flexural modulus	**2380**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**14**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**6**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C, 4mm	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C, 4mm	**13**	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	**7**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**2300**	MPa	ASTM D 638
Tensile Strength at Yield	**61**	MPa	ASTM D 638
Tensile Strength at Break	**54**	MPa	ASTM D 638
Elongation at Yield	**5**	%	ASTM D 638
Elongation at Break	**37**	%	ASTM D 638
Flexural Modulus	**2230**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**138**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**80**	J/m	ASTM D 256
Temperature	**-30**	°C	-
Izod Impact unnotched, 1/8 in	**N**	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**126**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**190**	°C	ISO 75-1/-2
Vicat softening temperature, A	**245**	°C	ISO 306
Vicat softening temperature, B	**200**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**92**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**95**	E-6/K	ISO 11359-1/-2
ASTM Data			
DTUL @ 66 psi	**198**	°C	ASTM D 648

DTUL @ 264 psi	**136**	°C	ASTM D 648
Vicat Temperature	**199**	°C	ASTM D 1525

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**2.24**	%	Sim. to ISO 62
Density	**1090**	kg/m³	ISO 1183
Density	**1090**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**100 - 120**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Processing humidity	**≤0.07**	%	-
Melt temperature	**290 - 320**	°C	-
Mold temperature	**100 - 120**	°C	-
Feed temperature	**60 - 80**	°C	-
Zone 1	**260 - 280**	°C	-
Zone 2	**280 - 300**	°C	-
Zone 3	**290 - 320**	°C	-

Characteristics

Processing
Injection Molding

Regional Availability
North America

Applications
Automotive