NORYL GTX™ Resin GTX989 - Americas

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

Product Texts

NORYL GTX™ 989 resin is a conductive, non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is optimized for primer-less electrostatic painting. NORYL GTX989 resin exhibits high heat resistance, high impact resistance, and low coefficient of thermal expansion (CTE) of ~9. This material is an excellent candidate for automotive applications such as body panels, tank flaps, fenders, trunk lid, and exterior trim.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**17**	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
ASTM Data			
Melt Flow Index, MFI	**16**	g/10min	ASTM D 1238
Temperature	**280**	°C	-
Load	**5**	kg	-
Mold Shrinkage, MD	**1.56**	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	**2270**	MPa	ISO 527
Yield stress	**62**	MPa	ISO 527
Yield strain	**5**	%	ISO 527
Stress at break	**57**	MPa	ISO 527
Strain at break	**45**	%	ISO 527
Flexural modulus	**2370**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**25**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**15**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C, 4mm	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C, 4mm	**22**	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	**15**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**2280**	MPa	ASTM D 638
Tensile Strength at Yield	**60**	MPa	ASTM D 638
Tensile Strength at Break	**55**	MPa	ASTM D 638
Elongation at Yield	**5.1**	%	ASTM D 638
Elongation at Break	**39**	%	ASTM D 638
Flexural Modulus	**2220**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**251**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**180**	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	**123**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**190**	°C	ISO 75-1/-2
Vicat softening temperature, A	**246**	°C	ISO 306
Vicat softening temperature, B	**195**	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	**200**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**93**	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	**190**	°C	ASTM D 648
DTUL @ 264 psi	**133**	°C	ASTM D 648
Vicat Temperature	**195**	°C	ASTM D 1525

Other properties	Value	Unit	Test Standard
Water absorption	**2.29**	%	Sim. to ISO 62
Density	**1080**	kg/m³	ISO 1183
Density	**1080**	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

Applications
Automotive

Regional Availability
North America