NORYL GTX™ Resin GTX678 - Americas

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

Product Texts

NORYL GTX™ 678 resin is a conductive, high performance non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is optimized for primer-less electrostatic and powder coat painting, and it is UL 5VA rated with a non-brominated, non-chlorinated FR package. NORYL GTX678 resin exhibits an excellent balance of conductivity, high heat resistance, good ductility, and is heat stabilized. This material is an excellent candidate for non-automotive painted applications such as office furniture, PVC/metal replacement, lighting ballast housings / enclosures, and appliance exteriors.

UL Yellow Card Link E121562-516521

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**7**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**5**	kg	-
Density of melt	**992**	kg/m³	-
Thermal conductivity of melt	**0.2**	W/(m K)	-
Spec. heat capacity of melt	**1960**	J/(kg K)	-
Ejection temperature	**145**	°C	-
ASTM Data			
Melt Flow Index, MFI	**7.8**	g/10min	ASTM D 1238
Temperature	**300**	°C	-
Load	**5**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2900**	MPa	ISO 527
Yield stress	**58**	MPa	ISO 527
Yield strain	**7**	%	ISO 527
Stress at break	**52**	MPa	ISO 527
Strain at break	**12**	%	ISO 527
Flexural modulus	**2600**	MPa	ISO 178
Charpy notched impact strength, +23°C	**12**	kJ/m²	ISO 179/1eA
Izod notched impact strength, +23°C, 4mm	**10**	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C, 4mm	**7**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**2900**	MPa	ASTM D 638
Tensile Strength at Yield	**58**	MPa	ASTM D 638
Tensile Strength at Break	**52**	MPa	ASTM D 638
Elongation at Yield	**7**	%	ASTM D 638
Elongation at Break	**12**	%	ASTM D 638
Flexural Modulus	**2600**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**100**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**70**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 0.45 MPa	**191**	°C	ISO 75-1/-2
Vicat softening temperature, B	**197**	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	**195**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**83**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**85**	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	**V-1**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**2.0**	mm	-
Burning behav. 5V at thickness h	**5VA**	class	IEC 60695-11-20
Thickness tested	**2.0**	mm	-
Glow Wire Flammability Index (GWFI)	**825**	°C	IEC 60695-2-12
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12

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Glow Wire Ignition Temperature (GWIT)	**800**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**1**	mm	-
Glow Wire Ignition Temperature (GWIT)	**800**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**2**	mm	-
ASTM Data			
DTUL @ 66 psi	**195**	°C	ASTM D 648
Vicat Temperature	**198**	°C	ASTM D 1525
Thermal Conductivity, solid state	**0.0288**	W/(m K)	ASTM C 177
Specific Heat	**1400**	J/(kg K)	ASTM C 351

Electrical properties	**Value**	**Unit**	**Test Standard**
ASTM Data			
Volume Resistivity	**4000**	Ohm*cm	ASTM D 257

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**4**	%	Sim. to ISO 62
Humidity absorption	**0.5**	%	Sim. to ISO 62
Density	**1120**	kg/m³	ISO 1183
Density	**1120**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**95 - 105**	°C	-
Pre-drying - Time	**3 - 4**	h	-
Processing humidity	**≤0.07**	%	-
Melt temperature	**275 - 300**	°C	-
Mold temperature	**65 - 95**	°C	-
Zone 1	**260 - 300**	°C	-
Zone 2	**265 - 300**	°C	-
Zone 3	**270 - 300**	°C	-
Screw speed	**20 - 100**	rpm	-
Back pressure	**0.3 - 1.4**	MPa	-

Characteristics

Processing
Injection Molding

Regional Availability
North America

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