



NORYL GTX™ Resin GTX989

Americas: COMMERCIAL

NORYL GTX989 is a conductive and high heat material, especially designed for in- and on-line painted bodypanels and fenders in particular. This material combines impact performance with conductivity for electro-static painting in an unique way.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	660	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	610	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	45	%	ASTM D 638
Tensile Modulus, 50 mm/min	23900	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	960	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	24900	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	40	%	ISO 527
Tensile Modulus, 1 mm/min	2300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	24	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	18	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	611	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	22	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	15	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	22	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m ²	ISO 179/1eA



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THERMAL			
Vicat Softening Temp, Rate B/50	195	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	190	°C	ASTM D 648
CTE, -40°C to 60°C, flow	8.5E-05	1/°C	ASTM E 831
CTE, -40°C to 60°C, xflow	8.5E-05	1/°C	ASTM E 831
CTE, 23°C to 60°C, flow	9.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	9.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	195	°C	ISO 306
Vicat Softening Temp, Rate B/120	200	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	190	°C	ISO 75/Be
PHYSICAL			
Specific Gravity	1.08	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	1.2 - 1.6	%	SABIC Method
Melt Flow Rate, 280°C/5.0 kgf	16	g/10 min	ASTM D 1238
Density	1.08	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	4.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	1.2	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	19	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+03 - 1.E+04	Ohm-cm	SABIC Method



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	100 - 120	°C
Drying Time	2 - 3	hrs
Maximum Moisture Content	0.07	%
Melt Temperature	290 - 320	°C
Nozzle Temperature	280 - 310	°C
Front - Zone 3 Temperature	290 - 320	°C
Middle - Zone 2 Temperature	280 - 300	°C
Rear - Zone 1 Temperature	260 - 280	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	80 - 120	°C