SABIC Innovative Plastics™

Noryl GTX* Resin GTX964W

Americas: COMMERCIAL

Noryl GTX* GTX964W resin is a blend of Polyphenylene Ether and Polyamide resin with very high impact and high flow. The material wsa designed for large parts, body panels, and thinwall applications.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	44	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	56	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	73	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	1830	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	1800	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	528	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	41	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	50	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m²	ISO 179/1eA
THERMAL	Value	Unit	Standard
HDT, 0.45 MPa, 6.4 mm, unannealed	185	°C	ASTM D 648
Thermal Conductivity	0.23	W/m-°C	ASTM C 177
Vicat Softening Temp, Rate A/50	240	°C	ISO 306
Vicat Softening Temp, Rate B/50	175	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	175	°C	ISO 75/Be
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.08	-	ASTM D 792
Water Absorption, equilibrium, 23C	3.5	%	ASTM D 570
Water Absorption, 50% RH, equilib	1.19	%	ASTM D 570
Mold Shrinkage, flow	1.5	%	SABIC Method
Mold Shrinkage, xflow	1.3	%	SABIC Method
Melt Volume Rate, MVR at 280°C/2.16 kg	7	cm³/10 min	ISO 1133

Source GMD, last updated:01/13/2000

Processing

• Do NOT mix NORYL GTX* resin with other grades of NORYL* resins.

Parameter		
Injection Molding	Value	Unit
Drying Temperature	95 - 105	°C

Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.07	%
Minimum Moisture Content	0.02	%
Melt Temperature	295 - 315	°C
Nozzle Temperature	295 - 315	°C
Front - Zone 3 Temperature	290 - 315	°C
Middle - Zone 2 Temperature	280 - 315	°C
Rear - Zone 1 Temperature	275 - 315	°C
Mold Temperature	75 - 120	°C
Back Pressure	0.3 - 1.4	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 50	%
Vent Depth	0.013 - 0.038	mm

Source GMD, last updated:01/13/2000

• Polystyrene and acrylic regrind are effective purging Materials. Use temperature range appropriate for particular purging resin.
• Regrind must also be dried. Maximum 25% regrind.
• Dry at recommended temperatures and times for optimum performance. Overdrying can cause loss of physical properties and/or create appearance defects. Do not exceed recommended basic drying time and temperature above or:
  • 4-8 hrs at 95°C (200°F), 10 hrs max
  • 6-12 hrs at 80°C (175°F), 16 hrs max
  • 8-16 hrs at 65°C (150°F), 24 hrs max
• Avoid melt temperature in excess of 300°C (575°F) and residence times over 6-8 minutes (may affect properties and/or appearance).
• Nozzle temperature controls assist in elimination of drool premature freeze-off.
• Shot sizes in excess of 50% barrel capacity can lead to difficulties in providing a consistent, homogenous plastic melt.

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR (LOCAL SALES OFFICE) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.
(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.

or as a recommendation for the use of such material, product or design in the infringement of any patent or other intellectual property right

* Noryl GTX is a trademark of the SABIC Innovative Plastics Company