

Noryl GTX* Resin GTX820

Americas: COMMERCIAL

GR 20%. Higher stiffness of 800000 psi (4000 MPa) flexural modulus. Excellent chemical and high heat resistance. Application: valves.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
Flexural Stress, yld, 2.6 mm/min, 100 mm span	194	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	5960	MPa	ASTM D 790
Hardness, Rockwell R	119	-	ASTM D 785
IMPACT			
Izod Impact, notched, 23°C	80	J/m	ASTM D 256
Izod Impact, notched, -30°C	53	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	248	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	254	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	232	°C	ASTM D 648
CTE, -20°C to 150°C, flow	3.06E-05 - 3.96E-05	1/°C	ASTM E 831
PHYSICAL			
Specific Gravity	1.24	-	ASTM D 792
Density	1.245	g/cm ³	ASTM D 792
Water Absorption, 24 hours	0.5	%	ASTM D 570
Moisture Absorption, 50% RH, 24 hrs	1	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.4 - 0.6	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.65 - 0.85	%	SABIC Method

Source GMD, last updated:12/29/1999

Processing

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

Parameter	Value	Unit
Injection Molding		
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	280 - 305	°C
Nozzle Temperature	280 - 305	°C
Front - Zone 3 Temperature	275 - 305	°C
Middle - Zone 2 Temperature	270 - 305	°C
Rear - Zone 1 Temperature	265 - 305	°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

- 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.

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