

## Toyobo GLAMIDE® TY-181GC Nylon/Elastomer

Category : Polymer , Thermoplastic , Nylon

### Material Notes:

GLAMIDE® is very tough and exhibits high abrasion resistance. It has a high melting point and heat resistance, has well-balanced proportions of mechanical properties, performs self-distinguishing and a specific grade approved as UL94V-0 class is provided, and it exhibits excellent chemical resistance and oil resistance. Grade TY-181GC is a GF reinforced alloy of nylon and elastomer. It has high rigidity and high toughness and contains 43% GF.43

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Toyobo-GLAMIDE-TY-181GC-NylonElastomer.php](http://www.lookpolymers.com/polymer_Toyobo-GLAMIDE-TY-181GC-NylonElastomer.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	Absolute Drying; ASTM-D792
Filler Content	43 %	43 %	
Water Absorption	0.80 %	0.80 %	Absolute Drying; ASTM-D570
Moisture Absorption at Equilibrium	1.6 %	1.6 %	Absolute Drying; ASTM-D570
Linear Mold Shrinkage	0.0010 - 0.0030 cm/cm	0.0010 - 0.0030 in/in	Absolute Drying
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	0.0030 - 0.0060 cm/cm	0.0030 - 0.0060 in/in	Absolute Drying
	@Thickness 3.00 mm	@Thickness 0.118 in	
Melt Flow	6.0 g/10 min	6.0 g/10 min	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	Absolute Drying; ASTM-D785
Tensile Strength, Ultimate	84.0 MPa	12200 psi	Practical Use (Water Absorption 1.6%); ASTM-D638
	@Temperature 80.0 °C	@Temperature 176 °F	
	110 MPa	16000 psi	Absolute Drying; ASTM-D638
	@Temperature 80.0 °C	@Temperature 176 °F	
	115 MPa	16700 psi	Practical Use (Water Absorption 1.6%); ASTM-D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	170 MPa	24700 psi	Absolute Drying; ASTM-D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	240 MPa	34800 psi	Practical Use (Water Absorption 1.6%); ASTM-D638

Mechanical Properties	@Temperature -40.0 °C Metric	@Temperature -40.0 °F English	Comments
	280 MPa	40600 psi	Absolute Drying; ASTM-D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Elongation at Break	3.6 %	3.6 %	Absolute Drying; ASTM-D638
	4.0 %	4.0 %	Practical Use (Water Absorption 1.6%); ASTM-D638
Flexural Strength	87.0 MPa	12600 psi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	130 MPa	18900 psi	Absolute Drying; ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	160 MPa	23200 psi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	245 MPa	35500 psi	Absolute Drying; ASTM-D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	288 MPa	41800 psi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	345 MPa	50000 psi	Absolute Drying; ASTM-D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Modulus	4.00 GPa	580 ksi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	5.60 GPa	812 ksi	Absolute Drying; ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	6.00 GPa	870 ksi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	9.80 GPa	1420 ksi	Absolute Drying; ASTM-D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	11.7 GPa	1700 ksi	Practical Use (Water Absorption 1.6%); ASTM-D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	13.0 GPa	1890 ksi	Absolute Drying; ASTM-D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Compressive Strength	140 MPa	20300 psi	Absolute Drying; ASTM-D695

Mechanical Properties	Metric	English	Comments
	1.70 J/cm	3.18 ft-lb/in	Drying; ASTM-D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.90 J/cm	3.56 ft-lb/in	Practical Use (Water Absorption 1.6%); ASTM-D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	3.25 J/cm	6.09 ft-lb/in	Absolute Drying; ASTM-D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Practical Use (Water Absorption 1.6%); ASTM-D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	24.0 µm/m-°C	13.3 µin/in-°F	Absolute Drying; ASTM-D696
Deflection Temperature at 0.46 MPa (66 psi)	230 °C	446 °F	Absolute Drying; ASTM-D648
Deflection Temperature at 1.8 MPa (264 psi)	218 °C	424 °F	Absolute Drying; ASTM-D648
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+9 ohm-cm	1.00e+9 ohm-cm	Practical Use (Water Absorption 1.6%); ASTM-D257
	1.00e+12 ohm-cm	1.00e+12 ohm-cm	Absolute Drying; ASTM-D257
Dielectric Strength	19.0 kV/mm	483 kV/in	Practical Use (Water Absorption 1.6%); ASTM-D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
	25.0 kV/mm	635 kV/in	Absolute Drying; ASTM-D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Arc Resistance	83 sec	83 sec	Practical Use (Water Absorption 1.6%); ASTM-D495
	90 sec	90 sec	Absolute Drying; ASTM-D495
Comparative Tracking Index	575 V	575 V	IEC Method

Processing Properties	Metric	English	Comments
Melt Temperature	280 °C	536 °F	
Mold Temperature	80.0 - 100 °C	176 - 212 °F	
Injection Pressure	30.0 - 70.0 MPa	4350 - 10200 psi	

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