

Toyobo GLAMIDE® TY-102ND 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-102ND is a super tough, non-reinforced alloy of nylon and elastomer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Toyobo-GLAMIDE-TY-102ND-NylonElastomer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.09 g/cc	1.09 g/cc	Absolute Drying; ASTM-D792
Water Absorption	1.0 %	1.0 %	Absolute Drying; ASTM-D570
Moisture Absorption at Equilibrium	2.9 %	2.9 %	Absolute Drying; ASTM-D570
Linear Mold Shrinkage	0.0070 - 0.010 cm/cm	0.0070 - 0.010 in/in	Absolute Drying
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	0.015 - 0.020 cm/cm	0.015 - 0.020 in/in	Absolute Drying
	@Thickness 3.00 mm	@Thickness 0.118 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	102	102	Absolute Drying; ASTM-D785
Tensile Strength, Ultimate	15.0 MPa	2180 psi	Practical Use (Water Absorption 2.9%); ASTM-D638
	@Temperature 80.0 °C	@Temperature 176 °F	
	21.0 MPa	3050 psi	Absolute Drying; ASTM-D638
	@Temperature 80.0 °C	@Temperature 176 °F	
	27.0 MPa	3920 psi	Practical Use (Water Absorption 2.9%); ASTM-D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	50.0 MPa	7250 psi	Absolute Drying; ASTM-D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	74.0 MPa	10700 psi	Practical Use (Water Absorption 2.9%); ASTM-D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	85.0 MPa	12300 psi	Absolute Drying; ASTM-D638
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Elongation at Break Mechanical Properties	≥ 200 % Metric	≥ 200 % English	ASTM-D638 Comments
Flexural Strength	17.0 MPa	2470 psi	Practical Use (Water Absorption 2.9%); ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	27.0 MPa	3920 psi	Absolute Drying; ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	35.0 MPa	5080 psi	Practical Use (Water Absorption 2.9%); ASTM-D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	75.0 MPa	10900 psi	Absolute Drying; ASTM-D790
@Temperature 23.0 °C	@Temperature 73.4 °F		
87.0 MPa	12600 psi	Practical Use (Water Absorption 2.9%); ASTM-D790	
@Temperature -40.0 °C	@Temperature -40.0 °F		
Flexural Modulus	94.0 MPa	13600 psi	Absolute Drying; ASTM-D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.200 GPa	29.0 ksi	Practical Use (Water Absorption 2.9%); ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	0.600 GPa	87.0 ksi	Absolute Drying; ASTM-D790
	@Temperature 80.0 °C	@Temperature 176 °F	
	0.800 GPa	116 ksi	Practical Use (Water Absorption 2.9%); ASTM-D790
@Temperature 23.0 °C	@Temperature 73.4 °F		
2.00 GPa	290 ksi	Absolute Drying; ASTM-D790	
@Temperature 23.0 °C	@Temperature 73.4 °F		
2.30 GPa	334 ksi	Practical Use (Water Absorption 2.9%); ASTM-D790	
@Temperature -40.0 °C	@Temperature -40.0 °F		
2.70 GPa	392 ksi	Absolute Drying; ASTM-D790	
@Temperature -40.0 °C	@Temperature -40.0 °F		
Izod Impact, Notched	1.50 J/cm	2.81 ft-lb/in	Absolute Drying; ASTM-D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.80 J/cm	3.37 ft-lb/in	Practical Use (Water Absorption 2.9%); ASTM-D256
@Temperature -40.0 °C	@Temperature -40.0 °F		
	3.10 J/cm	5.81 ft-lb/in	Absolute Drying; ASTM-D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	Practical Use (Water Absorption 2.9%); ASTM-D256
Taber Abrasion, mg/1000 Cycles	8.0	8.0	CS-17, Absolute Drying; ASTM-D1044

Thermal Properties	Metric	English	Comments
CTE, linear	87.0 µm/m-°C	48.3 µin/in-°F	Absolute Drying; ASTM-D696
Deflection Temperature at 0.46 MPa (66 psi)	150 °C	302 °F	Absolute Drying; ASTM-D648
Deflection Temperature at 1.8 MPa (264 psi)	58.0 °C	136 °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 2.9%); ASTM-D257
	1.00e+12 ohm-cm	1.00e+12 ohm-cm	Absolute Drying; ASTM-D257
Dielectric Strength	14.0 kV/mm	356 kV/in	Practical Use (Water Absorption 2.9%); ASTM-D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Arc Resistance	18.0 kV/mm	457 kV/in	Absolute Drying; ASTM-D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Comparative Tracking Index	108 sec	108 sec	Practical Use (Water Absorption 2.9%); ASTM-D495
	125 sec	125 sec	Absolute Drying; ASTM-D495
	>= 600 V	>= 600 V	IEC Method

Processing Properties	Metric	English	Comments
Melt Temperature	245 - 285 °C	473 - 545 °F	
Mold Temperature	50.0 - 80.0 °C	122 - 176 °F	
Injection Pressure	40.0 - 80.0 MPa	5800 - 11600 psi	

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