

UBE UBESTA® 3020GX6 Glass Fiber Reinforced Nylon 12

Category : Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Description: UBE UBESTA® Automotive grade Nylon 12
 Comments: conductive, glass fiber reinforced, UV resistance
 Information provided by UBE.

Order this product through the following link:

http://www.lookpolymers.com/polymer_UBE-UBESTA-3020GX6-Glass-Fiber-Reinforced-Nylon-12.php

Physical Properties	Metric	English	Comments
Density	1.16 g/cc	0.0419 lb/in ³	ASTM D792
Melt Flow	4.6 g/10 min @Load 2.16 kg, Temperature 235 °C	4.6 g/10 min @Load 4.76 lb, Temperature 455 °F	ASTM D1238R

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	111	111	ASTM D785
Tensile Strength at Break	127 MPa	18400 psi	ASTM D638
Elongation at Break	6.0 %	6.0 %	ASTM D638
Flexural Strength	178 MPa	25800 psi	ASTM D790
Flexural Modulus	8.05 GPa	1170 ksi	ASTM D790
Izod Impact, Notched	1.44 J/cm	2.70 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Melting Point	178 °C	352 °F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	182 °C	360 °F	ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	1e+05 - 1.00e+6 ohm-cm	1e+05 - 1.00e+6 ohm-cm	

Processing Properties	Metric	English	Comments
Processing Temperature	230 °C	446 °F	Flange Temperature for T-Die Cast Film Extrusion
Feed Temperature	40.0 °C	104 °F	Injection Molding

Zone 1 Processing Properties	190 °C Metric	374 °F English	For T-Die Cast Film Extrusion Comments
	220 °C	428 °F	Injection Molding
	230 °C	446 °F	For 8x1 mm Tube Extrusion
Zone 2	210 °C	410 °F	For T-Die Cast Film Extrusion
	225 °C	437 °F	For 8x1 mm Tube Extrusion
	230 °C	446 °F	Injection Molding
Zone 3	220 °C	428 °F	For 8x1 mm Tube Extrusion
	230 °C	446 °F	For T-Die Cast Film Extrusion
	240 °C	464 °F	Injection Molding
Zone 4	215 °C	419 °F	For 8x1 mm Tube Extrusion
	240 °C	464 °F	Injection Molding
Zone 5	230 °C	446 °F	Injection Molding
Die Temperature	230 °C	446 °F	For T-Die Cast Film Extrusion
Mold Temperature	40.0 - 60.0 °C	104 - 140 °F	Injection Molding
Injection Velocity	100 mm/sec	3.94 in/sec	Injection Molding
Die Opening	0.0400 cm	0.0157 in	For T-Die Cast Film Extrusion
Roll Temperature	50.0 °C	122 °F	Chill Roll Temperature for T-Die Cast Film Extrusion
Drying Temperature	80.0 °C	176 °F	Option 1
	100 °C	212 °F	Option 2
	110 °C	230 °F	Option 3
Dry Time	2 - 4 hour	2 - 4 hour	Option 3
	4 - 6 hour	4 - 6 hour	Option 2
	6 - 8 hour	6 - 8 hour	Option 1
Injection Pressure	40.0 - 50.0 MPa	5800 - 7250 psi	Injection Molding (Injection pressure should be increased when molding thin wall parts. Pressure up to 75 bar can be used here.)
Hold Pressure	25.0 - 50.0 MPa	3630 - 7250 psi	Injection Molding
Back Pressure	5.00 MPa	725 psi	Injection Molding

Screw Speed Processing Properties	15 - 76 rpm Metric	15 - 76 rpm English	For 8x1 mm Tube Extrusion Comments
Descriptive Properties	Value		Comments
C/R	3-3.5:1		For 8x1 mm Tube Extrusion
Calibrating Vacuum	100 mbar		For 8x1 mm Tube Extrusion
Calibration	9.95 mm		For 8x1 mm Tube Extrusion
Compression Ratio	2.5-3.5:1		Injection Molding
	min 3:1		For 8x1 mm Tube Extrusion
Die Diameter	16 mm		For 8x1 mm Tube Extrusion
Die Width	300 mm		For T-Die Cast Film Extrusion
Extruder	Barmag, Screw Diameter = 30 mm		For T-Die Cast Film Extrusion
Extruder Characteristics	65 mm screw diameter		For 8x1 mm Tube Extrusion
Film Thickness	60 microns		For T-Die Cast Film Extrusion
Flight Depth in the Feeding Zone	10-15% of Screw Diameter		Injection Molding
Flight Depth in the Metering Zone	5-7% of Screw Diameter		Injection Molding
Haul Off Speed	5 m/min		For T-Die Cast Film Extrusion
Haul Speed	10-55 m/min		For 8x1 mm Tube Extrusion
L/D Ratio	25:1		For 8x1 mm Tube Extrusion
	min 20:1		Injection Molding
Length of Compression Zone	25-45% of total screw length		Injection Molding
	30% of screw length		For 8x1 mm Tube Extrusion
Length of Feeding Zone	20-40% of total screw length		Injection Molding
	30-40% of screw length		For 8x1 mm Tube Extrusion
Length of Metering Zone	30-45% of screw length		For 8x1 mm Tube Extrusion
	35-45% of total screw length		Injection Molding
Mandrel Diameter	12 mm		For 8x1 mm Tube Extrusion
Peripheral screw speed	10 m/min		Injection Molding
Water Temperature	10-18°C		For 8x1 mm Tube Extrusion

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