

UBE UBESTA® 3024LU Rigid Black Electronic Grade Nylon 12

Category : Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Description: UBESTA Nylon 12 has an excellent termite resistance than other plastics. UBESTA contributes as a material for jacket and sheath which lay for telephone and telegram Communication Systems through the world. Comments: medium viscosity Information provided by UBE.

Order this product through the following link:

http://www.lookpolymers.com/polymer_UBE-UBESTA-3024LU-Rigid-Black-Electronic-Grade-Nylon-12.php

| Physical Properties | Metric | English | Comments |
|---------------------|---|---|-------------|
| Density | 1.02 g/cc | 0.0368 lb/in ³ | ASTM D792 |
| Melt Flow | 12 g/10 min @Load 2.16 kg, Temperature 235 °C | 12 g/10 min @Load 4.76 lb, Temperature 455 °F | ASTM D1238R |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|-------------|---------------|------------|
| Hardness, Shore D | 73 | 73 | ASTM D2240 |
| Tensile Strength at Break | >= 56.0 MPa | >= 8120 psi | ASTM D638 |
| Tensile Strength, Yield | 45.0 MPa | 6530 psi | ASTM D638 |
| Elongation at Break | >= 250 % | >= 250 % | ASTM D638 |
| Flexural Strength | 60.0 MPa | 8700 psi | ASTM D790 |
| Flexural Modulus | 1.52 GPa | 220 ksi | ASTM D790 |
| Izod Impact, Notched | 0.590 J/cm | 1.11 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) | 145 °C | 293 °F | ASTM D648 |

| 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 | 190 °C | 374 °F | For T-Die Cast Film Extrusion |

| Processing Properties | 230 °C Metric | 446 °F English | For 8x1 mm Tube Extrusion Comments |
|-----------------------|------------------|-------------------|--|
| Zone 2 | 210 °C | 410 °F | For T-Die Cast Film Extrusion |
| | 225 °C | 437 °F | For 8x1 mm Tube Extrusion |
| Zone 3 | 220 °C | 428 °F | For 8x1 mm Tube Extrusion |
| | 230 °C | 446 °F | For T-Die Cast Film Extrusion |
| Zone 4 | 215 °C | 419 °F | For 8x1 mm Tube Extrusion |
| 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 | 15 - 76 rpm | 15 - 76 rpm | For 8x1 mm Tube Extrusion |

| 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 |

| Descriptive Properties | min 3:1 Value | For 8x1 mm Tube Extrusion Comments |
|-----------------------------------|--------------------------------|------------------------------------|
| 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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