

UNIPA® im

Polyamide 66

Nytec Plastics, Ltd.

Message:

Since its introduction in 1938, Nylon has become one of the world's most widely recognized and utilized engineering grade thermoplastics. Nylon's unique combination of high strength, good toughness, outstanding chemical resistance, and excellent wear and abrasion resistance have made it the material of choice for product designs in a multitude of industries. When used to replace wear grade metals like brass and bronze, no other material provides the combination of extended wear life, light weight, and low fabricated part cost of Nylon. Nytec Plastics, Ltd. manufactures UNIPA® Nylon stock shapes in a wide variety of types and stock shape configurations. These UNIPA Nylon products fall into the categories of Type 6/6 Extruded UNIPA Nylons and Type 6 UNIPA M Cast Nylons. While both types of Nylon are very similar, there are performance and availability differences between the two grades that should be noted:

UNIPA Type 6/6 Extruded Nylons:

offer improved toughness

offer improved flame resistance

are available in smaller rod diameters (< 2" dia.)

Nytec Plastic's UNIPA Nylon 6/6 extruded stock shapes are available in a wide range of grades— including both lubricated and fiber reinforced products.

UNIPA Nylon 6/6 materials are offered in a complete range of extruded round, square, and hex rod, heavy gauge plate, and tubular bar sizes.

Base resin: Zytel® ST801

| General Information | |
|---------------------|------------------------------------|
| Features | Flame Retardant |
| | Good Abrasion Resistance |
| | Good Chemical Resistance |
| | Good Impact Resistance |
| | Good Wear Resistance |
| | High Stiffness |
| | High Strength |
| | Machinable |
| | Ultra High Toughness |
| Uses | Automotive Applications |
| | Bearings |
| | Bushings |
| | Construction Applications |
| | Electrical Parts |
| | Electrical/Electronic Applications |
| | Fluid Handling |
| | Food Service Applications |
| | Gears |
| | Mining Applications |
| | Molds/Dies/Tools |
| | Pulleys |
| | Pump Parts |
| | Rollers |

Textile Applications

Valves/Valve Parts

Wear Strip

Wheels

| | |
|-------|-----------------|
| Forms | Preformed Parts |
| | Rod |

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|-------------------|-----------------|
| Specific Gravity | 1.08 | g/cm ³ | ASTM D792 |
| Water Absorption | | | ASTM D570 |
| 24 hr | 1.2 | % | |
| Saturation | 6.7 | % | |
| Hardness | Nominal Value | Unit | Test Method |
| Rockwell Hardness (R-Scale) | 112 | | ASTM D785 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength | 51.7 | MPa | ASTM D638 |
| Tensile Elongation (Break) | 60 | % | ASTM D638 |
| Flexural Modulus | 1690 | MPa | ASTM D790 |
| Coefficient of Friction | 0.29 | | ASTM D1894 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | 910 | J/m | ASTM D256 |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 71.1 | °C | ASTM D648 |
| Continuous Use Temperature | 98.9 | °C | Internal Method |
| Peak Melting Temperature | 262 | °C | ASTM D3418 |
| CLTE - Flow | 1.2E-4 | cm/cm/°C | ASTM D696 |
| Electrical | Nominal Value | Unit | Test Method |
| Volume Resistivity | 1.0E+14 | ohms · cm | ASTM D257 |
| Dielectric Constant | | | ASTM D150 |
| 1 MHz | 2.90 | | |
| 60 MHz | 3.20 | | |
| Dissipation Factor (60 Hz) | 0.010 | | ASTM D150 |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating | HB | | UL 94 |

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