UNIPA® M

Polyamide 6

Nytef 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. Nytef 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 M Type 6 Cast Nylons:
offer improved wear resistance
are available in larger rod diameters (up to 13" dia.)
are available in larger plate sizes (up to 48" x 96")
Nytef Plastics utilizes a proprietary nylon casting process to produce UNIPA M Nylon 6 stock shapes. This process allows Nylon rods, plates, and tubular bars with very thick cross sections to be economically produced with uniform physical properties and minimal internal stress levels. Nytef Plastic's UNIPA M Nylon 6 stock shapes are available in a wide range of grades including
lubricated, heat stabilized, and fiber reinforced products. UNIPA M Nylon 6 materials are offered in a complete range of round rod, heavy gauge plate, and tubular bar sizes.

General Information	
Features	Food Contact Acceptable
	Good Abrasion Resistance
	Good Chemical Resistance
	Good Toughness
	Good Wear Resistance
	High Stiffness
	High Strength
	Machinable
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
Agency Ratings	FDA Unspecified Rating
	USDA 3A
Appearance	Black
	Natural Color
Forms	Preformed Parts
	Rod

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15	g/cm³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.80	%	
Saturation	6.0	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	85		
R-Scale	115		
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3100	MPa	ASTM D638
Tensile Strength	82.7	MPa	ASTM D638
Tensile Elongation (Break)	20 to 60	%	ASTM D638
Flexural Modulus	3450	MPa	ASTM D790
Flexural Strength	107	MPa	ASTM D790
Compressive Strength	103	MPa	ASTM D695
Coefficient of Friction	0.26		ASTM D1894
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	43	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	98.9	°C	ASTM D648
Continuous Use Temperature	98.9	°C	Internal Method
Peak Melting Temperature	221	°C	ASTM D3418
CLTE - Flow	7.2E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+13	ohms·cm	ASTM D257
Dielectric Strength [1]	16	kV/mm	ASTM D149

Dielectric Constant (1 MHz)	3.70		ASTM D150
Dissipation Factor (60 Hz)	0.020		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating	HB		UL 94
NOTE			
1.	Method A (Short-Time)		

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