POLYMAT™
materials that matter

POLYMAT PA66

BASIC MATERIAL FOR ENGINEERING

NYLON 66 (POLYAMIDE 66)

POLYAMIDE 66 (Nylon 66) extruded stock shapes available in natural and MoS2 filled grades are part of a range of high performance engineering plastics products offered under trade name **POLYMAT** for machining into industrial components. These products are made using best raw materials in modern production facility under strict quality control regime. The result is highly crystalline stress relieved products of consistent quality conforming to international standards.

Polyamides also popularly known as Nylons are classified according to the number of carbon atoms contained in the primary structure between the nitrogen atoms. Accordingly, Polyamide 66 contains two groups of six carbon atoms each. The resulting structure offers marked difference in some of the properties useful for engineering applications when compared with other available Nylons.

Polyamide 66 has a high tensile strength, high melting point, high flexural modulus and better creep resistance in comparison to other unmodified polyamides. It is the hardest material with excellent rigidity among various types of extruded nylons. Polyamide 66 displays high resistance to wear and high degree of dimensional stability because of lower moisture absorption. It offers good resistance to fuels, most organic solvents and alkaline solutions at moderate temperatures. These, inaddition to the overall well balanced combinations of properties render Polyamide 66 useful in many mechanical applications with high load.

Polyamide 66 extruded stock shapes are amenable to stand metal working machine tools and can be fabricated with ease to yield smooth surface finish. Information on technical properties for designers is provided on the back side. More specific data and engineering assistance is available upon request through our technical staff.

ADVANTAGES

- High Tensile Strength and Hardness
- High Wear and Abrasion Resistance
- Low Coefficient of Friction
- High Dimensional Stability
- High Melting Point
- Excellent Machinability

APPLICATIONS

- Bearings, Bushings
- Cams and Cam Followers
- Coupling, Gears
- Guides, Rollers
- Sprockets
- Washers, Wear Strips

MECHANICAL

PROPERTY	TEST METHOD ASTM	UNITS	PA 66
Tensile Strength	D 638	MPa	80
Elongation at Break	D 638	%	50
Modulus of Elasticity	D 638 Dry	MPa	2900
Compressive Strength	D 695	MPa	85
Hardness - Rockwell / Shore D	-	-	M 80 / 80
Izod Impact Strength (Notched)	D 256	J/m	30

THERMAL

PROPERTY	TEST METHOD ASTM	UNITS	PA 66
Coefficient Of Linear Thermal Expansion	D 696	$m/m^{o} K$	$8.1 X 10^{-6}$
Melting Point	D 2117	°C	255
Heat Distortion Temperature	D 648 A	°C	90
	B	°C	235
Min. Service Temperature	-	°C	-50
Max. Service Temperature	-	°C	110

ELECTRICAL

PROPERTY	TEST METHOD ASTM	UNITS	PA 66
Dielectric Constant 10 KHz	D 150		3.9
Dielectric Strength	D 149	KV/mm	15.8
Volume Resistivity	D 257	Ohm.cm	$1 x 10^{12}$

MISCELLANEOUS

PROPERTY	TEST METHOD ASTM	UNITS	PA 66
Specific Gravity	D 792		1.13 - 1.15
Moisture Absorption - 24 Hrs. / Saturation	D 570	%	1.2 / 8.5
Coefficient Of Friction vs. Steel	Non Lubricated		0.35

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