NYLON 6 - Stock Shapes (rods, plates, tubes)

POLYMAT POLYAMIDE 6 (PA 6) engineering plastic extruded stock shapes available in **PA6** is part of high- performance engineering plastic products offered under trade name **POLYMAT** for machining into industrial components. These products are made using the best raw material in modern production facility under strict quality confirming to international standards.

PA 6 PA 6 offers a unique combination of mechanical and thermal characteristics rendering it useful in a wide variety of demanding load bearing applications. It has good impact resistance, excellent wear and abrasion resistance very low coefficient of friction and easy to fabricate,

These properties make it an ideal cost-effective substitute for conventional materials like Steel, Brass, Bronze, Gunmetal, White metal, Aluminum, Phenolics, wood, rubber, and plastic. Use of PA 6 in numerousapplications over several decades now has established its utility, reliability, and favorable economics on cost per performance basis.

POLYMAT stock shapes can be easily fabricated into custom components using standard metal working machines like lathe, drilling, milling etc. Information on technical properties for designers is provided below.More specific data and engineering assistance is available upon request.

Chemical Designation PA 6 (Polyamide)
Color White & Black

Main features

- Outstanding wear and abrasionresistance properties
- Excellent machinability
- High mechanical strength andstability
- Noise Reduction
- High Impact Strength
- Low Weight (1/7th weight ofsteel)
- Good dimensional stability
- Noncontaminating

Target Industries

- Machine Building
- Material Handling
- Food Industry
- Textile and Paper
- Parts for Humid Environment
- Underwater Components
- Automotive industry
- Electrical/Electronic Parts

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• Mechanical properties	Parameter	Value	Unit	Norm
Modulus Of Elasticity		450	MPa	DSM-Method, 50 mm/min
Stress at yield, parallel		31	MPa	ISO 527-3
Maximum stress, parallel		83	MPa	ISO 527-3
Maximum Strain, parallel		350	%	ISO 527-3
Trouser Tear resistance, parallel		32	1	ISO 6383-1
Puncture resistance		1400 /-	J/m	DSM Method
Static coefficient of friction		1.2/-		ISO 8295
Dynamic coefficient of friction		1		ISO 8295
• Thermal properties			kJ/m²	ISO 180/1A
Coeff. of linear therm.expansion (parallel)			kJ/m²	ISO 180/1U
Spec.heat capacity			MPa	ISO 2039-1 DS
Average spec.heat capacity 20- 150°C				
• Other properties		Value	Unit	Norm
Transparency/Clarity		83	%	DSM Method
Oxygen transmission rate at 23°C/0%r.h.		27	cm³/(m².d.bar)	DIS 15105-1/-2
Oxygen transmission rate at 23°C/85%r.h.		39	cm³/(m².d.bar)	DIS 15105-1/-2
Water Vapour transmission rate at 23°C/85%r.h		35	g/(m²d)	DIS 15106-1/-3
• Material specific Properties		Value	Unit	Norm
Viscosity number		45	cm³/g	ISO 307,1157,1628
RSV formic acid, 1g/100ml		3.60 E+00		DSM Method
Melt viscosity (260°C)		2250	Pa.s	DSM Method, 260°C
Density		1130 /-	kg/m³	ISO 1183

- Nylon 6 products may be based on AKULON ®.

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