

POLYMAT POM

BASIC MATERIAL FOR ENGINEERING

POM (POLYACETAL)

POM H - HOMOPOLYMER

POM C - COPOLYMER

POLYACETAL (POM) extruded stock shapes available in **POM H** and **POM C** grades are part of a range of high performance engineering plastic products offered under trade name **POLYMAT** for machining into industrial components. These products are made using best raw material in modern production facility under strict quality control regime. The result is highly crystalline stress relieved products of consistent quality conforming to international standards.

Polyacetal also known as Polyoxymethylene (POM) is crystalline thermoplastic with high tensile strength, stiffness, resiliency, low coefficient of friction and very low moisture absorption. This broad range of useful properties in addition to its ability to retain properties over a long period under elevated temperatures, mechanical stresses and demanding environmental conditions make it an engineering plastic of choice for many applications.

Mechanical and Electrical properties of Polyacetal are not influenced by limited moisture uptake under working conditions. As a result, Polyacetal exhibits excellent dimensional stability and dielectrical properties. These characteristics make polyacetal preferred material over Nylons for metal replacement, precision mechanical components, under water components and components in sliding applications. It is non-toxic and can be used for food contact applications.

Polyacetal is amenable to standard 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
- Low Coefficient of Friction
- Excellent Dimensional Stability
- Good Resilience
- Non toxic
- Good Insulating Properties
- Excellent Machinability

APPLICATIONS

- Gears, Cams, Bearings
- Rollers, Sprockets
- Guide and Wear Profiles
- Insulating Components
- Parts for Food Contacts
- Parts for Humid Environment
- Underwater Components

MECHANICAL

PROPERTY	TEST METHOD ASTM	UNITS	POM H	POM C
Tensile Strength	D 638	MPa	68.9	60.7
Elongation at Break	D 638	%	40	60
Modulus of Elasticity	D 638	MPa	3100	2829
Compressive Strength	D 695	MPa	35.9	31.0
Hardness - Rockwell	-	-	M 94	M 80
Izod Impact Strength (Notched)	D 256	J/m	5.88	5.46

THERMAL

PROPERTY	TEST METHOD ASTM	UNITS	POM H	POM C
Coefficient Of Linear Thermal Expansion	D 638	m/m° K	10.4 X 10 ⁻⁵	10.4 X 10 ⁻⁵
Melting Point	D 2117 / D 3418	°C	175 / -	- / 165 - 167
Heat Distortion Temperature	D 648 A / B	°C	136 / 172	110 / 157
Min. Service Temperature	-	°C	-50	-50
Max. Service Temperature	-	°C	80 - 100	100 - 110

ELECTRICAL

PROPERTY	TEST METHOD ASTM	UNITS	POM H	POM C
Dielectric Constant	D 150		3.7	3.7
Dielectric Strength	D 149	KV/mm	19.7	19.7
Volume Resistivity	D 257	Ohm.cm	1 x 10 ¹⁵	1 x 10 ¹⁴

MISCELLANEOUS

PROPERTY	TEST METHOD ASTM	UNITS	POM H	POM C
Specific Gravity	D 792		1.42	1.41
Moisture Absorption - 24 Hrs. / Saturation	D 570	%	0.25 / 0.9	0.22 / 0.8
Coefficient Of Friction vs. Steel	Non Lubricated		0.35	0.15

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