PROTOLABS
Manufacturing. Accelerated.

POM-H (Acetal Homopolymer)

Acetal Homopolymer is a crystalline thermoplastic offering high mechanical strength, stiffness, hardness, and creep resistance. It often provides better wear resistance than Acetal Copolymer. Additionally, it has a low moisture absorption and is chemically resistant to hydrocarbons, solvents, and neutral chemicals.

Applications

Due to its low moisture absorption, good strength, and chemical and creep resistance, Acetal Homopolymer is especially suitable for pump and valve components. Other applications include gears, bearings, bushings, rollers, fittings, and electric insulator parts.

Key Product Benefits

- Great Strength and Stiffness
- Creep Resistance
- Low Moisture Absorption
- Chemical Resistance
- Fatigue Endurance
- Increased Wear Resistance

Properties

Property	Test Method	Value
Density	ASTM D792	1.41-1.43 g/cm3
Water Absorption @ 24 hours	ASTM D570	0.20-0.25%
Water Absorption @ Saturation	ASTM D570	0.90%
Tensile Strength @ Yield	ASTM D638	10,500-11,000 psi
Tensile Modulus	ASTM D638	350,000-450,000 psi
Elongation @ Break	ASTM D638	25-40%
Flexural Strength	ASTM D790	12,000-14,000 psi
Flexural Modulus	ASTM D790	400,000-470,000 psi
Compressive Strength	ASTM D695	15,000-16,000 psi
Rockwell Hardness (M Scale)	ASTM D785	88-94
Rockwell Hardness (R Scale	ASTM D785	120-122
Shear Strength	ASTM D732	9,000-9,800 psi

Property (Continued)	Test Method (Continued)	Value (Continued)
Izod Impact, Notched	ASTM D256	1-1.2 ft-lb/in
Dynamic Coefficient of Friction		0.12-0.25
Thermal Conductivity		2.0-2.5 BTU-in/hr/ft2/°F
Coefficient of Linear Thermal Expansion	ASTM D696	4.7-6.8 in/in/°F x 10-5
Melting Point		347°F
Continuous Service Temperature, Air		185-190°F
Heat Deflection Temperature @ 264 psi	ASTM D648	242-257°F
Heat Deflection Temperature @ 66 psi	ASTM D648	290-336°F
Flammability	UL 94	HB
Dielectric Constant @ 1 MHz	ASTM D150	3.1-3.7
Dielectric Strength	ASTM D149	400-500 V/mil