

ACETAL COPOLYMER

Polyoxymethylene Copolymer (POM-C)

Stable, low-friction acetal for tight-tolerance machined parts.

Acetal copolymer is a semi-crystalline thermoplastic engineered for dimensional stability, low moisture absorption, and reliable wear performance. The copolymer chemistry resists centerline porosity and thermal degradation better than homopolymer grades, machining cleanly into tight-tolerance components for fluid handling, gears, bushings, and high-cycle wear parts. Excellent fatigue resistance and a broad service temperature range make it the workhorse engineering acetal for general industrial use.

ASTM D6100 – POM MOLDING AND EXTRUSION MATERIALS

ISO 9988 – POLYOXYMETHYLENE (POM) MOLDING AND EXTRUSION MATERIALS

ROHS / REACH COMPLIANT

APPLICATIONS

- Bushings, bearings, and wear pads
- Conveyor wear strips and rollers
- Gears, pinions, and timing components
- Precision-machined fluid-handling parts
- Pump and valve internals

STANDARD COLORS

Natural / White, Black, Blue

GENERAL

Density **0.051 lb/in³**
ASTM D792 1.4 g/cm³

Water absorption **20/37 / 0.24/0.45 mg / %**
24 / 96 h immersion @ 73°F · ASTM D570

Water absorption **0.20 %**
Saturation in air @ 73°F, 50% RH · ASTM D570

Water absorption **0.85 %**
Saturation in water @ 73°F · ASTM D570

Flammability rating **HB/HB**
UL 94, 3 / 6 mm thickness · UL 94

MECHANICAL

Tensile strength **9,450 psi**
At yield / break · ASTM D638 65 MPa

Tensile strain at break **30 %**
ASTM D638

Tensile modulus **450,000 psi**
ASTM D638 3,100 MPa

Compressive stress **15,000 psi**
At 10% nominal strain · ASTM D695 100 MPa

Izod impact (notched) **0.7 ft·lb/in**
ASTM D256 37 J/m

Rockwell hardness **R115**
ASTM D785

OPERATING ENVIRONMENT

Melting temperature **330 °F**
ASTM D2133 165 °C

Thermal conductivity **2.1 Btu·in/ft²·h·°F**
@ 73°F · ASTM C177 0.3 W/m·K

Coefficient of thermal expansion **61 µin/in/°F**
Avg. 73 – 140°F · ASTM D696 105 µm/m/°C

Coefficient of thermal expansion **69 µin/in/°F**
Avg. 73 – 212°F · ASTM D696 120 µm/m/°C

Heat deflection temperature **220 °F**
264 psi (Method A) · ASTM D648 100 °C

Max service temperature **285 °F**
Short-term 140 °C

Max service temperature **240/210 °F**
Continuous (5,000 / 20,000 h) 115 / 98 °C

Min service temperature **-50 °F**
-45 °C

ELECTRICAL

Dielectric strength **510 V/mil**
ASTM D149 20 kV/mm

Volume resistivity **>10¹⁴ Ω·cm**
ASTM D257

Surface resistivity **>10¹³ Ω**
ASTM D257