

Material Information



Delrin 150

Introduction

Delrin 150 is a high-viscosity acetal homopolymer based on polyoxymethylene (POM-H). It offers an excellent combination of strength, toughness, stiffness, creep resistance, and machinability, making it suitable for CNC-machined precision components that require stable mechanical performance and low friction.

Advantages

High strength and stiffness, good toughness, excellent machinability, low friction, good wear resistance, and strong resistance to creep. Delrin 150 is particularly suitable for mechanically loaded components and sliding parts where dimensional stability and long-term performance are important.

Disadvantages

Delrin 150 has lower heat resistance than many high-performance engineering plastics and may experience dimensional changes from thermal expansion. It is also more difficult to bond with conventional adhesives, and its performance can decrease when continuously exposed to temperatures beyond its recommended service range.

Tolerance

3DSPRO can manufacture and inspect to tight tolerances, including sub +/- 0.001" tolerances, per your drawing specifications and GD&T callouts.

Recommendation

The combination of strength, stiffness, toughness, creep resistance, low friction, and machinability makes Delrin 150 suitable for CNC-machined gears, bushings, rollers, cams, guides, spacers, and other precision mechanical components. It is particularly appropriate for applications involving repeated movement, sliding contact, or sustained mechanical loads.

Material Specifications (For reference only.)	
Tensile strength	73 to 76MPa
Elongation at Break	25% to 45%
Hardness	94 HRM

Heat deflection temperature at 0.46 MPa	160°C to 169°C
Melting point	165°C to 178°C

Attention

Delrin 150 is a homopolymer acetal grade, so it should not be treated as interchangeable with acetal copolymer materials when material performance is critical. Temperature changes should be considered when machining close-tolerance parts because of the relatively high thermal expansion of acetal. For large or thick stock sections, the stock supplier and material form should also be confirmed when internal porosity or dimensional consistency is critical.

Applications

3DSPRO finds people using Delrin 150 to make functional parts and prototypes in the following industries and applications.

Mechanical components:

Gears, bushings, bearings, rollers, cams, guides, spacers, and other moving or sliding components.

Automotive parts and supplies:

Door mechanism components, fuel-system components, seat components, clips, guides, bushings, and other lightweight mechanical parts.

Industrial equipment:

Conveyor components, machine guides, precision fixtures, wear components, housings, and other parts requiring low friction and good dimensional stability.

Consumer and general engineering:

Fasteners, zip components, appliance components, structural brackets, handles, and other CNC-machined parts requiring strength, toughness, and low-friction performance.