

## Delrin® (Acetal Homopolymer)

Delrin® is a crystalline plastic that offers an excellent balance of properties that bridge the gap between metals and plastics. Delrin® possesses high tensile strength, creep resistance and toughness. It also exhibits low moisture absorption. It is chemically resistant to hydrocarbons, solvents and neutral chemicals. These properties along with its fatigue endurance make Delrin® ideal for many industrial applications.

Delrin®'s overall combination of physical, tribological and environmental properties make it ideal for many industrial wear and mechanical applications. Parts exposed to a moist or wet environment, such as pump and valve components, are especially appropriate. Other common uses for Delrin® include gears, bearings, bushings, rollers, fittings and electrical insulator parts.

- Good dimensional stability
- High fatigue endurance
- Low moisture absorption - Delrin® can operate in wet environments with little effect on performance or dimensions.
- Good wear and abrasion properties - with its low coefficient of friction and hard and resilient surface, Delrin® is the material of choice in many wear applications.
- Excellent machinability
- High strength and stiffness properties
- Natural grade is FDA, NSF and USDA compliant
- Superior impact and creep resistance
- Chemical resistance to fuels and solvents

Primary Specification (Resin) (Typical)  
ASTM-D-4181 POM110B34330

Shapes Specification (Typical)  
ASTM-D-6100 S-POM0111

Property	ASTM Test Method	Units	Delrin® 150
<b>Physical</b>			
Density	D792	lbs/in <sup>3</sup>	0.0513
Specific Gravity	D792	g/cc	1.42
Water Absorption, @ 24 hours	D570	%	0.25
Water Absorption, @ Saturation	D570	%	0.9
<b>Mechanical</b>			
Tensile Strength @ Yield	D638	psi	11,100
Tensile Modulus	D639	psi	450,000
Elongation @ Break	D638	%	25
Flexural Strength	D790	psi	11,500
Flexural Modulus	D790	psi	420,000
Compressive Strength	D695	psi	5,200
Izod Impact Strength	D256	ft-lbs/in	1.5
Rockwell Hardness	D785	M (R) Scale	M 94 (120)
Wear Factor Against Steel, 40 psi, 50 fpm	D3702	in <sup>3</sup> /hr x 1/PV	55 x 10 <sup>-10</sup>
Static Coefficient of Friction	D3702		-
Dynamic Coefficient of Friction, 40 psi, 50 fpm	D3702		0.2
<b>Thermal</b>			
Heat Deflection Temperature @ 66 psi	D648	°F	336
Heat Deflection Temperature @ 264 psi	D648	°F	257
Coefficient of Linear Thermal Expansion	D696	in/in/°F	6.8 x 10 <sup>-5</sup>
Maximum Servicing Temperature, Intermittent		°F	300
Maximum Servicing Temperature, Long Term	UL746B	°F	185
Specific Heat		BTU/lb-°F	0.35
Thermal Conductivity			-
Melting Point	D2133	°F	347
Flammability	UL94		HB (1.47)
<b>Electrical</b>			
Volume Resistivity	D257	ohm-cm	10 <sup>15</sup>
Dielectric Strength	D149	V/mil	500
Dielectric Constant, @ 60 Hz, 50% RH	D150		3.7
Dielectric Constant, @ 1 MHz	D150		3.7
Dissipation Factor, @ 60 HZ	D150		0.005

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. All values at 73°F (23°C) unless otherwise noted.*