

TECHNICAL DATA SHEET

Delrin® (Acetal Homopolymer) (POM)

(polyoxymethylene)

Is an acetal homopolymer with an outstanding balance of properties that bridge the gap between metal and plastic. The key attributes of Delrin are low moisture absorption, high tensile strength, creep resistance, and durability. Because of its extreme chemical resistance to hydrocarbons, solvents and natural chemicals, Delrin is ideal for industrial applications.

Delrin Acetal's balance of physical, tribological and environmental properties make it ideal for applications where there is concern for wear and mechanical stability. Parts exposed to a wet environment such as pump and valve components, are especially suitable. With the combination of physical and environmental properties this material is ideal for industrial wear and mechanical reliability.

TYPICAL PROPERTIES of ACETALS			
Property	Acetal Copolymer	Delrin® Homopolymer	Delrin® AF PTFE-filled
PHYSICAL			
Density (lb/in ³) (g/cm ³)	0.051 1.41	0.051 1.41	0.054 1.50
Water Absorption, 24 hrs (%)	0.2	0.2	0.2
MECHANICAL			
Tensile Strength (psi)	9,500	11,000	8,000
Tensile Modulus (psi)	400,000	450,000	435,000
Tensile Elongation at Break (%)	30	30	15
Flexural Strength (psi)	12,000	13,000	12,000
Flexural Modulus (psi)	400,000	450,000	435,000
Compressive Strength (psi)	15,000	16,000	16,000
Compressive Modulus (psi)	400,000	450,000	350,000
Hardness, Rockwell	M88 / R120	M89 / R122	M85 / R115
IZOD Impact Notched (ft-lb/in)	1.0	1.0	0.7
THERMAL			
Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F)	5.40	4.70	5.00
Heat Deflection Temp (°F / °C) at 264 psi	220 / 104	250 / 121	244 / 118
Melting Point Temp (°F / °C)	335 / 168	347 / 175	347 / 175
Max Operating Temp (°F / °C)	180 / 82	180 / 82	180 / 82
Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	1.6 5.5	2.5 8.6	-
Flammability Rating	HB	HB	HB
ELECTRICAL			
Dielectric Strength (V/mil) short time, 1/8" thick	420	450	400
Dielectric Constant at 1 MHz	3.8	3.7	3.1
Dissipation Factor at 1 MHz	0.005	0.005	0.010
Volume Resistivity (ohm-cm) at 50% RH	10 ¹⁵	10 ¹⁵	3.0 x 10 ¹⁶

Benefits

- Wear and abrasion properties
- Dimensional stability
- Low moisture absorption
- Mechanical stability when wet
- Excellent machine-ability
- High fatigue endurance
- High strength and stiffness
- Superior impact and creep resistance
- Chemical resistance to fuels and solvents
- *Natural grade is FDA, NSF and USDA compliant

Applications

- Pump and valve components
- Close tolerance precision parts
- Thin wall parts
- Electronic components
- Gears
- Bearings
- Bushings
- Rollers
- Fittings
- Electrical insulator parts

SHAPES AVAILABLE



Delrin® is a registered trademark of E.I. Dupont

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. Contact us for manufacturers' complete material property datasheets.
All values at 73°F (23°C) unless otherwise noted.