



MANUFACTURING CORPORATION

- Plastics Machining
- Spring Energized Seals
- Rotary Lip Seals

Material Data Sheet

Material: Delrin® Acetal (POM) Polyoxymethylene

Delrin®, a homopolymer acetal, is also manufactured and stocked in rod and plate. It offers slightly higher mechanical properties than Acetron® GP Acetal, but may contain a low-density center, especially in larger cross-sections. Copolymer acetal also offers better chemical resistance than homopolymer acetal. Delrin is ideal for small diameter, thin-walled bushings that benefit from the additional strength and rigidity of homopolymer acetal.

| Mechanical Properties | Test Method ASTM | Value | Units |
|--|------------------|------------------------|---------------------------------|
| Specific Gravity, 73°F | D792 | 1.41 | |
| Tensile Strength, 73°F | D638 | 11,000 | psi |
| Tensile Modulus of Elasticity, °F | D638 | 450,000 | psi |
| Tensile Elongation (at break), 73°F | D638 | 30 | % |
| Flexural Strength, 73°F | D790 | 13,000 | psi |
| Flexural Modulus of Elasticity, 73°F | D790 | 450,000 | psi |
| Shear Strength, 73°F | D732 | 9,000 | psi |
| Compressive Strength, 10% Deformation, 73°F | D695 | 16,000 | psi |
| Compressive Modulus of Elasticity, 73°F | D695 | 450,000 | psi |
| Hardness, Rockwell, Scale as noted, 73°F | D785 | M89(R122) | |
| Hardness, Durometer, Shore "D" Scale, 73°F | D2240 | D86 | |
| Izod Impact (notched), 73°F | D256 Type A | 1 | ft-lb/in of notch |
| Coefficient of Friction (Dry vs. Steel) Dynamic | QTM 55007 | 0.25 | |
| Limiting PV (with 4:1 safety factor applied) | QTM 55007 | 2,700 | ft.lbs./in. ² min |
| Wear Factor "k" x 10 ⁻¹⁰ | QTM 55010 | 200 | in. ³ -min/ft.lbs.hr |
| Thermal Properties | | | |
| Coefficient of Linear Thermal Expansion (-40°F to 300°F) | E-831 (TMA) | 4.7 x 10 ⁻⁵ | in/in./°F |
| Heat Deflection Temperature 264 psi | D648 | 250 | °F |
| TG-Glass transition (amorphous) | D3418 | N/A | °F |
| Melting Point (Crystalline) peak | D3418 | 347 | °F |
| Continuous Service Temperature in Air (Max.) (1) | | 180 | °F |
| Thermal Conductivity | F433 | 2.5 | BTU-in/hr-ft ² -°F |
| Electrical Properties | | | |
| Dielectric Strength, Short Term | D149 | 450 | Volts/mil |
| Surface Resistivity | EOS/ESD S11.11 | >10 ¹³ | ohm/square |
| Dielectric Constant, 106 Hz | D150 | 3.7 | |
| Dissipation Factor, 106 Hz | D150 | 0.005 | |
| Flammability @ 3.1 mm (1/8 in.) | UL 94 | HB | |
| FDA Compliant | | Yes | |

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*The values shown in these and the following charts are typical, average properties. Actual values may differ due to variations in resin formulations and processing methods. These values are obtained from sources believed to be reliable, including the resin manufactures, converters and other published sources. However, they should not be used for specification or design purposes. Above information is provided by Quadrant EPP.