



## Delrin® (Homopolymer Acetal)

DuPont®, Acetal, POM-H, Homopolymer, Unfilled

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	1.41 g/cc	ASTM D792
Water Absorption	0.20 %	0.20 %	Immersion, 24hr, ASTM D570(2)
Water Absorption at Saturation	0.90 %	0.90 %	Immersion; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	89	89	ASTM D785
Hardness, Rockwell R	122	122	ASTM D785
Hardness, Shore D	86	86	ASTM D2240
Tensile Strength	75.8 MPa	11000 psi	ASTM D638
Tensile Strength at 65°C (150°F)	49.6 MPa	7200 psi	ASTM D638
Elongation at Break	30 %	30 %	ASTM D638
Tensile Modulus	3.10 GPa	450 ksi	ASTM D638
Flexural Yield Strength	89.6 MPa	13000 psi	ASTM D790
Flexural Modulus	3.10 GPa	450 ksi	ASTM D790
Compressive Strength	110 MPa	16000 psi	10% Def., ASTM D695
Compressive Modulus	3.10 GPa	450 ksi	ASTM D695
Shear Strength	62.1 MPa	9000 psi	ASTM D732
Izod Impact, Notched	0.534 J/cm	1.00 ft-lb/in	ASTM D256 Type A
Coefficient of Friction	0.25	0.25	Dry vs. Steel, QTM55007
K (wear) Factor	403 x 10 <sup>-8</sup> mm <sup>3</sup> /N-m	200 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.0946 MPa-m/sec	2700 psi-ft/min	4:1 safety factor, QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	17.7 kV/mm	450 kV/in	Short Term, ASTM D149
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Thermal Properties	Metric	English	Comments
CTE, linear	84.6 µm/m-°C	47.0 µin/in-°F	ASTM E831
	@Temperature -40.0 - 149 °C	@Temperature -40.0 - 300 °F	
Thermal Conductivity	0.360 W/m-K	2.50 BTU-in/hr-ft <sup>2</sup> -°F	ASTM F433
Melting Point	175 °C	347 °F	Crystalline, Peak, ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	121 °C	250 °F	ASTM D648
Flammability, UL94	HB	HB	1/8 inch (Estimated Rating)
Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
Canada AG	Yes	Yes	
FDA	Yes	Yes	Natural Only
NSF	Yes	Yes	STD 51 & 61
USDA	Yes	Yes	
USP Class VI	No	No	
Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Limited	Limited	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	
Miscellaneous Properties	Metric	English	Comments
Data Sheet Region	Americas	Americas	
Targeted Usage	Load + Bearing	Load + Bearing	
Descriptive Properties			
Machinability		1	1-10, 1=Easier to Machine

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.