

## Delrin® Homopolymer Material Specifications

Delrin® acetal homopolymer offers slightly higher mechanical properties than acetal copolymer, but may contain a low density center (also known as "center line porosity") especially in large cross-sections. The homopolymer also gives slightly less chemical resistance than copolymer acetal. For example, Delrin® is ideal for small diameter, thin-walled bushings that benefit from the additional strength and rigidity of homopolymer acetal. Delrin® is available in black and natural colors.

Physical Properties	Units	Test	Delrin® Homopolymer
Density	lb/in <sup>3</sup> g/cm <sup>3</sup>	D792	0.051 1.41
Water Absorption, 24 hrs.	%	D570	0.2

Mechanical Properties	Units	Test	Delrin® Homopolymer
Tensile Strength	psi	D638	11,000
Tensile Modulus	psi	D638	450,000
Tensile Elongation at Break	%	D638	30
Flexural Strength	psi	D790	13,000
Flexural Modulus	psi	D790	450,000
Compressive Strength	psi	D695	16,000
Compressive Modulus	psi	D695	450,000
Hardness Rockwell	-	D785	M89 / R122
Izod Impact Notched	ft-lb/in	D256	1.0

Thermal Properties	Units	Test	Delrin® Homopolymer
Coefficient of Linear Thermal Expansion	x 10 <sup>-5</sup> in./in./°F	D696	4.70
Heat Deflection Temperature	@264 psi °F/°C	D648	250 / 121
Melting Temperature	°F/°C	D3418	347 / 175
Max. Use Temperature	°F/°C	-	180 / 82
Thermal Conductivity	BTU-in/ft <sup>2</sup> -hr-°F x 10 <sup>-4</sup> cal/cm-sec-°C	C177	2.5 8.6
Flammability Rating	-	UL94	HB

Electrical Properties	Units	Test	Delrin® Homopolymer
Dielectric Strength	(V/mil) short time, 1/8" thick	D149	450
Dielectric Constant	@1 MHz	D150	3.7
Dissipation Factor	@1 MHz	D150	0.005
Volume Resistivity	(ohm-cm) @50% RH	D257	10 <sup>15</sup>

\*\*The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.