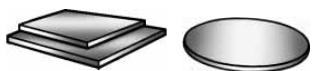


More About White Delrin

Sheets and Discs



Common applications for this material include parts exposed to a moist or wet environment such as pump or valve components. Also gears, bearings, bushings, rollers, and fittings.

Meet the following standards: UL 94HB for flammability; FDA 21 CFR 177.2480.

Tensile Strength:	10,000 psi per ASTM D638
Impact Strength:	2.3 ft.-lbs./in. per ASTM D256
Coefficient of Friction:	0.2
Dielectric Strength:	500 V/mil per ASTM D149
Hardness:	Rockwell M: 94 per ASTM D785
Coefficient of Thermal Expansion:	6.8×10^{-5} in./in./°F per ASTM D696
Weather Resistance:	For indoor use. Material is not UV resistant.
Processing:	<i>Machinability:</i> Easy to machine. <i>Molding:</i> Can be molded. <i>Welding:</i> Can be welded. <i>Thermoforming:</i> Not recommended.
Scratch Resistance:	Good abrasion resistance.
Chemical Resistance:	Use with fuels, solvents, hydrocarbons, and neutral chemicals. Do not use with acids and strong bases.

Rods



Common applications for this material include parts exposed to a moist or wet environment such as pump or valve components. Also gears, bearings, bushings, rollers, and fittings.

Meet the following standards: UL 94HB for flammability; FDA 21 CFR 177.2480.

Tensile Strength:	11,000 psi per ASTM D638
Impact Strength:	1.0 ft.-lbs./in. per ASTM D256 Type A
Coefficient of Friction:	0.25
Dielectric Strength:	450 V/mil per ASTM D149
Hardness:	Shore D 86 per ASTM D2240; Rockwell M: 94, Rockwell R:122 per ASTM D785
Coefficient of Thermal Expansion:	4.7×10^{-5} in./in./°F per ASTM E831 TMA
Weather Resistance:	For indoor use. Material is not weather resistant.
Processing:	<i>Machinability:</i> Easy to machine. <i>Molding:</i> Can be molded. <i>Welding:</i> No test data available. <i>Thermoforming:</i> Not recommended.
Scratch Resistance:	Good abrasion resistance.
Chemical Resistance:	Use with weak alkalies, hydrocarbons, ketones, ethers, and alcohols. Do not use with acids, strong alkalies, and chlorinated solvents.

Strips



Common applications for this material include bearings, bushings, slideways, machine guides, washers, gaskets, punched parts, cams, and cam followers.

Meet the following standards: UL 94HB for flammability; FDA 21 CFR 177.2480.

Tensile Strength:	10,000 psi per ASTM D638
Impact Strength:	2.3 ft.-lbs./in. per ASTM D256
Coefficient of Friction:	0.20
Dielectric Strength:	490 V/mil per ASTM D149
Hardness:	Rockwell M: 94, R: 120 per ASTM D785
Coefficient of Thermal Expansion:	6.8×10^{-5} in./in./°F per ASTM D696
Weather Resistance:	Material is affected by direct UV light exposure.
Processing:	<i>Machinability:</i> Machines cleanly with no gumming. Use sharp tooling. <i>Molding:</i> Can be molded using injection or compression molding. <i>Welding:</i> Can be welded using ultrasonic or vibration welding. <i>Thermoforming:</i> Not recommended.
Scratch Resistance:	Moderate.
Chemical Resistance:	Use with alcohols, aldehydes, esters, solvents, ethers, hydrocarbons, gasoline, and hydraulic fluid. Do not use with acetic acid, acetone, ammonium hydroxide, hydrochloric acid, phenol, phosphoric acid, and nitric acid.

This information is to advise you on current technical knowledge for comparative purposes only. It is given without obligation or liability. No warranty of fitness for a particular purpose or application is made.

More About White Delrin

Hollow Rods



Common applications for this material include bearings, bushings, and gears.
Meet the following standards: UL 94HB for flammability; FDA 21 CFR 177.2480.

Tensile Strength:	10,000 psi per ASTM D638
Impact Strength:	2.3 ft.-lbs./in. per ASTM D256
Coefficient of Friction:	0.20
Dielectric Strength:	500 V/mil per ASTM D149
Hardness:	Rockwell M: 94 per ASTM D785
Coefficient of Thermal Expansion:	5.8×10^{-5} in./in./°F per ASTM D696
Weather Resistance:	Not intended for extended use outdoors.
Processing:	<i>Machinability:</i> Easy to machine (excellent mechanical material). <i>Molding:</i> No test data available. <i>Welding:</i> No test data available. <i>Thermoforming:</i> No test data available.
Scratch Resistance:	Good.
Chemical Resistance:	Good. Use with weak alkalis, aromatic and aliphatic hydrocarbons, ethers, alcohols, and chlorinated solvents. Do not use with strong alkalis and acids.

Rectangular Bars and Square Bars



Common applications for this material include bearings, bushings, fuel system parts, gears, pulleys, springs, sprockets, rollers, valve seats, and seals.

Meet the following standards: UL 94HB for flammability; FDA 21 CFR 177.2480.

Tensile Strength:	9600-11,000 psi per ASTM D638
Impact Strength:	1.2 ft.-lbs./in. per ASTM D256
Coefficient of Friction:	0.35
Dielectric Strength:	500 V/mil per ASTM D149
Hardness:	Rockwell M: 94 per ASTM D785
Coefficient of Thermal Expansion:	6.8×10^{-5} in./in./°F per ASTM D696
Weather Resistance:	Use indoors.
Processing:	<i>Machinability:</i> Easy to machine. <i>Molding:</i> Can't be molded. <i>Welding:</i> Can be welded using ultrasonic or spin welding. <i>Thermoforming:</i> Can be thermoformed.
Scratch Resistance:	Fair.
Chemical Resistance:	High chemical resistance. Use with alcohols, aliphatics, aromatics, aldehydes, ketones, ethers, esters, oils, greases, gasoline, diesel and methanol based fuels, and agricultural chemicals. Do not use with strong acids, strong bases, ethyl acetate, bleach, chloroform, strong oxidizing agents, phenol, mineral acids, and ethylene glycol.

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More About White Delrin

Balls (9614K2, K11-14, K18, K23, K26, and K41)



Common applications for this material include products for flow control and motion control, such as check valves and bearings.

Specific Gravity:	No test data available.
Tensile Strength at Yield 100 psi:	680 per ASTM D638
Elongation at Yield %:	15 per ASTM D638
Compressive Strength at Yield 100 psi:	No test data available.
Hardness:	Rockwell R: 120 per ASTM D785
Maximum Service Temp.:	220° F

Balls (9614K15-16, K28, and K37)



Common applications for this material include products for flow control and motion control, such as check valves and bearings.

Specific Gravity:	1.42 per ASTM D792
Tensile Strength at Yield 100 psi:	10,000 per ASTM D638
Elongation at Yield %:	No test data available.
Compressive Strength at Yield 100 psi:	15,000-18,000 at 10% per ASTM D695
Hardness:	Rockwell M: 92-94 per ASTM D785
Maximum Service Temp.:	336° F

Precision Ground Blanks



These precision ground blanks are consistently flat, square, and parallel, so they ready to use without additional preparation. Meet the following standards: FDA 21 CFR 177.2480 and ASTM D6100. NSF and USDA compliant.

Tensile Strength:	10,000 psi per ASTM D638
Impact Strength:	2.3 ft.-lbs./in. per ASTM D256
Coefficient of Friction:	0.2
Dielectric Strength:	500 V/mil per ASTM D149
Hardness:	Rockwell R: 120 per ASTM D2240
Coefficient of Thermal Expansion:	5.8×10^{-5} in./in./°F per ASTM D696
Weather Resistance:	Use indoors.
Processing:	<i>Machinability:</i> Easy to machine. <i>Molding:</i> Can be molded. <i>Welding:</i> Can be welded. <i>Thermoforming:</i> Not recommended.
Scratch Resistance:	Good.
Chemical Resistance:	Resistant to most solvents, petroleum-based chemicals, and gasolines.

This information is to advise you on current technical knowledge for comparative purposes only. It is given without obligation or liability. No warranty of fitness for a particular purpose or application is made.

More About Plastics

Tensile Strength—The maximum pulling force a material can withstand without breaking. It is usually measured in pounds per square inch (psi). A larger number indicates a stronger material.

Impact Strength—The ability of a material to withstand shock loading. Determined by the notched Izod test, which measures the effect on a material when it is suddenly impacted by a swinging pendulum. A larger number signifies greater impact resistance.

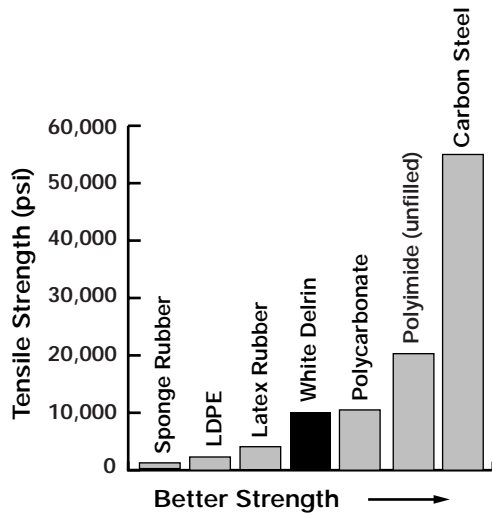
Coefficient of Friction—The ratio of the frictional force between two surfaces in contact, to the force with which the surfaces press against each other. A lower value indicates a material that moves more easily, or with less friction.

Short-Term Dielectric Strength—The maximum voltage a material can withstand without rupture, measured as volts per millimeter of thickness. This is an indication of how effective the material is as an electrical insulator. A higher value signifies a better insulator.

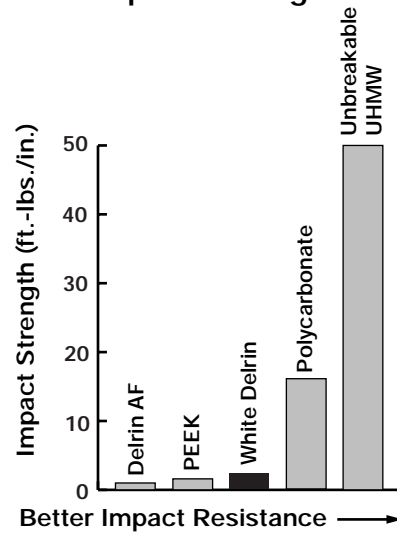
Coefficient of Thermal Expansion—The amount a material increases in volume as the temperature rises. A smaller coefficient is an indicator of less thermal expansion.

The following graphs are provided for comparative purposes only. They do not correspond to specific items in our catalog.

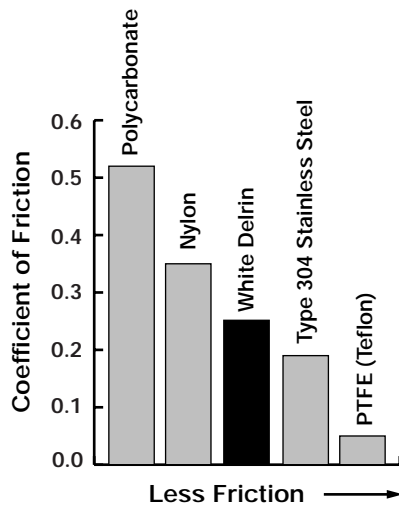
Tensile Strength



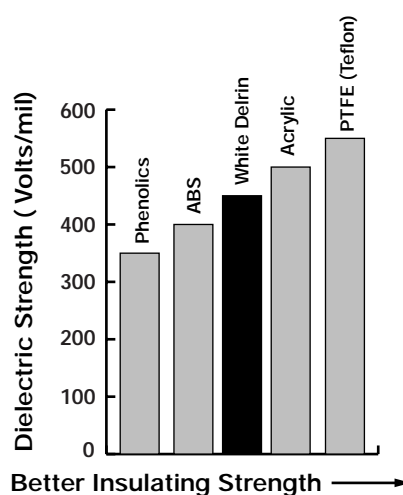
Impact Strength



Coefficient of Friction



Short-Term Dielectric Strength



Coefficient of Thermal Expansion

