Product Data Sheet

Delrin* AF Blend

Delrin* AF Blend acetal is a unique thermoplastic material for use in moving parts in which low friction and long wear are important. It is a combination of Teflon* fibers uniformly dispersed in Delrin acetal resin. This combination produces a material that has strength, toughness, dimensional stability and good machinability, plus improved wear characteristics over unfilled Delrin. Delrin AF Blend, most commonly supplied as a 2:1 blend of Delrin AF100 and Delrin 150 resins, has excellent sliding/friction properties. Bearings made of Delrin AF Blend sustain high loads when operating at high speeds and show reduced wear. These bearings are also essentially free of slip-stick behavior because the static and dynamic coefficient of friction are closer than with most plastics. Delrin AF Blend retains much of the strength that is inherent in unmodified Delrin acetal. Some properties are changed due to the addition of the softer Teflon fiber. The natural color of Delrin AF Blend is dark brown.

Property	Method	Unit	Value
Mechanical			
Specific Gravity, 73°F	D792		1.50
Tensile Strength, 73°F	D638	psi	8,000
Tensile Modulus of Elasticity, 73°F	D638	psi	435,000
Elongation, 73°F	D638	%	15.0
Flexural Strength, 73°F	D790	psi	12,000
Flexural Modulus, 73°F	D790	psi	445,000
Shear Strength, 73°F	D732	psi	7,600
Compressive Strength, 10% Def., 73°F	D695	psi	16,000
Compressive Modulus of Elasticity, 73°F	D695	psi	350,000
Hardness, Rockwell, Scale as noted, 73°F	D785		M85 (R115)
Hardness, Durometer, Shore D scale, 73°F	D2240		D83
Izod Impact (notched), 73°F	D256 Type A	ft-lb/in	0.7
Coefficient of Friction (Dry vs Steel) Dynamic	PTM55007		0.19
Limiting PV, 73°F	PTM55007	psi-fpm	8,300
k (wear) factor	PTM55010		60
Thermal			
Coefficient of linear Thermal Expansion	E-831(TMA)	in/in/°F	5.00 x 10^-5
Deflection Temperature 264 psi	D648	°F	244
Melting Point (crystalline) peak	D3418	°F	347
Continuous Service Temperature in Air (Max.)		°F	180

For additional information about our products call 1-800-366-0300 or via e-mail at select.support@qplas.com

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Electrical			
Dielectric Strength, Short Term	D149(2)	Volts/mil	400
Surface Resistivity	EOS/ESD S11.11	Ohm/square	>10^13
Dielectric Constant, 10^6 Hz	D150(2)		3.10
Dissipation Factor, 10^6 Hz	D150(2)		0.010
Chemical			
Acids, Weak, 73°F/23°C, acetic acid, dilute hydrochloric or sulfuric			Limited Service
Acids, Strong, 73°F/23°C, conc. hydrochloric or sulfuric			Unacceptable
Alkalies, Weak, 73°F/23°C, dilute ammonia or sodium hydroxide			Acceptable Service
Alkalies, Strong, 73°F/23°C, conc. ammonia or sodium hydroxide			Unacceptable
Hydrocarbons-Aromatic, 73°F/23°C, benzene, toluene			Acceptable Service
Hydrocarbons-Aliphatic, 73°F/23°C, gasoline, hexane, grease			Acceptable Service
Ketones, Esters, 73°F/23°C, acetone, methyl ethyl ketone			Acceptable Service
Ethers, 73°F/23°C, diethyl ether, tetrahydrofuran			Acceptable Service
Chlorinated Solvents, 73°F/23°C, methylene chloride, chloroform			Limited Service
Alcohols, 73°F/23°C, methanol, ethanol, anti-freeze			Acceptable Service
Inorganic Salt Solutions, 73°F/23°C, sodium chloride, potassium cyanate			Acceptable Service
Continuous Sunlight, 73°F/23°C			Limited Service
Miscellaneous			
Water Absorption Immersion, 24 hr	D570	%	0.20
Water Absorption Immersion, Sat.	D570	%	1.00
Outgassing TML (Total Mass Loss)	E595	%	0.30
CVCM (Collected Volatile Condensable Material)	E595	%	0.00
WVR(Water Vapor Regained)	E595	%	0.10
Compliance			
UL94			HB

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