



# DuPont Delrin AF Blend

PTFE Filled, extruded, Acetal homopolymer

Physical Properties	Metric	English	Comments
Specific Gravity	1.5 g/cc	0.0542 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.2 %	0.2 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1 %	1 %	Immersion; ASTM D570 (2)

## Mechanical Properties

Hardness, Rockwell M	85	85	ASTM D785
Hardness, Rockwell R	115	115	ASTM D785
Hardness, Shore D	83	83	ASTM D2240
Tensile Strength, Ultimate	55.2 MPa	8000 psi	ASTM D638
Elongation at Break	15 %	15 %	ASTM D638
Tensile Modulus	3 GPa	435 ksi	ASTM D638
Flexural Modulus	3.07 GPa	445 ksi	ASTM D790
Flexural Yield Strength	82.7 MPa	12000 psi	ASTM D790
Compressive Strength	110 MPa	16000 psi	10% Def.; ASTM D695
Compressive Modulus	2.41 GPa	350 ksi	ASTM D695
Shear Strength	52.4 MPa	7600 psi	ASTM D732
Coefficient of Friction	0.19	0.19	Dry vs. Steel; QTM55007
K (wear) Factor	121 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	60 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.291 MPa-m/sec	8300 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.374 J/cm	0.7 ft-lb/in	ASTM D256 Type A

## Electrical Properties

Surface Resistivity per Square	Min 1e+013 ohm	Min 1e+013 ohm	EOS/ESD S11.11
Dielectric Constant	3.1	3.1	1MHz; ASTM D150
Dielectric Strength	15.7 kV/mm	400 V/mil	Short Term; ASTM D149
Dissipation Factor	0.01	0.01	1MHz; ASTM D150

## Thermal Properties

CTE, linear 68°F	90 µm/m-°C	50 µin/in-°F	(-40°F to 300°F); ASTM E831
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)	118 °C	244 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch

## Qualitative Processing Properties

Compliance - FDA	Not Compliant	
Machinability	1	1-10, 1=Easier to Machine
Service in Alcohols	Acceptable	
Service in Aliphatic Hydrocarbons	Acceptable	
Service in Aromatic Hydrocarbons	Acceptable	
Service in Chlorinated Solvents	Limited	
Service in Ethers	Acceptable	
Service in Ketones	Acceptable	
Service in Strong Acids	Unacceptable	
Service in Strong Alkalies	Unacceptable	
Service in Sunlight	Limited	
Service in Weak Acids	Limited	
Service in Weak Alkalies	Acceptable	

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