

Mitsubishi Chemical Advanced Materials Delrin® 100 AF Acetal Extruded Teflon® Filled Acetal
Categories: Polymer; Thermoplastic; Acetal (Polyoxymethylene, POM); Acetal Homopolymer, PTFE-Filled

Material Notes: Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

Key Words: Acetal, 100 AF, Extruded Teflon Filled Acetal

Physical Properties	Metric	English	Comments
Specific Gravity	1.54 g/cc @Temperature 22.8 °C	1.54 g/cc @Temperature 73.0 °F	ASTM D792
Water Absorption	0.20 %	0.20 %	Immersion; 24hrs; ASTM D570(2)
Water Absorption at Saturation	1.0 %	1.0 %	ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	110	110	(M80); ASTM D785
Hardness, Shore D	80	80	ASTM D2240
Tensile Strength	42.7 MPa @Temperature 22.8 °C	6200 psi @Temperature 73.0 °F	ASTM D638
Elongation at Break	10 %	10 %	ASTM D638
Tensile Modulus	2.48 GPa @Temperature 22.8 °C	360 ksi @Temperature 73.0 °F	Elasticity; ASTM D638
Flexural Strength	82.7 MPa @Temperature 22.8 °C	12000 psi @Temperature 73.0 °F	ASTM D790
Flexural Modulus	3.07 GPa @Temperature 22.8 °C	445 ksi @Temperature 73.0 °F	Elasticity; ASTM D790
Compressive Strength	89.6 MPa @Strain 10.0 %, Temperature 22.8 °C	13000 psi @Strain 10.0 %, Temperature 73.0 °F	10% Deformation; ASTM D695
Compressive Modulus	1.72 GPa	250 ksi	Elasticity; 73°F; ASTM D695
Shear Strength	52.4 MPa @Temperature 22.8 °C	7600 psi @Temperature 73.0 °F	ASTM D732
Izod Impact, Notched	0.320 J/cm	0.600 ft-lb/in	Type "A"; ASTM D256
Coefficient of Friction, Dynamic	0.15 @Temperature 22.8 °C	0.15 @Temperature 73.0 °F	(Dry vs Steel); PTM 55007
K (wear) Factor	80.6 x 10 ⁻⁸ mm ³ /N-M	40.0 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	PTM 55010
Limiting Pressure Velocity	0.315 MPa-m/sec	9000 psi-ft/min	PTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e+13 ohm	>= 1.00e+13 ohm	EOS/ESD S11.11
Dielectric Constant	3.1	3.1	ASTM D150
Dielectric Strength	15.7 kV/mm	400 kV/in	Short Term; ASTM D149
Dissipation Factor	0.010	0.010	10 ⁶ Hz; ASTM D150
Thermal Properties	Metric	English	Comments
CTE, linear	10.8 µm/m-°C	6.00 µin/in-°F	(TMA); ASTM E831
Melting Point	175 °C	347 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	82.2 °C	180 °F	
Deflection Temperature at 1.8 MPa (264 psi)	118 °C	244 °F	ASTM D648


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