

Acetron[®] MD

Metal Detectable, Acetal Copolymer POM (Quadrant EPP)

Physical Properties	Metric	English	Comments
Specific Gravity	1.47 g/cc	1.47 g/cc	ASTM D792
Water Absorption	0.20 %	0.20 %	Immersion, 24 hr; ASTM D570(2)
Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	89	89	ASTM D785
Hardness, Rockwell R	121	121	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength	62.1 MPa	9,000 psi	ASTM D638
Tensile Strength at 65°C (150°F)	49.6 MPa	7,200 psi	ASTM D638
Elongation at Break	15 %	15 %	ASTM D638
Tensile Modulus	2.86 GPa	415 ksi	ASTM D638
Flexural Strength	82.7 MPa	12,000 psi	ASTM D790
Flexural Modulus	2.762 GPa	400.6 ksi	ASTM D790
Compressive Strength	91.0 MPa	13,200 psi	10% Def.; ASTM D695
Compressive Modulus	1.86 GPa	270 ksi	ASTM D695
Shear Strength	55.2 MPa	8,000 psi	ASTM D732
Izod Impact, Notched	0.427 J/cm	0.800 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.30	0.30	Dry vs Steel; QTM 55007
K (wear) Factor	806 x 10 ⁻⁸ mm ³ /N-M	400 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.140 MPa-m/sec	4,000 psi-ft/min	4:1 Safety Factor; QTM 55007
Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	>= 1.00e +13 ohm	>= 1.00e +13 ohm	EOS/ESD S11.11
Thermal Properties	Metric	English	Comments
CTE, Linear	128 µm/m-°C	71.0 µin/in-°F	ASTM E831
Melting Point	171 °C	340 °F	Crystalline, Peak; ASTM D3418
Max Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	138 °C	280 °F	ASTM D648
Flammability, UL94	HB	HB	1/8 inch (Estimated Rating)
Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	
USP Class VI	No	No	
Chemical Resistance Properties	Metric	English	Comments
Acids, Strong (pH 1-3)	Unacceptable	Unacceptable	
Acids, Weak	Limited	Limited	
Alcohols	Acceptable	Acceptable	
Alkalies, Strong (pH 11-14)	Unacceptable	Unacceptable	
Alkalies, Weak	Acceptable	Acceptable	
Chlorinated Solvents	Limited	Limited	
Conductive / Static Dissipative	No	No	
Continuous Sunlight	Limited	Limited	
Hot Water / Steam	Limited	Limited	
Hydrocarbons - Aliphatic	Acceptable	Acceptable	
Hydrocarbons - Aromatic	Acceptable	Acceptable	
Inorganic Salt Solutions	Acceptable	Acceptable	
Ketones, Esters	Acceptable	Acceptable	
Miscellaneous Properties	Metric	English	Comments
Targeted Usage	Load + Bearing	Load + Bearing	

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations should contact Alro Plastics and/or Quadrant EPP directly. This data sheet is for reference only in helping if a material may be suitable for an application. Proper material testing is the only way to know for sure and is the recommended way to go when implementing a new material for an application. Material samples may also be available for testing, please contact Alro Plastics for samples.



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