

**Mitsubishi Chemical Advanced Materials Acetron® Food Grade Blue 50 POM-C Copolymer Acetal, Extruded (ASTM datasheet)**
**Categories:** Polymer; Thermoplastic; Acetal (Polyoxymethylene, POM); Acetal Copolymer, Unreinforced

**Material Notes:** The data presented in this datasheet is preliminary data and is subject to change as more data is gathered.

Quadrant Engineering Plastic Products is now Mitsubishi Chemical Advanced Materials.

**Key Words:** POMC, Polyoxymethylene; Polyacetal

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Water Absorption	0.18 %	0.18 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.74 %	0.74 %	Immersion; ASTM D570(2)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	83	83	ASTM D785
Hardness, Rockwell R	119	119	ASTM D785
Hardness, Shore D	82	82	ASTM D2240
Tensile Strength	62.1 MPa	9000 psi	ASTM D638
Elongation at Break	60 %	60 %	ASTM D638
Tensile Modulus	2.96 GPa	430 ksi	ASTM D638
Flexural Strength	82.7 MPa	12000 psi	ASTM D790
Flexural Modulus	3.00 GPa	435 ksi	ASTM D790
Compressive Strength	88.9 MPa	12900 psi	10% Def.; ASTM D695
Compressive Modulus	1.93 GPa	280 ksi	ASTM D695
Shear Strength	54.5 MPa	7900 psi	ASTM D732
Izod Impact, Notched	0.651 J/cm	1.22 ft-lb/in	ASTM D256 Type A
Coefficient of Friction, Dynamic	0.00	0.00	(No data currently) Dry vs. Steel; QTM55007
K (wear) Factor	0.000 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	0.000 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	(No data currently); QTM 55010
Limiting Pressure Velocity	0.000 MPa-m/sec	0.000 psi-ft/min	(No data currently) 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
Dielectric Constant	0.00 @Frequency 0.0 Hz	0.00 @Frequency 0.0 Hz	(No data currently); ASTM D150
Dielectric Strength	0.000 kV/mm	0.000 kV/in	(No data currently) Short Term; ASTM D149
Dissipation Factor	0.00 @Frequency 0.0 Hz	0.00 @Frequency 0.0 Hz	(No data currently); ASTM D150

Thermal Properties	Metric	English	Comments
CTE, linear	169 µm/m-°C @Temperature -40.0 - 149 °C	94.0 µin/in-°F @Temperature -40.0 - 300 °F	ASTM E831
Thermal Conductivity	0.000 W/m-K	0.000 BTU-in/hr-ft <sup>2</sup> -°F	(No data currently); ASTM F433
Melting Point	170 °C	338 °F	Crystalline, Peak; ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	130 °C	266 °F	ASTM D648
Flammability, UL94	HB @Thickness 3.17 mm	HB @Thickness 0.125 in	Estimated Rating

Compliance Properties	Metric	English	Comments
3A-Dairy	No	No	
FDA	Yes	Yes	
NSF	Yes	Yes	STD 51 & 61
USDA	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	

**Descriptive Properties**

Color		Blue	
Machinability		1	1-10, 1=Easier to Machine