

## Quadrant EPP Acetron® GP Acetal, Unfilled, porosity-free copolymer acetal, extruded

### Material Notes:

Acetron GP is Quadrant EPP's general purpose acetal and is the only porosity-free acetal product available today. Investments in process technology by Quadrant EPP now provide the performance and machinability of acetal without center core porosity. Our in-line photometric quality procedure assures every plate and rod is porosity-free as measured by Quadrant EPP's quick check dye penetrant test. For details of test methods, contact Quadrant EPP. Acetron GP natural is FDA, USDA, NSF, Canada AG and 3A-Dairy compliant.

Data provided by Quadrant Engineering Plastic Products.

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	0.0509 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.2 %	0.2 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	0.9 %	0.9 %	Immersion; ASTM D570(2)
<b>Mechanical Properties</b>			
Hardness, Rockwell M	88	88	ASTM D785
Hardness, Rockwell R	120	120	ASTM D785
Hardness, Shore D	85	85	ASTM D2240
Tensile Strength, Ultimate	65.5 MPa	9500 psi	ASTM D638
Elongation at Break	30 %	30 %	ASTM D638
Tensile Modulus	2.76 GPa	400 ksi	ASTM D638
Flexural Modulus	2.76 GPa	400 ksi	ASTM D790
Flexural Yield Strength	82.7 MPa	12000 psi	ASTM D790
Compressive Strength	103 MPa	15000 psi	10% Def.; ASTM D695
Compressive Modulus	2.76 GPa	400 ksi	ASTM D695
Shear Strength	55.2 MPa	8000 psi	ASTM D732
Coefficient of Friction	0.25	0.25	Dry vs. Steel; QTM55007
K (wear) Factor	403 x 10 <sup>-8</sup> mm <sup>3</sup> /N-M	200 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	0.0946 MPa-m/sec	2700 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	0.534 J/cm	1 ft-lb/in	ASTM D256 Type A
<b>Electrical Properties</b>			
Surface Resistivity per Square	Min 1e+013 ohm	Min 1e+013 ohm	EOS/ESD S11.11
Dielectric Constant	3.8	3.8	1MHz; ASTM D150
Dielectric Strength	16.5 kV/mm	420 V/mil	Short Term; ASTM D149
Dissipation Factor	0.005	0.005	1MHz; ASTM D150
<b>Thermal Properties</b>			
CTE, linear 68°F	97.2 µm/m-°C	54 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	0.231 W/m-K	1.6 BTU-in/hr-ft <sup>2</sup> -°F	ASTM F433
Melting Point	168 °C	335 °F	Crystalline, Peak; ASTM D3418

Maximum Service Temperature, Air	82.2 °C	180 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	104 °C	220 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch

#### Qualitative Processing Properties

Compliance - FDA	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	

All statements, technical information and recommendations contained in this database are presented in good faith, based upon tests believed to be reliable and practical field experience. The reader is cautioned, however, that Quadrant EPP and Automation Creations, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customer's responsibility to determine the suitability of Quadrant EPP's products in any given application.