

# Acetron® GP, Acetal



QUADRANT

**Key Words:** POM, Polyoxymethylene; Polyformaldehyde; Polyacetal

**Subcategory:** Acetal; Polymer; Thermoplastic

**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	<a href="#">1.41 g/cc</a>	0.0509 lb/in <sup>3</sup>	ASTM D792
Water Absorption	<a href="#">0.2 %</a>	0.2 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	<a href="#">0.9 %</a>	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	<a href="#">65.5 MPa</a>	9500 psi	ASTM D638
Elongation at Break	<a href="#">30 %</a>	30 %	ASTM D638
Tensile Modulus	<a href="#">2.76 GPa</a>	400 ksi	ASTM D638
Flexural Modulus	<a href="#">2.76 GPa</a>	400 ksi	ASTM D790
Flexural Yield Strength	<a href="#">82.7 MPa</a>	12000 psi	ASTM D790
Compressive Strength	<a href="#">103 MPa</a>	15000 psi	10% Def.; ASTM D695
Compressive Modulus	<a href="#">2.76 GPa</a>	400 ksi	ASTM D695
Shear Strength	<a href="#">55.2 MPa</a>	8000 psi	ASTM D732
Coefficient of Friction	0.25	0.25	Dry vs. Steel; QTM55007
K (wear) Factor	<a href="#">403 x 10<sup>-8</sup> mm<sup>3</sup>/N-M</a>	200 x 10 <sup>-10</sup> in <sup>3</sup> -min/ft-lb-hr	QTM 55010
Limiting Pressure Velocity	<a href="#">0.0946 MPa-m/sec</a>	2700 psi-ft/min	4:1 safety factor; QTM 55007
Izod Impact, Notched	<a href="#">0.534 J/cm</a>	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	<a href="#">16.5 kV/mm</a>	420 V/mil	Short Term; ASTM D149
Dissipation Factor	0.005	0.005	1MHz; ASTM D150
<b>Thermal Properties</b>			
CTE, linear 68°F	<a href="#">97.2 µm/m-°C</a>	54 µin/in-°F	(-40°F to 300°F); ASTM E831
Thermal Conductivity	<a href="#">0.231 W/m-K</a>	1.6 BTU-in/hr-ft <sup>2</sup> -°F	ASTM F433
Melting Point	<a href="#">168 °C</a>	335 °F	Crystalline, Peak; ASTM D3418
Maximum Service Temperature, Air	<a href="#">82.2 °C</a>	180 °F	Long Term
Deflection Temperature at 1.8 MPa (264 psi)	<a href="#">104 °C</a>	220 °F	ASTM D648
Flammability, UL94 (Estimated Rating)	HB	HB	1/8 inch
<b>Qualitative Processing Properties</b>			
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		

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 can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to our [disclaimer and terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into the Quadrant Engineering Plastics Products database.

From the designers of the [MatWeb](#) online database.



**Alro Plastics**

2218 Enterprise \* Jackson, MI 49204  
Ph: 800 877-2576 \* Fax: (517) 787-6380