

Acetron® GP Acetal

Acetal Copolymer from Mitsubishi Chemical Group

Physical Properties	Test Method	English
Specific Gravity	ASTM D792	1.41 g/cc
Water Absorption (immersion, 24 hours)	ASTM D570(2)	0.20%
Water Absorption at Saturation (immersion)	ASTM D570(2)	0.90%

Mechanical Properties	Test Method	English
Hardness, Rockwell M	ASTM D785	88
Hardness, Rockwell R	ASTM D785	120
Hardness, Shore D	ASTM D2240	85
Tensile Strength	ASTM D638	9,500 psi
Elongation at Break	ASTM D638	30%
Tensile Modulus	ASTM D638	400 ksi
Flexural Strength	ASTM D790	12,000 ksi
Flexural Modulus	ASTM D790	400 ksi
Compressive Strength (10% Deformation)	ASTM D695	13,500 ksi
Compressive Modulus	ASTM D695	260 ksi
Shear Strength	ASTM D732	8,000 psi
Izod Impact, Notched	ASTM D256, TypeA	1.00 ft-lb/in
Coefficient of Friction, Dynamic (Dry vs Steel)	QTM 55007	0.25
K (Wear) Factor	QTM 55010	200 x 10 ⁻¹⁰ in ³ -min/ft-lb-hr
Limiting Pressure Velocity (4:1 Safety Factor)	QTM 55007	2,700 psi-ft/min

Electrical Properties	Test Method	English
Surface Resistivity per Square	EOS/ESD S11.11	>= 1.00e+13 ohm
Dielectric Constant (1 MHz)	ASTM D150	3.80 @Frequency 1e+6Hz
Dielectric Strength (Short Term)	ASTM D149	420 kV/in
Dissipation Factor (1 MHz)	ASTM D150	0.005 @Frequency 1e+6Hz

Thermal Properties	Test Method	English
CTE, linear	ASTM E831	54.0 µin/in-°F @Temperature -40° - 300°F
Thermal Conductivity	ASTM F433	1.60 BTU-in/hr-ft ² -°F
Melting Point (Crystalline, Peak)	ASTM D3418	335 °F
Max Service Temperature, Air	Long Term	180 °F
Deflection Temp at 1.8 MPa (264 psi)	ASTM D648	220 °F
Flammability, UL 94 (@ 0.125" thick)	Estimated Rating	HB

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Compliance Properties	Test Method	English
3A-Dairy	---	Yes
Canada AG	---	Yes
FDA	---	Yes
NSF	STD 51 & 61, Natural Only	Yes
USDA	---	Yes
USP Class VI	---	No

Chemical Resistance	Test Method	English
Acids, Strong (pH 1-3)	---	Unacceptable
Acids, Weak	---	Limited
Alcohols	---	Acceptable
Alkalies, Strong (pH 11-14)	---	Unacceptable
Alkalies, Weak	---	Acceptable
Chlorinated Solvents	---	Limited
Conductive / Static Dissipative	---	No
Continuous Sunlight	---	Limited
Hot Water / Steam	---	Limited
Hydrocarbons - Aliphatic	---	Acceptable
Hydrocarbons - Aromatic	---	Acceptable
Inorganic Salt Solutions	---	Acceptable
Ketones, Esters	---	Acceptable

Descriptive Properties	Test Method	English
Color	---	Natural / Black
Machinability (1-10, 1 = Easier to Machine)	---	1



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