

Product Data Sheet

Product : Quadrant Polypenco Korea Acetron® POM-C, Unfilled, Porosity-free copolymer acetal, extruded

Categories : Polymer; Thermoplastic; Acetal(POM); Acetal Copolymer; Unreinforced

Material Notes : Acetron POM-C is Polypenco Korea's copolymer acetal grade and is the porosity-free acetal product available. Next to the standard natural black grades, there is also a series of special colors available all showing an FDA food contact compliant composition. The acetal copolymer is more resistant against hydrolysis, strong alkalis and thermal-oxidative degradation than the acetal homopolymer. Acetron POM-C natural is FDA, also USDA, NSF, Canada AG and 3A-Dairy compliant.

Properties	Units	Test Methods	Acetron® POM-C
Physical Properties			
Specific Gravity	g/cc	ASTM D 792	1.41
Water Absorption, Immersion, 24hr	%	ASTM D 570(2)	0.2
Water Absorption at Saturation, Immersion	%	ASTM D 570(2)	0.9
Mechanical Properties			
Rockwell Hardness, M	M scale	ASTM D 785	-
Rockwell Hardness, R	R scale	ASTM D 785	116
Hardness, Shore D	D	ASTM D 2240	-
Tensile Strength	MPa	ASTM D 638	65.7
Tensile Modulus	GPa	ASTM D 638	2.83
Elongation at Break	%	ASTM D 638	21
Flexural Yield Strength	MPa	ASTM D 790	90.1
Flexural Modulus	GPa	ASTM D 790	2.81
Compressive Strength	MPa	10% Def.; ASTM D 695	103
Compressive Modulus	GPa	ASTM D 695	2.76
Shear Strength	MPa	ASTM D 732	55.2
Coefficient of Friction; Dry vs. Steel	-	QTM 55007	0.25
K (wear) Factor	mm ³ /N-M	QTM 55010	403 x 10 ⁻⁸
Limiting Pressure Velocity; 4:1 safety factor	MPa-m/sec	QTM 55007	0.0946
Izod Impact, Notched	J/m	ASTM D 256	69
Electrical Properties			
Surface Resistivity per Square	Ω	EOS/ESD S11.11	≥ 1X10 ¹³

Dielectric Constant	-	ASTM D 150	3.80 @Frequency 1e+6 Hz
Dielectric Strength; Short term	kV/mm	ASTM D 149	16.5
Dissipation Factor	-	ASTM D 150	0.005 @Frequency 1e+6 Hz

Thermal Properties

Coefficient of Thermal Expansion; CTE, linear	µm/m-°C	ASTM E 831	97.2 @Temperature -40.0 - 149 °C
Thermal Conductivity	W/m-K	ASTM F 433	0.231
Melting point ; Crystalline, Peak	°C	ASTM D 3418	168
Maximum Service Temperature, Air	°C	Long Term	82.2
Deflection Temperature at 1.8 Mpa (264psi)	°C	ASTM D 648	104
Flammability, UL94 ; 1/8inch(Estimated Rating)	-	-	HB

Compliance Property

Comments

3A-Dairy	Yes
Canada AG	Yes
FDA	Yes
NSF	Yes
USDA	Yes
RoHS	Yes

Descriptive Properties

Color	Natural / Black
Machinability	1-10, 1=Easier to Machine

Chemical Resistance Properties

Acid, Strong (pH1-3)	Unacceptable
Acids, Weak	Limited
Alcohols	Acceptable
Alkalies, Weak	Unacceptable
Alkalies, Strong (pH 11-14)	Acceptable
Chlorinated Solvent	Limited
Conductive / Static Dissipative	No
Continuous Sunlight	Limited
Hot Water / Steam	Limited
Hydrocarbons – Aliphatic	Acceptable
Hydrocarbons – Aromatic	Acceptable

Inorganic Salt Solution

Acceptable

Ketones, Esters

Acceptable

Miscellaneous Properties

Targeted Usage

Load + Bearing

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