

Acetron® GP FG

Acetal (POM) Copolymer

Mitsubishi Chemical Advanced Materials

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Technical Data

Product Description

Acetron GP Polyoxymethylene POM-C FG (Food Grade) / Ertacetal C Polyoxymethylene POM-C FG (Food Grade) is a general purpose, copolymer acetal grade that is often favored for its porosity free nature. Ertacetal C / Acetron GP POM-C FG shapes also offer low moisture and excellent machinability capabilities, making it a very versatile material that can excel in a multitude of environments. Due to these characteristics, Ertacetal C / Acetron GP POM-C FG components are used frequently for food contact application, and meet compositional FDA 21 CFR § 177.2470, EU 10/2011, USDA, NSF, Canada AG, and 3A-Dairy compliance requirements.

General

Material Status	• Commercial: Active		
Literature ¹	• Technical Datasheet (English)		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Copolymer • Food Contact Acceptable	• General Purpose • Machinable	
Uses	• General Purpose	• Non-specific Food Applications	
Agency Ratings	• EU 10/2011	• FDA 21 CFR 177.2470	
Appearance	• Black	• Colors Available	• White

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	1.41 g/cm ³	ASTM D792 ISO 1183
Water Absorption		
24 hr, 23°C	0.20 %	ASTM D570
24 hr, 23°C	0.24 %	ISO 62
Saturation, 23°C	0.90 %	ASTM D570
Saturation, 23°C	0.80 %	ISO 62

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
--	2760 MPa	ASTM D638
--	3000 MPa	ISO 527-1
Tensile Strength		
--	65.5 MPa	ASTM D638
--	66.0 MPa	ISO 527-2
Tensile Strain		
Yield	15 %	ISO 527-2
Break	30 %	ASTM D638
Break	40 %	ISO 527-2
Flexural Modulus		
--	2760 MPa	ASTM D790
--	2660 MPa	ISO 178
Flexural Strength		
--	82.7 MPa	ASTM D790
--	91.0 MPa	ISO 178
Compressive Strength		
--	93.1 MPa	ASTM D695
1% Strain	23.0 MPa	ISO 604
2% Strain	40.0 MPa	ISO 604
5% Strain	72.0 MPa	ISO 604



Mechanical	Nominal Value Unit	Test Method
Shear Strength	55.0 MPa	ASTM D732
Coefficient of Friction		
Dynamic	0.30 to 0.45	ISO 7148
Dynamic	0.25	Internal Method
Wear Factor	400 10 ⁻⁸ mm ³ /N·m	Internal Method
Limiting Pressure Velocity		
-- ³	2700.0 psi·fpm	Internal Method
-- ⁴	4568.1 psi·fpm	
Wear Rate	45.0 µm/km	ISO 7148
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength	8.0 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength	No Break	ISO 179/1eU
Notched Izod Impact	53 J/m	ASTM D256
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		
M-Scale	88	ASTM D785
M-Scale	84	ISO 2039-2
Durometer Hardness		
Shore D	85	ASTM D2240
Shore D	79	ISO 868
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
1.8 MPa, Unannealed	104 °C	ASTM D648A
1.8 MPa, Unannealed	100 °C	ISO 75-2/A
Melting Temperature		
--	165 °C	ISO 11357-3
--	168 °C	ASTM D3418
CLTE - Flow		
-40 to 150°C	9.7E-5 cm/cm/°C	ASTM E831
23 to 60°C	1.1E-4 cm/cm/°C	
23 to 100°C	1.3E-4 cm/cm/°C	
Thermal Conductivity	0.31 W/m/K	
Service Temperature		
Air	100 °C	
Minimum	-50 °C	
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+12 ohms	ESD STM11.11
Volume Resistivity	1.0E+13 ohms·m	IEC 62631-3-1
Dielectric Strength		
--	17 kV/mm	ASTM D149
--	20 kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	3.80	ASTM D150 IEC 62631-2-1
Dissipation Factor (1 MHz)	0.010	ASTM D150 IEC 62631-2-1



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Flammability	Nominal Value Unit	Test Method
Flame Rating (3.0 mm)	HB	UL 94
Oxygen Index	15 %	ISO 4589-2

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² Typical properties: these are not to be construed as specifications.

³ at 100 FPM

⁴ at 0.1 / 1 m/s cylindrical sleeve bearings

