

Aardvark Polymers AARTELÂ® 2000 Rotational Molding Resin

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

AartelÂ® 2000 POM is a premium homopolymer acetal for rotational molding applications. AartelÂ® 2000 offers high performance properties and is a high flow, fast cycling polymer. Information provided by Gehrig & Associates

Order this product through the following link:

http://www.lookpolymers.com/polymer_Aardvark-Polymers-AARTEL-2000-Rotational-Molding-Resin.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/inÂ³	ISO 1183
Water Absorption	0.43 %	0.43 %	Immersion 24h; ASTM D570
Moisture Absorption at Equilibrium	0.28 %	0.28 %	50% RH; ASTM D570
Water Absorption at Saturation	1.4 %	1.4 %	ASTM D570
Linear Mold Shrinkage	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ISO 2039/2
Hardness, Rockwell R	120	120	ISO 2039/2
Tensile Strength, Yield	69.0 MPa	10000 psi	5mm/min; ASTM D638
	71.0 MPa	10300 psi	ISO 527
Elongation at Break	23 %	23 %	Nominal; ISO 527
	28 %	28 %	ISO 527
Elongation at Yield	13 %	13 %	ISO 527
Tensile Modulus	3.30 GPa	479 ksi	ISO 527
Flexural Yield Strength	105 MPa	15200 psi	5% Strain; ASTM D790
Flexural Modulus	3.24 GPa	470 ksi	ASTM D790
Shear Strength	66.0 MPa	9570 psi	ASTM D732
Izod Impact, Unnotched	0.690 J/cm	1.29 ft-lb/in	ASTM D256

Mechanical Properties (ISO)	Metric ¹ /mÂ²	English ^{lb} /inÂ²	Comments
	8.00 kJ/mÂ²	3.81 ft-lb/inÂ²	ISO 180/1A
	@Temperature -40.0 Â°C	@Temperature -40.0 Â°F	
Charpy Impact Unnotched	20.0 J/cmÂ²	95.2 ft-lb/inÂ²	ISO 179/1eU
	20.0 J/cmÂ²	95.2 ft-lb/inÂ²	ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	0.800 J/cmÂ²	3.81 ft-lb/inÂ²	ISO 179/1eU
	0.700 J/cmÂ²	3.33 ft-lb/inÂ²	ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Tensile Creep Modulus, 1 hour	2800 MPa	406000 psi	ISO 899
Tensile Creep Modulus, 1000 hours	1500 MPa	218000 psi	ISO 899

Thermal Properties	Metric	English	Comments
CTE, linear	123 Âµm/m-Â°C	68.3 Âµin/in-Â°F	ISO 11359-1/-2
	@Temperature 23.0 - 55.0 Â°C	@Temperature 73.4 - 131 Â°F	
CTE, linear, Transverse to Flow	123 Âµm/m-Â°C	68.3 Âµin/in-Â°F	ISO 11359-1/-2
	@Temperature 23.0 - 55.0 Â°C	@Temperature 73.4 - 131 Â°F	
Melting Point	178 Â°C	352 Â°F	10Â°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	163 Â°C	325 Â°F	not annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	105 Â°C	221 Â°F	not annealed; ASTM D648
UL RTI, Electrical	110 Â°C	230 Â°F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical with Impact	85.0 Â°C	185 Â°F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	90.0 Â°C	194 Â°F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Flammability, UL94	HB	HB	

Thermal Properties	@Thickness 1.50 mm Metric	@Thickness 0.0591 in English	Comments
	HB	HB	IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	23 %	23 %	ISO 4589-1/2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	IEC 60093
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	IEC 60093
Dielectric Constant	3.8	3.8	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dissipation Factor	0.0050	0.0050	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	0.018	0.018	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

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