

Overview of materials for Acetal Copolymer, Aramid Fiber Filled

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, Aramid Fiber Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acetal Copolymer, Aramid Fiber Filled". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Overview-of-materials-for-Acetal-Copolymer-Aramid-Fiber-Filled.php

Physical Properties	Metric	English	Comments
Density	1.37 - 1.52 g/cc	0.0495 - 0.0549 lb/in ³	Average value: 1.45 g/cc Grade Count:30
Filler Content	5.00 - 15.0 %	5.00 - 15.0 %	Average value: 10.0 % Grade Count:12
Water Absorption	0.100 - 0.400 %	0.100 - 0.400 %	Average value: 0.194 % Grade Count:8
Additive Loading	10.0 %	10.0 %	Average value: 10.0 % Grade Count:3
Linear Mold Shrinkage	0.00800 - 0.0300 cm/cm	0.00800 - 0.0300 in/in	Average value: 0.0164 cm/cm Grade Count:29
Linear Mold Shrinkage, Transverse	0.0165 - 0.0400 cm/cm	0.0165 - 0.0400 in/in	Average value: 0.0225 cm/cm Grade Count:3

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	40.0 - 82.7 MPa	5800 - 12000 psi	Average value: 57.6 MPa Grade Count:28
Tensile Strength, Yield	51.7 - 88.3 MPa	7500 - 12800 psi	Average value: 65.7 MPa Grade Count:3
Elongation at Break	2.00 - 12.0 %	2.00 - 12.0 %	Average value: 7.54 % Grade Count:26
Elongation at Yield	4.50 - 10.0 %	4.50 - 10.0 %	Average value: 6.50 % Grade Count:7
Modulus of Elasticity	2.30 - 4.83 GPa	334 - 700 ksi	Average value: 3.30 GPa Grade Count:26
Flexural Yield Strength	60.0 - 116 MPa	8700 - 16800 psi	Average value: 80.1 MPa Grade Count:27
Flexural Modulus	2.00 - 4.07 GPa	290 - 590 ksi	Average value: 2.91 GPa Grade Count:27
Izod Impact, Notched	0.534 - 0.801 J/cm	1.00 - 1.50 ft-lb/in	Average value: 0.661 J/cm Grade Count:21
Izod Impact, Unnotched	3.74 - 6.94 J/cm	7.00 - 13.0 ft-lb/in	Average value: 5.31 J/cm Grade Count:19

Mechanical Properties	Metric	English	Comments
	7.00 - 7.00 kJ/m ² @Temperature -30.0 - - 30.0 °C	3.33 - 3.33 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 7.00 kJ/m ² Grade Count:1
Izod Impact, Unnotched (ISO)	32.0 - 45.0 kJ/m ²	15.2 - 21.4 ft-lb/in ²	Average value: 40.7 kJ/m ² Grade Count:3
Charpy Impact Unnotched	2.50 - 3.50 J/cm ²	11.9 - 16.7 ft-lb/in ²	Average value: 3.08 J/cm ² Grade Count:6
Charpy Impact, Notched	0.250 - 0.500 J/cm ²	1.19 - 2.38 ft-lb/in ²	Average value: 0.360 J/cm ² Grade Count:6
Coefficient of Friction	0.130 - 0.230	0.130 - 0.230	Average value: 0.192 Grade Count:5
Coefficient of Friction, Static	0.160 - 0.210	0.160 - 0.210	Average value: 0.178 Grade Count:5
K (wear) Factor	3.90 - 16.1 x 10 ⁻⁸ mm ³ /N-M	1.94 - 8.00 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	Average value: 11.3 x 10 ⁻⁸ mm ³ /N-M Grade Count:5

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	Average value: 110 °C Grade Count:4
Deflection Temperature at 0.46 MPa (66 psi)	154 - 162 °C	310 - 324 °F	Average value: 159 °C Grade Count:7
Deflection Temperature at 1.8 MPa (264 psi)	87.0 - 154 °C	189 - 310 °F	Average value: 132 °C Grade Count:27
Vicat Softening Point	140 - 160 °C	284 - 320 °F	Average value: 147 °C Grade Count:3
Flammability, UL94	HB	HB	Grade Count:20

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+14 - 1.00e+16 ohm-cm	1.00e+14 - 1.00e+16 ohm-cm	Average value: 1.51e+15 ohm-cm Grade Count:7
Insulation Resistance	1.00e+12 ohm	1.00e+12 ohm	Average value: 1.00e+12 ohm Grade Count:4

Processing Properties	Metric	English	Comments
Processing Temperature	177 - 230 °C	350 - 446 °F	Average value: 199 °C Grade Count:8
Nozzle Temperature	175 - 200 °C	347 - 392 °F	Average value: 188 °C Grade Count:4
Melt Temperature	175 - 218 °C	347 - 425 °F	Average value: 195 °C Grade Count:22
Mold Temperature	60.0 - 120 °C	140 - 248 °F	Average value: 93.2 °C Grade Count:26
Drying Temperature			Average value: 111 °C Grade Count:22

Processing Properties	75.0 - 121 °C Metric	167 - 250 °F English	Comments
Moisture Content	0.150 %	0.150 %	Average value: 0.150 % Grade Count:15
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:15
Injection Pressure	4.96 - 103 MPa	720 - 15000 psi	Average value: 78.4 MPa Grade Count:19

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