

## Overview of materials for Acetal Copolymer, Glass Bead Filled

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, Glass Bead Filled

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acetal Copolymer, Glass Bead 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-Glass-Bead-Filled.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Acetal-Copolymer-Glass-Bead-Filled.php)

Physical Properties	Metric	English	Comments
Density	1.47 - 1.88 g/cc	0.0531 - 0.0679 lb/in <sup>3</sup>	Average value: 1.57 g/cc Grade Count:45
Filler Content	10.0 - 40.0 %	10.0 - 40.0 %	Average value: 20.0 % Grade Count:13
Water Absorption	0.100 - 0.500 %	0.100 - 0.500 %	Average value: 0.301 % Grade Count:19
Moisture Absorption at Equilibrium	0.100 - 0.300 %	0.100 - 0.300 %	Average value: 0.190 % Grade Count:9
Linear Mold Shrinkage	0.00300 - 0.0400 cm/cm	0.00300 - 0.0400 in/in	Average value: 0.0174 cm/cm Grade Count:39
Linear Mold Shrinkage, Transverse	0.0100 - 0.0400 cm/cm	0.0100 - 0.0400 in/in	Average value: 0.0197 cm/cm Grade Count:12
Melt Flow	9.00 - 22.0 g/10 min	9.00 - 22.0 g/10 min	Average value: 16.4 g/10 min Grade Count:8

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	75.0 - 114	75.0 - 114	Average value: 106 Grade Count:15
Ball Indentation Hardness	182 - 202 MPa	26400 - 29300 psi	Average value: 189 MPa Grade Count:3
Tensile Strength, Ultimate	23.0 - 103 MPa	3340 - 15000 psi	Average value: 49.2 MPa Grade Count:36
	25.0 - 30.0 MPa @Temperature 60.0 - 60.0 °C	3630 - 4350 psi @Temperature 140 - 140 °F	Average value: 28.3 MPa Grade Count:3
Tensile Strength, Yield	35.0 - 65.0 MPa	5080 - 9430 psi	Average value: 50.0 MPa Grade Count:13
Elongation at Break	1.20 - 25.0 %	1.20 - 25.0 %	Average value: 10.9 % Grade Count:43
	65.0 - 75.0 % @Temperature 60.0 -	65.0 - 75.0 % @Temperature 140 -	Average value: 85.0 % Grade Count:3

Mechanical Properties	90.0 °C Metric	194 °F English	Comments
Elongation at Yield	3.90 - 8.50 %	3.90 - 8.50 %	Average value: 6.03 % Grade Count:9
	6.00 - 9.00 % @Temperature 60.0 - 90.0 °C	6.00 - 9.00 % @Temperature 140 - 194 °F	Average value: 7.58 % Grade Count:3
Modulus of Elasticity	2.00 - 8.96 GPa	290 - 1300 ksi	Average value: 3.93 GPa Grade Count:37
	1.20 - 2.30 GPa @Temperature 60.0 - 90.0 °C	174 - 334 ksi @Temperature 140 - 194 °F	Average value: 1.67 GPa Grade Count:3
Flexural Yield Strength	55.2 - 152 MPa	8000 - 22000 psi	Average value: 79.7 MPa Grade Count:37
Flexural Modulus	1.90 - 7.58 GPa	276 - 1100 ksi	Average value: 3.56 GPa Grade Count:33
Izod Impact, Notched	0.267 - 3.50 J/cm	0.500 - 6.56 ft-lb/in	Average value: 0.554 J/cm Grade Count:32
Izod Impact, Unnotched	1.07 - 7.29 J/cm	2.00 - 13.7 ft-lb/in	Average value: 4.58 J/cm Grade Count:28
Izod Impact, Notched (ISO)	2.70 - 6.00 kJ/m <sup>2</sup>	1.28 - 2.86 ft-lb/in <sup>2</sup>	Average value: 4.53 kJ/m <sup>2</sup> Grade Count:12
	4.00 - 5.00 kJ/m <sup>2</sup> @Temperature -30.0 - -30.0 °C	1.90 - 2.38 ft-lb/in <sup>2</sup> @Temperature -22.0 - -22.0 °F	Average value: 4.50 kJ/m <sup>2</sup> Grade Count:2
Izod Impact, Unnotched (ISO)	10.0 - 40.0 kJ/m <sup>2</sup>	4.76 - 19.0 ft-lb/in <sup>2</sup>	Average value: 30.8 kJ/m <sup>2</sup> Grade Count:7
Charpy Impact Unnotched	2.00 - 4.50 J/cm <sup>2</sup>	9.52 - 21.4 ft-lb/in <sup>2</sup>	Average value: 3.50 J/cm <sup>2</sup> Grade Count:5
	3.80 - 3.80 J/cm <sup>2</sup> @Temperature -20.0 - -20.0 °C	18.1 - 18.1 ft-lb/in <sup>2</sup> @Temperature -4.00 - -4.00 °F	Average value: 3.80 J/cm <sup>2</sup> Grade Count:1
Charpy Impact, Notched	0.150 - 0.500 J/cm <sup>2</sup>	0.714 - 2.38 ft-lb/in <sup>2</sup>	Average value: 0.278 J/cm <sup>2</sup> Grade Count:9
	0.200 - 0.200 J/cm <sup>2</sup> @Temperature -20.0 - -20.0 °C	0.952 - 0.952 ft-lb/in <sup>2</sup> @Temperature -4.00 - -4.00 °F	Average value: 0.200 J/cm <sup>2</sup> Grade Count:1
Dart Drop, Total Energy	4.00 - 6.00 J	2.95 - 4.43 ft-lb	Average value: 5.33 J Grade Count:3

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 - 108 µm/m-°C	25.0 - 60.0 µin/in-°F	Average value: 87.4 µm/m-°C Grade Count:7

Thermal Properties	Metric	English	Comments
CTE, linear, transverse to Flow	86.0 - 88.7 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	47.7 - 49.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 85.9 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:4
Melting Point	162 - 167 $^\circ\text{C}$	324 - 333 $^\circ\text{F}$	Average value: 166 $^\circ\text{C}$ Grade Count:11
Maximum Service Temperature, Air	80.0 $^\circ\text{C}$	176 $^\circ\text{F}$	Average value: 80.0 $^\circ\text{C}$ Grade Count:3
Deflection Temperature at 0.46 MPa (66 psi)	141 - 207 $^\circ\text{C}$	285 - 405 $^\circ\text{F}$	Average value: 164 $^\circ\text{C}$ Grade Count:25
Deflection Temperature at 1.8 MPa (264 psi)	101 - 201 $^\circ\text{C}$	214 - 394 $^\circ\text{F}$	Average value: 129 $^\circ\text{C}$ Grade Count:37
Vicat Softening Point	150 - 165 $^\circ\text{C}$	302 - 329 $^\circ\text{F}$	Average value: 154 $^\circ\text{C}$ Grade Count:8
Flammability, UL94	HB	HB	Grade Count:30

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: 1.56e+15 ohm-cm Grade Count:17
Surface Resistance	1.00e+14 - 1.00e+16 ohm	1.00e+14 - 1.00e+16 ohm	Average value: 5.05e+15 ohm Grade Count:4
Dielectric Constant	4.00 - 4.90	4.00 - 4.90	Average value: 4.41 Grade Count:4
Dielectric Strength	17.7 - 30.0 kV/mm	450 - 762 kV/in	Average value: 24.2 kV/mm Grade Count:6
Dissipation Factor	0.00950 - 0.0115	0.00950 - 0.0115	Average value: 0.0107 Grade Count:4
Comparative Tracking Index	500 - 600 V	500 - 600 V	Average value: 578 V Grade Count:9

Processing Properties	Metric	English	Comments
Processing Temperature	177 - 230 $^\circ\text{C}$	350 - 446 $^\circ\text{F}$	Average value: 198 $^\circ\text{C}$ Grade Count:17
Melt Temperature	170 - 220 $^\circ\text{C}$	338 - 428 $^\circ\text{F}$	Average value: 200 $^\circ\text{C}$ Grade Count:14
Mold Temperature	60.0 - 120 $^\circ\text{C}$	140 - 248 $^\circ\text{F}$	Average value: 92.3 $^\circ\text{C}$ Grade Count:31
Drying Temperature	80.0 - 121 $^\circ\text{C}$	176 - 250 $^\circ\text{F}$	Average value: 107 $^\circ\text{C}$ Grade Count:16
Moisture Content	0.150 %	0.150 %	Average value: 0.150 % Grade Count:8
Dew Point	-31.7 $^\circ\text{C}$	-25.0 $^\circ\text{F}$	Average value: -31.7 $^\circ\text{C}$ Grade Count:8
Injection Pressure	39.2 - 118 MPa	5690 - 17100 psi	Average value: 85.3 MPa Grade Count:20

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