

Overview of materials for Acetal Copolymer, 30% Glass Fiber Reinforced

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, 30% Glass Fiber Reinforced

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acetal Copolymer, 30% Glass Fiber Reinforced". Specific grades with glass content between 25% and 34% are included. 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-30-Glass-Fiber-Reinforced.php

Physical Properties	Metric	English	Comments
Density	1.35 - 1.75 g/cc	0.0488 - 0.0632 lb/in ³	Average value: 1.60 g/cc Grade Count:76
Filler Content	25.0 - 30.0 %	25.0 - 30.0 %	Average value: 27.8 % Grade Count:18
Water Absorption	0.180 - 0.900 %	0.180 - 0.900 %	Average value: 0.470 % Grade Count:24
Moisture Absorption at Equilibrium	0.100 - 0.300 %	0.100 - 0.300 %	Average value: 0.201 % Grade Count:18
Water Absorption at Saturation	0.200 - 0.900 %	0.200 - 0.900 %	Average value: 0.686 % Grade Count:11
Linear Mold Shrinkage	0.00100 - 0.0220 cm/cm	0.00100 - 0.0220 in/in	Average value: 0.00589 cm/cm Grade Count:58
Linear Mold Shrinkage, Transverse	0.00800 - 0.0400 cm/cm	0.00800 - 0.0400 in/in	Average value: 0.0140 cm/cm Grade Count:25
Melt Flow	0.300 - 16.0 g/10 min	0.300 - 16.0 g/10 min	Average value: 6.67 g/10 min Grade Count:26

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	80.0 - 95.0	80.0 - 95.0	Average value: 87.2 Grade Count:9
Hardness, Rockwell R	84.0 - 112	84.0 - 112	Average value: 99.5 Grade Count:11
Ball Indentation Hardness	175 - 239 MPa	25400 - 34700 psi	Average value: 204 MPa Grade Count:7
Tensile Strength, Ultimate	10.0 - 182 MPa	1450 - 26400 psi	Average value: 103 MPa Grade Count:57
	45.0 - 158.579 MPa @Temperature -40.0 - 120 °C	6530 - 23000.0 psi @Temperature -40.0 - 248 °F	Average value: 75.1 MPa Grade Count:3

Tensile Strength, Yield Mechanical Properties	38.0 - 137 MPa Metric	5510 - 19800 psi English	Average value: 91.6 MPa Grade Count:21
	26.2001 - 125 MPa	3800.01 - 18100 psi	Average value: 74.9 MPa Grade Count:2
	@Temperature -40.0 - 120 °C	@Temperature -40.0 - 248 °F	
Elongation at Break	1.00 - 13.0 %	1.00 - 13.0 %	Average value: 2.92 % Grade Count:68
	4.00 - 5.80 %	4.00 - 5.80 %	
	@Temperature 60.0 - 90.0 °C	@Temperature 140 - 194 °F	Average value: 4.90 % Grade Count:1
Elongation at Yield	2.00 - 6.00 %	2.00 - 6.00 %	Average value: 3.42 % Grade Count:8
Modulus of Elasticity	3.70 - 12.9 GPa	537 - 1870 ksi	Average value: 8.84 GPa Grade Count:52
	2.50 - 8.10 GPa	363 - 1170 ksi	
	@Temperature 40.0 - 140 °C	@Temperature 104 - 284 °F	Average value: 5.10 GPa Grade Count:2
Flexural Yield Strength	38.0 - 285 MPa	5510 - 41300 psi	Average value: 161 MPa Grade Count:54
Flexural Modulus	3.24 - 10.9 GPa	470 - 1580 ksi	Average value: 7.78 GPa Grade Count:62
	3.44738 - 5.70 GPa	500.008 - 827 ksi	
	@Temperature 60.0 - 120 °C	@Temperature 140 - 248 °F	Average value: 4.45 GPa Grade Count:2
Izod Impact, Notched	0.374 - 5.34 J/cm	0.700 - 10.0 ft-lb/in	Average value: 0.765 J/cm Grade Count:48
	0.37373 - 0.550 J/cm	0.70015 - 1.03 ft-lb/in	
	@Temperature -40.0 - 82.2 °C	@Temperature -40.0 - 180 °F	Average value: 0.459 J/cm Grade Count:3
Izod Impact, Unnotched	2.67 - 7.01 J/cm	5.00 - 13.1 ft-lb/in	Average value: 5.28 J/cm Grade Count:21
Izod Impact, Notched (ISO)	2.60 - 9.00 kJ/m²	1.24 - 4.28 ft-lb/in²	Average value: 6.18 kJ/m² Grade Count:20
	6.00 - 9.00 kJ/m²	2.86 - 4.28 ft-lb/in²	
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	Average value: 7.50 kJ/m² Grade Count:2
Izod Impact, Unnotched (ISO)	18.0 - 41.0 kJ/m²	8.57 - 19.5 ft-lb/in²	Average value: 30.5 kJ/m² Grade Count:8
Charpy Impact Unnotched	2.00 - 7.00 J/cm²	9.52 - 33.3 ft-lb/in²	Average value: 4.04 J/cm² Grade Count:13
	1.80 - 6.00 J/cm²	8.57 - 28.6 ft-lb/in²	Average value: 3.64 J/cm² Grade

Mechanical Properties	Metric @Temperature -40.0 - - 20.0 °C	English @Temperature -40.0 - - 4.0 °F	Count:7 Comments
Charpy Impact, Notched	0.240 - 4.10 J/cm²	1.14 - 19.5 ft-lb/in²	Average value: 0.912 J/cm² Grade Count:29
	0.220 - 0.880 J/cm² @Temperature -30.0 - - 30.0 °C	1.05 - 4.19 ft-lb/in² @Temperature -22.0 - - 22.0 °F	Average value: 0.539 J/cm² Grade Count:7
Dart Drop, Total Energy	8.00 - 10.0 J	5.90 - 7.38 ft-lb	Average value: 9.00 J Grade Count:6
Tensile Creep Modulus, 1 hour	3300 - 7700 MPa	479000 - 1.12e+6 psi	Average value: 4770 MPa Grade Count:3
Tensile Creep Modulus, 1000 hours	2100 - 5800 MPa	305000 - 841000 psi	Average value: 3850 MPa Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	4.00 - 95.1 µm/m-°C	2.22 - 52.8 µin/in-°F	Average value: 55.2 µm/m-°C Grade Count:26
CTE, linear, Transverse to Flow	36.0 - 125 µm/m-°C	20.0 - 69.4 µin/in-°F	Average value: 77.1 µm/m-°C Grade Count:18
Specific Heat Capacity	1.21 - 1.81 J/g-°C	0.289 - 0.433 BTU/lb-°F	Average value: 1.40 J/g-°C Grade Count:6
Melting Point	165 - 203 °C	329 - 397 °F	Average value: 168 °C Grade Count:32
Maximum Service Temperature, Air	85.0 - 140 °C	185 - 284 °F	Average value: 109 °C Grade Count:7
Deflection Temperature at 0.46 MPa (66 psi)	149 - 183 °C	300 - 361 °F	Average value: 165 °C Grade Count:33
Deflection Temperature at 1.8 MPa (264 psi)	76.7 - 166 °C	170 - 331 °F	Average value: 156 °C Grade Count:62
Vicat Softening Point	150 - 162 °C	302 - 324 °F	Average value: 158 °C Grade Count:9
Flammability, UL94	HB	HB	Grade Count:38

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10000 - 1.00e+16 ohm-cm	10000 - 1.00e+16 ohm-cm	Average value: 1.10e+15 ohm-cm Grade Count:33
Surface Resistance	1.00e+6 - 5.00e+16 ohm	1.00e+6 - 5.00e+16 ohm	Average value: 6.27e+15 ohm Grade Count:23
Dielectric Constant	4.00 - 5.00	4.00 - 5.00	Average value: 4.30 Grade Count:11
Dielectric Strength	17.7 - 43.0 kV/mm	450 - 1090 kV/in	Average value: 27.4 kV/mm Grade Count:22
Dissipation Factor	0.00300 - 0.0300	0.00300 - 0.0300	Average value: 0.00987 Grade Count:11

Electrical Properties	Metric	English	Comments
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Processing Properties	Metric	English	Comments
Processing Temperature	20.0 - 230 °C	68.0 - 446 °F	Average value: 160 °C Grade Count:25
Nozzle Temperature	180 - 220 °C	356 - 428 °F	Average value: 199 °C Grade Count:4

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