

Overview of materials for Acetal Homopolymer, PTFE-Filled

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Homopolymer, PTFE-Filled

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acetal Homopolymer, PTFE-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-Homopolymer-PTFE-Filled.php

Physical Properties	Metric	English	Comments
Density	1.42 - 1.55 g/cc	0.0513 - 0.0560 lb/in ³	Average value: 1.49 g/cc Grade Count:31
Filler Content	2.00 - 20.0 %	2.00 - 20.0 %	Average value: 11.8 % Grade Count:4
Water Absorption	0.0100 - 0.300 %	0.0100 - 0.300 %	Average value: 0.174 % Grade Count:20
Moisture Absorption at Equilibrium	0.170 - 0.200 %	0.170 - 0.200 %	Average value: 0.190 % Grade Count:3
Water Absorption at Saturation	0.720 - 1.00 %	0.720 - 1.00 %	Average value: 0.907 % Grade Count:3
Linear Mold Shrinkage	0.0100 - 0.0300 cm/cm	0.0100 - 0.0300 in/in	Average value: 0.0221 cm/cm Grade Count:20
Linear Mold Shrinkage, Transverse	0.0160 - 0.0260 cm/cm	0.0160 - 0.0260 in/in	Average value: 0.0211 cm/cm Grade Count:6
Melt Flow	6.00 - 13.0 g/10 min	6.00 - 13.0 g/10 min	Average value: 8.80 g/10 min Grade Count:5

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	77.0 - 85.0	77.0 - 85.0	Average value: 82.0 Grade Count:3
Hardness, Rockwell R	79.0 - 122	79.0 - 122	Average value: 101 Grade Count:10
Tensile Strength, Ultimate	41.4 - 64.0 MPa	6000 - 9280 psi	Average value: 53.1 MPa Grade Count:22
Tensile Strength, Yield	41.4 - 70.0 MPa	6000 - 10200 psi	Average value: 52.8 MPa Grade Count:13
Elongation at Break	3.00 - 30.0 %	3.00 - 30.0 %	Average value: 12.6 % Grade Count:22
Elongation at Yield	5.00 - 22.0 %	5.00 - 22.0 %	Average value: 11.5 % Grade Count:10
Modulus of Elasticity	0.0000689 - 3.30 GPa	0.0100 - 479 ksi	Average value: 2.45 GPa Grade Count:19
Flexural Yield Strength	62.1 - 89.6 MPa	9000 - 13000 psi	Average value: 77.9 MPa Grade

Mechanical Properties	Metric	English	Count:23 Comments
Flexural Modulus	2.07 - 3.20 GPa	300 - 464 ksi	Average value: 2.65 GPa Grade Count:27
Compressive Yield Strength	14.5 - 110 MPa	2100 - 16000 psi	Average value: 63.5 MPa Grade Count:4
Izod Impact, Notched	0.270 - 1.07 J/cm	0.506 - 2.00 ft-lb/in	Average value: 0.534 J/cm Grade Count:27
Izod Impact, Unnotched	2.40 - 13.3 J/cm	4.50 - 25.0 ft-lb/in	Average value: 5.97 J/cm Grade Count:14
Izod Impact, Notched (ISO)	4.00 - 4.50 kJ/m ²	1.90 - 2.14 ft-lb/in ²	Average value: 4.25 kJ/m ² Grade Count:4
Izod Impact, Unnotched (ISO)	29.0 - 45.2 kJ/m ²	13.8 - 21.5 ft-lb/in ²	Average value: 35.8 kJ/m ² Grade Count:4
Charpy Impact Unnotched	12.0 - 12.0 J/cm ² @Temperature -30.0 - - 30.0 °C	57.1 - 57.1 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 12.0 J/cm ² Grade Count:1
Charpy Impact, Notched	0.300 - 0.500 J/cm ²	1.43 - 2.38 ft-lb/in ²	Average value: 0.433 J/cm ² Grade Count:3
	0.500 - 0.500 J/cm ² @Temperature -30.0 - - 30.0 °C	2.38 - 2.38 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 0.500 J/cm ² Grade Count:1
Falling Dart Impact	5.20 - 7.20 J	3.84 - 5.31 ft-lb	Average value: 6.27 J Grade Count:3
Coefficient of Friction	0.120 - 0.300	0.120 - 0.300	Average value: 0.219 Grade Count:9
Coefficient of Friction, Static	0.0700 - 0.180	0.0700 - 0.180	Average value: 0.125 Grade Count:6
K (wear) Factor	18.1 - 121 x 10 ⁻⁸ mm ³ /N-M	9.00 - 60.0 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	Average value: 38.0 x 10 ⁻⁸ mm ³ /N-M Grade Count:7
Limiting Pressure Velocity	0.0560 - 9000 MPa- m/sec	1600 - 2.57e+8 psi- ft/min	Average value: 1500 MPa-m/sec Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 - 120 µm/m-°C	50.0 - 66.7 µin/in-°F	Average value: 98.4 µm/m-°C Grade Count:8
	91.8 - 91.8 µm/m-°C @Temperature 29.4 - 60.0 °C	51.0 - 51.0 µin/in-°F @Temperature 85.0 - 140 °F	Average value: 91.8 µm/m-°C Grade Count:1
Melting Point	162 - 180 °C	324 - 356 °F	Average value: 172 °C Grade Count:11
Maximum Service Temperature, Air	82.2 - 149 °C	180 - 300 °F	Average value: 104 °C Grade Count:5
Deflection Temperature at 0.46 MPa (66 psi)	73.9 - 171 °C	165 - 340 °F	Average value: 154 °C Grade Count:17

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	93.3 - 166 °C	200 - 331 °F	Average value: 108 °C Grade Count:29
Flammability, UL94	HB	HB	Grade Count:16

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: 2.03e+15 ohm-cm Grade Count:14
Surface Resistance	1.00e+13 - 1.00e+16 ohm	1.00e+13 - 1.00e+16 ohm	Average value: 3.34e+15 ohm Grade Count:3
Dielectric Constant	3.10 - 3.60	3.10 - 3.60	Average value: 3.40 Grade Count:3
Dielectric Strength	0.122 - 20.0 kV/mm	3.10 - 508 kV/in	Average value: 16.3 kV/mm Grade Count:8
Dissipation Factor	0.00300 - 0.0100	0.00300 - 0.0100	Average value: 0.00725 Grade Count:4

Processing Properties	Metric	English	Comments
Melt Temperature	182 - 220 °C	360 - 428 °F	Average value: 204 °C Grade Count:14
Mold Temperature	49.0 - 107 °C	120 - 225 °F	Average value: 89.5 °C Grade Count:14
Drying Temperature	71.0 - 121 °C	160 - 250 °F	Average value: 97.7 °C Grade Count:14
Moisture Content	0.150 - 0.200 %	0.150 - 0.200 %	Average value: 0.157 % Grade Count:7
Dew Point	-31.7 °C	-25.0 °F	Average value: -31.7 °C Grade Count:6
Injection Pressure	68.9 - 103 MPa	10000 - 15000 psi	Average value: 86.2 MPa Grade Count:6

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