

## Overview of materials for Acetal Copolymer, Impact Modified

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, Impact Modified

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.07 - 1.41 g/cc	0.0387 - 0.0509 lb/in <sup>3</sup>	Average value: 1.35 g/cc Grade Count:60
Water Absorption	0.200 - 1.10 %	0.200 - 1.10 %	Average value: 0.540 % Grade Count:12
Moisture Absorption at Equilibrium	0.200 - 0.300 %	0.200 - 0.300 %	Average value: 0.229 % Grade Count:15
Water Absorption at Saturation	0.650 - 1.20 %	0.650 - 1.20 %	Average value: 0.889 % Grade Count:14
Linear Mold Shrinkage	0.00800 - 0.0350 cm/cm	0.00800 - 0.0350 in/in	Average value: 0.0193 cm/cm Grade Count:33
Linear Mold Shrinkage, Transverse	0.00800 - 0.0200 cm/cm	0.00800 - 0.0200 in/in	Average value: 0.0169 cm/cm Grade Count:15
Melt Flow	1.78 - 27.8 g/10 min	1.78 - 27.8 g/10 min	Average value: 9.93 g/10 min Grade Count:30

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	50.0 - 78.0	50.0 - 78.0	Average value: 67.7 Grade Count:7
Hardness, Rockwell R	75.0 - 116	75.0 - 116	Average value: 98.8 Grade Count:10
Ball Indentation Hardness	35.0 - 120 MPa	5080 - 17400 psi	Average value: 88.6 MPa Grade Count:14
Tensile Strength, Ultimate	27.0 - 63.0 MPa	3920 - 9140 psi	Average value: 39.5 MPa Grade Count:20
Tensile Strength, Yield	32.0 - 68.9 MPa	4640 - 10000 psi	Average value: 45.3 MPa Grade Count:39
	22.0 - 80.0 MPa @Temperature -40.0 - 80.0 °C	3190 - 11600 psi @Temperature -40.0 - 176 °F	Average value: 51.0 MPa Grade Count:2
Elongation at Break	10.0 - 300 %	10.0 - 300 %	Average value: 77.8 % Grade Count:47

Mechanical Properties	Metric <sup>10.0 %</sup>	English <sup>10.0 %</sup>	Comments <sup>ue: 11.5 % Grade Count:24</sup>
	7.50 - 17.0 % @Temperature -40.0 - 80.0 °C	7.50 - 17.0 % @Temperature -40.0 - 176 °F	Average value: 12.3 % Grade Count:2
Modulus of Elasticity	0.900 - 2.65 GPa	131 - 384 ksi	Average value: 1.74 GPa Grade Count:36
Flexural Yield Strength	26.0 - 107 MPa	3770 - 15500 psi	Average value: 49.4 MPa Grade Count:28
Flexural Modulus	0.750 - 2.90 GPa	109 - 420 ksi	Average value: 1.66 GPa Grade Count:46
Izod Impact, Notched	0.490 - 100 J/cm	0.918 - 187 ft-lb/in	Average value: 1.13 J/cm Grade Count:16
	0.590 - 0.907 J/cm @Temperature -40.0 - - 40.0 °C	1.11 - 1.70 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.730 J/cm Grade Count:3
Izod Impact, Notched (ISO)	7.00 - 31.0 kJ/m <sup>2</sup>	3.33 - 14.8 ft-lb/in <sup>2</sup>	Average value: 13.7 kJ/m <sup>2</sup> Grade Count:13
	14.0 - 14.0 kJ/m <sup>2</sup> @Temperature -30.0 - - 30.0 °C	6.66 - 6.66 ft-lb/in <sup>2</sup> @Temperature -22.0 - - 22.0 °F	Average value: 14.0 kJ/m <sup>2</sup> Grade Count:1
Charpy Impact Unnotched	6.00 J/cm <sup>2</sup> - NB	28.6 ft-lb/in <sup>2</sup> - NB	Average value: 14.6 J/cm <sup>2</sup> Grade Count:25
	9.00 J/cm <sup>2</sup> - NB @Temperature -30.0 - 30.0 °C	42.8 ft-lb/in <sup>2</sup> - NB @Temperature -22.0 - 86.0 °F	Average value: 18.9 J/cm <sup>2</sup> Grade Count:19
Charpy Impact, Notched	0.500 - 5.82 J/cm <sup>2</sup>	2.38 - 27.7 ft-lb/in <sup>2</sup>	Average value: 1.51 J/cm <sup>2</sup> Grade Count:42
	0.600 - 1.20 J/cm <sup>2</sup> @Temperature -30.0 - 30.0 °C	2.86 - 5.71 ft-lb/in <sup>2</sup> @Temperature -22.0 - 86.0 °F	Average value: 0.843 J/cm <sup>2</sup> Grade Count:20
Penetration	5.00 - 55.0	5.00 - 55.0	Average value: 21.0 Grade Count:7
Tensile Creep Modulus, 1 hour	700 - 1850 MPa	102000 - 268000 psi	Average value: 1460 MPa Grade Count:16
Tensile Creep Modulus, 1000 hours	400 - 1050 MPa	58000 - 152000 psi	Average value: 845 MPa Grade Count:16

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 - 140 μm/m-°C	38.9 - 77.8 μin/in-°F	Average value: 119 μm/m-°C Grade Count:29
	110 - 140 μm/m-°C	61.1 - 77.8 μin/in-°F	Average value: 125 μm/m-°C Grade

CTE, linear, Transverse to Flow Thermal Properties	Metric	English	Count:10 Comments
Specific Heat Capacity	1.48 J/g-°C	0.354 BTU/lb-°F	Average value: 1.48 J/g-°C Grade Count:5
Melting Point	162 - 170 °C	324 - 338 °F	Average value: 166 °C Grade Count:38
Deflection Temperature at 0.46 MPa (66 psi)	95.0 - 160 °C	203 - 320 °F	Average value: 138 °C Grade Count:17
Deflection Temperature at 1.8 MPa (264 psi)	40.0 - 98.9 °C	104 - 210 °F	Average value: 77.5 °C Grade Count:54
Vicat Softening Point	60.0 - 143 °C	140 - 289 °F	Average value: 122 °C Grade Count:22
Flammability, UL94	HB	HB	Grade Count:29

Electrical Properties	Metric	English	Comments
Electrical Resistivity	10000 - 2.00e+14 ohm-cm	10000 - 2.00e+14 ohm-cm	Average value: 5.91e+13 ohm-cm Grade Count:30
Surface Resistance	260 - 1.00e+16 ohm	260 - 1.00e+16 ohm	Average value: 2.08e+15 ohm Grade Count:30
Dielectric Constant	3.60 - 5.30	3.60 - 5.30	Average value: 4.11 Grade Count:26
Dielectric Strength	17.7 - 40.0 kV/mm	450 - 1020 kV/in	Average value: 25.9 kV/mm Grade Count:24
Dissipation Factor	0.000600 - 0.0425	0.000600 - 0.0425	Average value: 0.0121 Grade Count:23
Comparative Tracking Index	600 V	600 V	Average value: 600 V Grade Count:17

Processing Properties	Metric	English	Comments
Processing Temperature	20.0 - 210 °C	68.0 - 410 °F	Average value: 102 °C Grade Count:16
Nozzle Temperature	190 - 200 °C	374 - 392 °F	Average value: 195 °C Grade Count:3
Die Temperature	180 - 200 °C	356 - 392 °F	Average value: 193 °C Grade Count:8
Melt Temperature	160 - 218 °C	320 - 425 °F	Average value: 188 °C Grade Count:18
Mold Temperature	50.0 - 107 °C	122 - 225 °F	Average value: 75.7 °C Grade Count:18
Drying Temperature	70.0 - 121 °C	158 - 250 °F	Average value: 97.0 °C Grade Count:19
Moisture Content	0.150 %	0.150 %	Average value: 0.150 % Grade Count:6
Injection Pressure	34.3 - 120 MPa	4980 - 17400 psi	Average value: 83.1 MPa Grade Count:17
Hot-Working Temperature	190 - 200 °C	374 - 392 °F	Average value: 195 °C Grade Count:5

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