

Overview of materials for Acrylic, Heat Resistant, Molded

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic, Heat Resistant, Molded

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acrylic, Heat Resistant, Molded". 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-Acrylic-Heat-Resistant-Molded.php

Physical Properties	Metric	English	Comments
Density	1.15 - 1.19 g/cc	0.0415 - 0.0430 lb/in ³	Average value: 1.18 g/cc Grade Count:17
Water Absorption	0.300 - 2.00 %	0.300 - 2.00 %	Average value: 0.490 % Grade Count:10
Water Absorption at Saturation	0.300 %	0.300 %	Average value: 0.300 % Grade Count:4
Linear Mold Shrinkage	0.00200 - 0.00700 cm/cm	0.00200 - 0.00700 in/in	Average value: 0.00423 cm/cm Grade Count:15
Melt Flow	0.900 - 19.0 g/10 min	0.900 - 19.0 g/10 min	Average value: 3.77 g/10 min Grade Count:17

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	44.0 - 105	44.0 - 105	Average value: 85.7 Grade Count:14
Tensile Strength, Ultimate	44.1 - 80.0 MPa	6400 - 11600 psi	Average value: 67.0 MPa Grade Count:14
Tensile Strength, Yield	71.7 - 76.0 MPa	10400 - 11000 psi	Average value: 74.4 MPa Grade Count:3
Elongation at Break	3.00 - 30.0 %	3.00 - 30.0 %	Average value: 11.8 % Grade Count:15
Elongation at Yield	4.00 - 13.0 %	4.00 - 13.0 %	Average value: 6.14 % Grade Count:7
Modulus of Elasticity	1.72 - 3.60 GPa	250 - 522 ksi	Average value: 2.86 GPa Grade Count:14
Flexural Yield Strength	68.9 - 133 MPa	10000 - 19300 psi	Average value: 103 MPa Grade Count:15
Flexural Modulus	1.79 - 3.43 GPa	260 - 498 ksi	Average value: 2.87 GPa Grade Count:14
Izod Impact, Notched	0.157 - 0.534 J/cm	0.294 - 1.00 ft-lb/in	Average value: 0.280 J/cm Grade Count:13
	0.240255 - 0.32034 J/cm	0.450096 - 0.60013 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Temperature 0.000 - 0.000 °C	@Temperature 32.0 - 32.0 °F	Average value: 0.274 J/cm Grade Count:4

Thermal Properties	Metric	English	Comments
CTE, linear	59.9 - 75.0 µm/m-°C	33.3 - 41.7 µin/in-°F	Average value: 65.0 µm/m-°C Grade Count:3
	72.0 - 90.0 µm/m-°C @Temperature 0.000 - 156 °C	40.0 - 50.0 µin/in-°F @Temperature 32.0 - 312 °F	Average value: 76.5 µm/m-°C Grade Count:4
Thermal Conductivity	0.187 - 0.210 W/m-K	1.30 - 1.46 BTU-in/hr-ft ² -°F	Average value: 0.193 W/m-K Grade Count:8
Deflection Temperature at 0.46 MPa (66 psi)	94.4 - 113 °C	202 - 235 °F	Average value: 102 °C Grade Count:8
Deflection Temperature at 1.8 MPa (264 psi)	85.0 - 108 °C	185 - 226 °F	Average value: 97.4 °C Grade Count:14
Vicat Softening Point	95.0 - 240 °C	203 - 464 °F	Average value: 113 °C Grade Count:16
Flammability, UL94	HB	HB	Grade Count:8

Optical Properties	Metric	English	Comments
Refractive Index	1.49 - 1.51	1.49 - 1.51	Average value: 1.49 Grade Count:12
Haze	0.300 - 96.0 %	0.300 - 96.0 %	Average value: 8.90 % Grade Count:12
Yellow Index	0.300 - 5.50 %	0.300 - 5.50 %	Average value: 1.60 % Grade Count:4
Transmission, Visible	80.0 - 93.0 %	80.0 - 93.0 %	Average value: 90.9 % Grade Count:17

Electrical Properties	Metric	English	Comments
Dielectric Strength	18.7 - 20.0 kV/mm	475 - 508 kV/in	Average value: 19.6 kV/mm Grade Count:3

Processing Properties	Metric	English	Comments
Melt Temperature	220 - 250 °C	428 - 482 °F	Average value: 240 °C Grade Count:5
Mold Temperature	43.3 - 90.0 °C	110 - 194 °F	Average value: 65.2 °C Grade Count:5
Drying Temperature	82.2 - 109 °C	180 - 228 °F	Average value: 87.6 °C Grade Count:5

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