

Overview of materials for Acrylic, UV Stabilized, Molded

Category : Polymer , Thermoplastic , Acrylic (PMMA) , Acrylic, UV Stabilized, Molded

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.15 - 1.20 g/cc	0.0415 - 0.0434 lb/in ³	Average value: 1.18 g/cc Grade Count:14
Water Absorption	0.300 - 1.90 %	0.300 - 1.90 %	Average value: 0.617 % Grade Count:6
Linear Mold Shrinkage	0.00200 - 0.00800 cm/cm	0.00200 - 0.00800 in/in	Average value: 0.00500 cm/cm Grade Count:8
Melt Flow	1.10 - 26.0 g/10 min	1.10 - 26.0 g/10 min	Average value: 4.90 g/10 min Grade Count:13

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	20.0 - 94.0	20.0 - 94.0	Average value: 67.7 Grade Count:7
Tensile Strength, Ultimate	32.4 - 70.3 MPa	4700 - 10200 psi	Average value: 59.1 MPa Grade Count:13
Elongation at Break	2.00 - 50.0 %	2.00 - 50.0 %	Average value: 13.8 % Grade Count:5
Modulus of Elasticity	1.79 - 3.45 GPa	260 - 500 ksi	Average value: 2.77 GPa Grade Count:9
Flexural Yield Strength	55.2 - 117 MPa	8000 - 17000 psi	Average value: 90.3 MPa Grade Count:8
Flexural Modulus	1.72 - 3.45 GPa	250 - 500 ksi	Average value: 2.69 GPa Grade Count:8
Izod Impact, Notched	0.160 - 0.587 J/cm	0.300 - 1.10 ft-lb/in	Average value: 0.322 J/cm Grade Count:8

Thermal Properties	Metric	English	Comments
CTE, linear	72.0 - 72.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	40.0 - 40.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Average value: 72.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Grade Count:2
	@Temperature 0.000 - 156 $^\circ\text{C}$	@Temperature 32.0 - 312 $^\circ\text{F}$	
Thermal Conductivity	0.187 - 0.216 W/m-K	1.30 - 1.50 BTU-in/hr-ft ² - $^\circ\text{F}$	Average value: 0.205 W/m-K Grade Count:5

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	85.0 - 105 °C	185 - 221 °F	Average value: 95.4 °C Grade Count:7
Deflection Temperature at 1.8 MPa (264 psi)	73.9 - 102 °C	165 - 216 °F	Average value: 89.7 °C Grade Count:14
Vicat Softening Point	76.7 - 114 °C	170 - 237 °F	Average value: 100 °C Grade Count:13

Optical Properties	Metric	English	Comments
Refractive Index	1.49	1.49	Average value: 1.49 Grade Count:5
Haze	1.00 - 3.00 %	1.00 - 3.00 %	Average value: 2.25 % Grade Count:12
Transmission, Visible	80.0 - 92.0 %	80.0 - 92.0 %	Average value: 90.3 % Grade Count:13

Processing Properties	Metric	English	Comments
Mold Temperature	26.7 - 107 °C	80.0 - 225 °F	Average value: 66.0 °C Grade Count:3

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