

Overview of materials for Cellulose Acetate, Molded

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Cellulosic , Cellulose Acetate, Molded

Material Notes:

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

Physical Properties	Metric	English	Comments
Density	1.26 - 1.31 g/cc	0.0455 - 0.0473 lb/in ³	Average value: 1.27 g/cc Grade Count:28
Water Absorption	2.10 - 2.60 %	2.10 - 2.60 %	Average value: 2.32 % Grade Count:21
Linear Mold Shrinkage	0.00200 - 0.00600 cm/cm	0.00200 - 0.00600 in/in	Average value: 0.00400 cm/cm Grade Count:19

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	31.0 - 117	31.0 - 117	Average value: 79.0 Grade Count:15
Tensile Strength, Ultimate	24.1 - 52.0 MPa	3500 - 7540 psi	Average value: 36.1 MPa Grade Count:22
Tensile Strength, Yield	19.0 - 51.0 MPa	2760 - 7400 psi	Average value: 31.7 MPa Grade Count:29
Elongation at Break	16.0 - 72.0 %	16.0 - 72.0 %	Average value: 31.4 % Grade Count:25
Elongation at Yield	3.10 - 4.00 %	3.10 - 4.00 %	Average value: 3.36 % Grade Count:8
Modulus of Elasticity	1.60 - 2.20 GPa	232 - 319 ksi	Average value: 1.90 GPa Grade Count:7
Flexural Yield Strength	27.0 - 72.0 MPa	3920 - 10400 psi	Average value: 48.2 MPa Grade Count:22
Flexural Modulus	0.0800 - 2.34 GPa	11.6 - 340 ksi	Average value: 1.16 GPa Grade Count:22
Izod Impact, Notched	0.480 - 3.52 J/cm	0.899 - 6.59 ft-lb/in	Average value: 2.02 J/cm Grade Count:22
	0.370 - 0.690 J/cm @Temperature -40.0 - - 40.0 °C	0.693 - 1.29 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.561 J/cm Grade Count:15
Charpy Impact Unnotched	NB	NB	Grade Count:7
	NB - NB	NB - NB	

Mechanical Properties	Metric @ Temperature -30.0 - - 30.0 °C	English @ Temperature -22.0 - - 22.0 °F	Comments
Charpy Impact, Notched	1.02 - 1.83 J/cm ²	4.85 - 8.71 ft-lb/in ²	Average value: 1.54 J/cm ² Grade Count:7
	0.470 - 1.03 J/cm ² @Temperature -30.0 - - 30.0 °C	2.24 - 4.90 ft-lb/in ² @Temperature -22.0 - - 22.0 °F	Average value: 0.613 J/cm ² Grade Count:7

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 - 170 µm/m-°C	6.11 - 94.4 µin/in-°F	Average value: 76.9 µm/m-°C Grade Count:12
CTE, linear, Transverse to Flow	129 - 151 µm/m-°C	71.7 - 83.9 µin/in-°F	Average value: 141 µm/m-°C Grade Count:7
Specific Heat Capacity	1.26 - 1.67 J/g-°C	0.301 - 0.399 BTU/lb-°F	Average value: 1.47 J/g-°C Grade Count:5
Thermal Conductivity	0.170 - 0.330 W/m-K	1.18 - 2.29 BTU-in/hr-ft ² -°F	Average value: 0.250 W/m-K Grade Count:5
Melting Point	138 - 175 °C	280 - 347 °F	Average value: 155 °C Grade Count:9
Deflection Temperature at 0.46 MPa (66 psi)	69.0 - 91.0 °C	156 - 196 °F	Average value: 82.2 °C Grade Count:13
Deflection Temperature at 1.8 MPa (264 psi)	50.0 - 84.0 °C	122 - 183 °F	Average value: 69.8 °C Grade Count:20
Vicat Softening Point	78.0 - 113 °C	172 - 235 °F	Average value: 96.3 °C Grade Count:18
Glass Transition Temp, Tg	95.0 - 108 °C	203 - 226 °F	Average value: 102 °C Grade Count:7

Optical Properties	Metric	English	Comments
Refractive Index	1.46 - 1.49	1.46 - 1.49	Average value: 1.48 Grade Count:5
Haze	1.40 - 8.50 %	1.40 - 8.50 %	Average value: 7.32 % Grade Count:6
Transmission, Visible	86.0 - 90.0 %	86.0 - 90.0 %	Average value: 89.3 % Grade Count:6

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+13 - 1.00e+15 ohm-cm	1.00e+13 - 1.00e+15 ohm-cm	Average value: 5.05e+14 ohm-cm Grade Count:5
Dielectric Constant	3.30 - 3.80	3.30 - 3.80	Average value: 3.55 Grade Count:5
Dielectric Strength	11.8 - 18.7 kV/mm	300 - 475 kV/in	Average value: 15.3 kV/mm Grade Count:5
Dissipation Factor	0.0100 - 0.150	0.0100 - 0.150	Average value: 0.0800 Grade Count:5

Electrical Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Processing Temperature	175 - 225 °C	347 - 437 °F	Average value: 197 °C Grade Count:6
Melt Temperature	202 - 250 °C	396 - 482 °F	Average value: 226 °C Grade Count:14
Mold Temperature	38.0 - 71.0 °C	100 - 160 °F	Average value: 54.4 °C Grade Count:7

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China