

## Overview of materials for Cellulose Acetate Butyrate, Molded

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

### Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Cellulose Acetate Butyrate, 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-Butyrate-Molded.php](http://www.lookpolymers.com/polymer_Overview-of-materials-for-Cellulose-Acetate-Butyrate-Molded.php)

Physical Properties	Metric	English	Comments
Density	1.16 - 1.31 g/cc	0.0419 - 0.0473 lb/in <sup>3</sup>	Average value: 1.19 g/cc Grade Count:92
Water Absorption	1.20 - 2.10 %	1.20 - 2.10 %	Average value: 1.41 % Grade Count:88
Linear Mold Shrinkage	0.00150 - 0.00700 cm/cm	0.00150 - 0.00700 in/in	Average value: 0.00401 cm/cm Grade Count:86

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	12.0 - 112	12.0 - 112	Average value: 66.7 Grade Count:33
Tensile Strength, Ultimate	20.0 - 52.4 MPa	2900 - 7600 psi	Average value: 36.3 MPa Grade Count:88
Tensile Strength, Yield	15.9 - 44.5 MPa	2310 - 6450 psi	Average value: 28.5 MPa Grade Count:92
Elongation at Break	23.0 - 55.0 %	23.0 - 55.0 %	Average value: 47.5 % Grade Count:45
Elongation at Yield	3.60 - 40.0 %	3.60 - 40.0 %	Average value: 13.1 % Grade Count:4
Modulus of Elasticity	1.01 - 1.59 GPa	146 - 231 ksi	Average value: 1.37 GPa Grade Count:3
Flexural Yield Strength	21.4 - 65.0 MPa	3100 - 9430 psi	Average value: 37.8 MPa Grade Count:86
Flexural Modulus	0.827 - 2.41 GPa	120 - 350 ksi	Average value: 1.24 GPa Grade Count:88
Izod Impact, Notched	0.910 - 5.34 J/cm	1.70 - 10.0 ft-lb/in	Average value: 3.04 J/cm Grade Count:89
	0.370 - 1.23 J/cm @Temperature -40.0 - - 40.0 °C	0.693 - 2.30 ft-lb/in @Temperature -40.0 - - 40.0 °F	Average value: 0.991 J/cm Grade Count:38
Charpy Impact Unnotched	NB	NB	Grade Count:3
	NB - NB	NB - NB	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
Charpy Impact, Notched	1.26 - 2.12 J/cm <sup>2</sup>	6.00 - 10.1 ft-lb/in <sup>2</sup>	Average value: 1.61 J/cm <sup>2</sup> Grade Count:3
	0.330 - 0.740 J/cm <sup>2</sup>	1.57 - 3.52 ft-lb/in <sup>2</sup>	Average value: 0.497 J/cm <sup>2</sup> Grade Count:3
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 - 170 µm/m-°C	6.11 - 94.4 µin/in-°F	Average value: 44.8 µm/m-°C Grade Count:36
CTE, linear, Transverse to Flow	137 - 168 µm/m-°C	76.1 - 93.3 µin/in-°F	Average value: 148 µm/m-°C Grade Count:3
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:33
Thermal Conductivity	0.170 - 0.330 W/m-K	1.18 - 2.29 BTU-in/hr-ft <sup>2</sup> -°F	Average value: 0.250 W/m-K Grade Count:33
Deflection Temperature at 0.46 MPa (66 psi)	68.0 - 95.0 °C	154 - 203 °F	Average value: 81.7 °C Grade Count:41
Deflection Temperature at 1.8 MPa (264 psi)	52.0 - 86.0 °C	126 - 187 °F	Average value: 70.3 °C Grade Count:92
Vicat Softening Point	80.0 - 118 °C	176 - 244 °F	Average value: 100 °C Grade Count:88
Glass Transition Temp, Tg	98.0 - 107 °C	208 - 225 °F	Average value: 102 °C Grade Count:3
Flammability, UL94	HB	HB	Grade Count:4

Optical Properties	Metric	English	Comments
Refractive Index	1.46 - 1.49	1.46 - 1.49	Average value: 1.48 Grade Count:33
Haze	8.50 %	8.50 %	Average value: 8.50 % Grade Count:34
Transmission, Visible	90.0 %	90.0 %	Average value: 90.0 % Grade Count:37

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:33
Dielectric Constant	3.30 - 3.80	3.30 - 3.80	Average value: 3.55 Grade Count:33
Dielectric Strength	11.8 - 18.7 kV/mm	300 - 475 kV/in	Average value: 15.3 kV/mm Grade Count:33
Dissipation Factor	0.0100 - 0.150	0.0100 - 0.150	Average value: 0.0800 Grade Count:33

Electrical Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Melt Temperature	188 - 246 °C	370 - 475 °F	Average value: 223 °C Grade Count:54
Mold Temperature	32.0 - 79.4 °C	89.6 - 175 °F	Average value: 52.6 °C Grade Count:47

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