

Overview of materials for Polycarbonate/ABS Alloy, Unreinforced

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Unreinforced , Polycarbonate (PC)

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Polycarbonate/ABS Alloy, Unreinforced".

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-PolycarbonateABS-Alloy-Unreinforced.php

Physical Properties	Metric	English	Comments
Density	0.900 - 1.40 g/cc	0.0325 - 0.0506 lb/in ³	Average value: 1.17 g/cc Grade Count:832
	0.935 - 1.02 g/cc	0.0338 - 0.0368 lb/in ³	Average value: 0.981 g/cc Grade Count:16
	@Temperature 240 - 260 °C	@Temperature 464 - 500 °F	
Water Absorption	0.0100 - 0.700 %	0.0100 - 0.700 %	Average value: 0.313 % Grade Count:218
Moisture Absorption at Equilibrium	0.0100 - 8.00 %	0.0100 - 8.00 %	Average value: 0.222 % Grade Count:297
Water Absorption at Saturation	0.0800 - 1.00 %	0.0800 - 1.00 %	Average value: 0.420 % Grade Count:228
Viscosity	170000 - 195000 cP	170000 - 195000 cP	Average value: 187000 cP Grade Count:6
	100000 - 195000 cP	100000 - 195000 cP	Average value: 204000 cP Grade Count:9
	@Temperature 260 - 260 °C	@Temperature 500 - 500 °F	
	120000 - 480000 cP	120000 - 480000 cP	Average value: 204000 cP Grade Count:22
	@Temperature 260 - 260 °C	@Temperature 500 - 500 °F	
	120000 - 480000 cP	120000 - 480000 cP	Average value: 204000 cP Grade Count:22
	@Shear Rate 1000 - 1000 1/s	@Shear Rate 1000 - 1000 1/s	
Maximum Moisture Content	0.0100 - 0.0400	0.0100 - 0.0400	Average value: 0.0217 Grade Count:40
Linear Mold Shrinkage	0.000500 - 0.0140 cm/cm	0.000500 - 0.0140 in/in	Average value: 0.00563 cm/cm Grade Count:669
Linear Mold Shrinkage, Transverse	0.00150 - 0.0160 cm/cm	0.00150 - 0.0160 in/in	Average value: 0.00566 cm/cm Grade Count:137

Physical Properties	Metric 0.200 - 95.0 g/10 min	English 0.200 - 95.0 g/10 min	Comments Average value: 17.1 g/10 min Grade Count:13
Spiral Flow	25.0 - 76.0 cm	9.84 - 29.9 in	Average value: 58.5 cm Grade Count:13
	68.58 - 68.58 cm @Temperature 260 - 260 °C	27.00 - 27.00 in @Temperature 500 - 500 °F	Average value: 68.6 cm Grade Count:2

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	90.0	90.0	Average value: 90.0 Grade Count:6
Hardness, Rockwell M	72.0 - 97.0	72.0 - 97.0	Average value: 90.4 Grade Count:8
Hardness, Rockwell R	98.0 - 124	98.0 - 124	Average value: 115 Grade Count:222
Hardness, H358/30	89.0 - 121 MPa	12900 - 17500 psi	Average value: 104 MPa Grade Count:45
Hardness, Shore D	62.0	62.0	Average value: 62.0 Grade Count:3
Ball Indentation Hardness	85.0 - 105 MPa	12300 - 15200 psi	Average value: 96.3 MPa Grade Count:9
Tensile Strength, Ultimate	26.0 - 446 MPa	3770 - 64700 psi	Average value: 50.7 MPa Grade Count:470
	20.0 - 45.0 MPa @Temperature 60.0 - 90.0 °C	2900 - 6530 psi @Temperature 140 - 194 °F	Average value: 32.5 MPa Grade Count:1
Tensile Strength, Yield	34.8 - 119 MPa	5050 - 17300 psi	Average value: 56.6 MPa Grade Count:724
Elongation at Break	1.25 - 220 %	1.25 - 220 %	Average value: 64.8 % Grade Count:665
	45.0 - 55.0 % @Temperature 60.0 - 90.0 °C	45.0 - 55.0 % @Temperature 140 - 194 °F	Average value: 50.0 % Grade Count:1
Elongation at Yield	1.90 - 100 %	1.90 - 100 %	Average value: 5.15 % Grade Count:435
	4.00 - 6.00 % @Temperature 60.0 - 90.0 °C	4.00 - 6.00 % @Temperature 140 - 194 °F	Average value: 5.00 % Grade Count:1
Modulus of Elasticity	1.67 - 10.3 GPa	242 - 1490 ksi	Average value: 2.75 GPa Grade Count:475
	1.90 - 2.20 GPa @Temperature 60.0 - 90.0 °C	276 - 319 ksi @Temperature 140 - 194 °F	Average value: 2.05 GPa Grade Count:1

Mechanical Properties	Metric	English	Comments
	59 MPa	23100 psi	Average value: 88.9 MPa Grade Count:549
Flexural Modulus	0.290 - 12.9 GPa	42.1 - 1880 ksi	Average value: 2.60 GPa Grade Count:723
Izod Impact, Notched	0.196 - 56.0 J/cm	0.367 - 105 ft-lb/in	Average value: 5.18 J/cm Grade Count:628
	0.380 - 6.40 J/cm @Temperature -50.0 - 0.000 °C	0.712 - 12.0 ft-lb/in @Temperature -58.0 - 32.0 °F	Average value: 2.90 J/cm Grade Count:224
	1.01441 - 5.30 J/cm @Temperature -40.0 - - 10.0 °C	1.90041 - 9.93 ft-lb/in @Temperature -40.0 - 14.0 °F	Average value: 2.90 J/cm Grade Count:39
	1.01441 - 5.30 J/cm @Thickness 3.17 - 6.35 mm	1.90041 - 9.93 ft-lb/in @Thickness 0.125 - 0.250 in	Average value: 2.90 J/cm Grade Count:39
Izod Impact, Unnotched	3.00 J/cm - NB	5.62 ft-lb/in - NB	Average value: 9.28 J/cm Grade Count:70
	5.88 J/cm - NB @Temperature -40.0 - - 30.0 °C	11.0 ft-lb/in - NB @Temperature -40.0 - - 22.0 °F	Average value: 12.6 J/cm Grade Count:12
Izod Impact, Notched (ISO)	0.750 - 100 kJ/m²	0.357 - 47.6 ft-lb/in²	Average value: 35.1 kJ/m² Grade Count:287
	0.590 - 61.0 kJ/m² @Temperature -40.0 - 0.000 °C	0.281 - 29.0 ft-lb/in² @Temperature -40.0 - 32.0 °F	Average value: 19.0 kJ/m² Grade Count:242
Izod Impact, Unnotched (ISO)	21.0 kJ/m² - NB	9.99 ft-lb/in² - NB	Average value: 96.6 kJ/m² Grade Count:64
	7.00 kJ/m² - NB @Temperature -40.0 - - 30.0 °C	3.33 ft-lb/in² - NB @Temperature -40.0 - - 22.0 °F	Average value: 66.2 kJ/m² Grade Count:25
Charpy Impact Unnotched	5.40 J/cm² - NB	25.7 ft-lb/in² - NB	Average value: 19.6 J/cm² Grade Count:55
	4.90 J/cm² - NB @Temperature -40.0 - - 20.0 °C	23.3 ft-lb/in² - NB @Temperature -40.0 - - 4.00 °F	Average value: 21.6 J/cm² Grade Count:19
Charpy Impact, Notched	0.400 - 8.00 J/cm²	1.90 - 38.1 ft-lb/in²	Average value: 3.65 J/cm² Grade Count:276
	0.300 - 5.00 J/cm² @Temperature -40.0 - 0.000 °C	1.43 - 23.8 ft-lb/in² @Temperature -40.0 - 32.0 °F	Average value: 1.87 J/cm² Grade Count:213

Mechanical Properties	Metric	English	Comments
Dart Drop, Total Energy	13.0 - 72.0 J	9.59 - 53.1 ft-lb	Average value: 52.3 J Grade Count:178
	25.0 - 70.0 J	18.4 - 51.6 ft-lb	Average value: 52.3 J Grade Count:49
	@Temperature -40.0 - -20.0 °C	@Temperature -40.0 - -4.00 °F	
	56.5 - 62.1 J	41.7 - 45.8 ft-lb	Average value: 52.3 J Grade Count:3
	@Temperature -29.0 - -29.0 °C	@Temperature -20.2 - -20.2 °F	
	56.5 - 62.1 J	41.7 - 45.8 ft-lb	Average value: 52.3 J Grade Count:3
	@Thickness 3.20 - 3.20 mm	@Thickness 0.126 - 0.126 in	
Falling Dart Impact	6.78 - 54.2 J	5.00 - 40.0 ft-lb	Average value: 37.6 J Grade Count:6
	50.1653 - 51.5212 J	37.0000 - 38.0000 ft-lb	Average value: 50.8 J Grade Count:2
	@Temperature -28.9 - -28.9 °C	@Temperature -20.0 - -20.0 °F	

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