

Overview of materials for Acrylonitrile Butadiene Styrene (ABS), Sheet

Category : Polymer , Thermoplastic , ABS Polymer , Acrylonitrile Butadiene Styrene (ABS), Sheet

Material Notes:

This property data is a summary of similar materials in the MatWeb database for the category "Acrylonitrile Butadiene Styrene (ABS), Sheet". 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-Acrylonitrile-Butadiene-Styrene-ABS-Sheet.php

Physical Properties	Metric	English	Comments
Density	0.775 - 1.28 g/cc	0.0280 - 0.0462 lb/in ³	Average value: 1.06 g/cc Grade Count:25
Linear Mold Shrinkage	0.00550 cm/cm	0.00550 in/in	Average value: 0.00550 cm/cm Grade Count:3
Melt Flow	1.20 - 2.60 g/10 min	1.20 - 2.60 g/10 min	Average value: 2.08 g/10 min Grade Count:4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	80.0 - 105	80.0 - 105	Average value: 96.4 Grade Count:22
Tensile Strength, Ultimate	15.9 - 34.5 MPa	2310 - 5000 psi	Average value: 28.3 MPa Grade Count:6
Tensile Strength, Yield	31.0 - 42.7 MPa	4500 - 6200 psi	Average value: 37.3 MPa Grade Count:22
Elongation at Break	40.0 - 190 %	40.0 - 190 %	Average value: 95.0 % Grade Count:4
Modulus of Elasticity	1.83 - 2.21 GPa	265 - 320 ksi	Average value: 2.07 GPa Grade Count:12
Flexural Yield Strength	34.5 - 75.8 MPa	5000 - 11000 psi	Average value: 59.6 MPa Grade Count:21
Flexural Modulus	1.59 - 2.48 GPa	230 - 360 ksi	Average value: 2.03 GPa Grade Count:22
Izod Impact, Notched	2.40 - 5.34 J/cm	4.50 - 10.0 ft-lb/in	Average value: 3.81 J/cm Grade Count:11
	0.80085 - 2.6695 J/cm @Temperature -29.0 - -28.9 °C	1.5003 - 5.0011 ft-lb/in @Temperature -20.2 - -20.0 °F	Average value: 1.43 J/cm Grade Count:8
Izod Impact, Unnotched	2.67 - 4.27 J/cm	5.00 - 8.00 ft-lb/in	Average value: 3.63 J/cm Grade Count:10
	0.58729 - 2.1356 J/cm	1.1002 - 4.0009 ft-lb/in	Average value: 1.14 J/cm Grade

Mechanical Properties	Metric @Temperature -40.0 - - 40.0 °C	English @Temperature -40.0 - - 40.0 °F	Count:8 Comments
Falling Dart Impact	20.3 - 47.5 J	15.0 - 35.0 ft-lb	Average value: 34.3 J Grade Count:9
	4.06746 - 31.1839 J	3.00000 - 23.0000 ft-lb	Average value: 14.6 J Grade Count:8
	@Temperature -40.0 - - 40.0 °C	@Temperature -40.0 - - 40.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	59.4 - 101 µm/m-°C	33.0 - 56.0 µin/in-°F	Average value: 88.3 µm/m-°C Grade Count:21
Deflection Temperature at 0.46 MPa (66 psi)	93.0 - 93.9 °C	199 - 201 °F	Average value: 93.2 °C Grade Count:4
Deflection Temperature at 1.8 MPa (264 psi)	77.8 - 106 °C	172 - 222 °F	Average value: 90.0 °C Grade Count:24
Vicat Softening Point	95.0 - 107 °C	203 - 225 °F	Average value: 104 °C Grade Count:4
Flammability, UL94	HB - V-0	HB - V-0	Grade Count:13

Optical Properties	Metric	English	Comments
Gloss	16.0 - 95.0 %	16.0 - 95.0 %	Average value: 83.3 % Grade Count:12

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