

## Overview of materials for Acrylonitrile Butadiene Styrene (ABS), Molded

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

### Material Notes:

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

Physical Properties	Metric	English	Comments
Density	0.882 - 3.50 g/cc	0.0319 - 0.126 lb/in <sup>3</sup>	Average value: 1.06 g/cc Grade Count:387
Water Absorption	0.0250 - 2.30 %	0.0250 - 2.30 %	Average value: 0.421 % Grade Count:74
Moisture Absorption at Equilibrium	0.150 - 0.220 %	0.150 - 0.220 %	Average value: 0.200 % Grade Count:23
Water Absorption at Saturation	0.300 - 1.03 %	0.300 - 1.03 %	Average value: 0.734 % Grade Count:20
Viscosity	255000 - 255000 cP @Temperature 240 - 240 °C	255000 - 255000 cP @Temperature 464 - 464 °F	Average value: 255000 cP Grade Count:1
Maximum Moisture Content	0.0100 - 0.150	0.0100 - 0.150	Average value: 0.0374 Grade Count:46
Linear Mold Shrinkage	0.00150 - 0.00800 cm/cm	0.00150 - 0.00800 in/in	Average value: 0.00526 cm/cm Grade Count:248
Linear Mold Shrinkage, Transverse	0.00250 - 0.00900 cm/cm	0.00250 - 0.00900 in/in	Average value: 0.00541 cm/cm Grade Count:22
Melt Flow	0.0800 - 80.0 g/10 min	0.0800 - 80.0 g/10 min	Average value: 14.7 g/10 min Grade Count:399

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	90.0 - 119	90.0 - 119	Average value: 107 Grade Count:221
Hardness, H358/30	85.0 - 104 MPa	12300 - 15100 psi	Average value: 93.1 MPa Grade Count:9
Ball Indentation Hardness	80.0 - 120 MPa	11600 - 17400 psi	Average value: 99.3 MPa Grade Count:26
Tensile Strength, Ultimate	24.1 - 73.1 MPa	3500 - 10600 psi	Average value: 38.5 MPa Grade Count:150
	20.0 - 52.0 MPa	2900 - 7540 psi	

Mechanical Properties	Metric @ Temperature -18.0 - 90.0 °C	English @ Temperature -0.400 - 194 °F	Comments Average value: 35.8 MPa Grade Count:1
Tensile Strength, Yield	20.0 - 73.1 MPa	2900 - 10600 psi	Average value: 43.4 MPa Grade Count:339
	64.0 - 64.0 MPa @Temperature -18.0 - - 18.0 °C	9280 - 9280 psi @Temperature -0.400 - -0.400 °F	Average value: 64.0 MPa Grade Count:1
Elongation at Break	1.40 - 110 %	1.40 - 110 %	Average value: 24.9 % Grade Count:244
	15.0 - 15.0 % @Temperature -18.0 - - 18.0 °C	15.0 - 15.0 % @Temperature -0.400 - -0.400 °F	Average value: 15.0 % Grade Count:1
Elongation at Yield	1.70 - 20.0 %	1.70 - 20.0 %	Average value: 3.39 % Grade Count:130
Modulus of Elasticity	0.778 - 6.10 GPa	113 - 885 ksi	Average value: 2.30 GPa Grade Count:220
	2.81 - 2.81 GPa @Temperature -18.0 - - 18.0 °C	408 - 408 ksi @Temperature -0.400 - -0.400 °F	Average value: 2.81 GPa Grade Count:1
Flexural Yield Strength	10.3 - 111 MPa	1500 - 16100 psi	Average value: 67.6 MPa Grade Count:258
Flexural Modulus	0.0241 - 6.89 GPa	3.50 - 1000 ksi	Average value: 2.34 GPa Grade Count:305
	1.50 - 4.00 GPa @Temperature 60.0 - 90.0 °C	218 - 580 ksi @Temperature 140 - 194 °F	Average value: 2.84 GPa Grade Count:2
Izod Impact, Notched	0.100 - 6.40 J/cm	0.187 - 12.0 ft-lb/in	Average value: 2.22 J/cm Grade Count:309
	0.350 - 3.00 J/cm @Temperature -50.0 - 0.000 °C	0.656 - 5.62 ft-lb/in @Temperature -58.0 - 32.0 °F	Average value: 0.922 J/cm Grade Count:13
	0.480 - 1.87 J/cm @Temperature -40.0 - 0.000 °C	0.899 - 3.50 ft-lb/in @Temperature -40.0 - 32.0 °F	Average value: 0.922 J/cm Grade Count:8
	0.480 - 1.87 J/cm @Thickness 3.17 - 3.20 mm	0.899 - 3.50 ft-lb/in @Thickness 0.125 - 0.126 in	Average value: 0.922 J/cm Grade Count:8
Izod Impact, Unnotched	0.981 J/cm - NB	1.84 ft-lb/in - NB	Average value: 7.89 J/cm Grade Count:12
	0.392266 - 2.54973	0.734875 - 4.77669 ft-	

Mechanical Properties	J/cm Metric	lb/in English	Comments Average value: 0.848 J/cm Grade Count:27
	@Temperature -30.0 - - 20.0 °C	@Temperature -22.0 - - 4.00 °F	
	0.392266 - 2.54973 J/cm	0.734875 - 4.77669 ft- lb/in	Average value: 0.848 J/cm Grade Count:27
	@Thickness 3.20 - 6.40 mm	@Thickness 0.126 - 0.252 in	
Izod Impact, Notched (ISO)	2.00 - 48.0 kJ/m <sup>2</sup>	0.952 - 22.8 ft-lb/in <sup>2</sup>	Average value: 18.1 kJ/m <sup>2</sup> Grade Count:79
	4.00 - 16.0 kJ/m <sup>2</sup>	1.90 - 7.61 ft-lb/in <sup>2</sup>	Average value: 8.77 kJ/m <sup>2</sup> Grade Count:39
	@Temperature -30.0 - - 18.0 °C	@Temperature -22.0 - - 0.400 °F	
	6.00 - 13.0 kJ/m <sup>2</sup>	2.86 - 6.19 ft-lb/in <sup>2</sup>	Average value: 8.77 kJ/m <sup>2</sup> Grade Count:3
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
	6.00 - 13.0 kJ/m <sup>2</sup>	2.86 - 6.19 ft-lb/in <sup>2</sup>	Average value: 8.77 kJ/m <sup>2</sup> Grade Count:3
	@Thickness 4.00 - 4.00 mm	@Thickness 0.157 - 0.157 in	
Izod Impact, Unnotched (ISO)	39.2 kJ/m <sup>2</sup> - NB	18.7 ft-lb/in <sup>2</sup> - NB	Average value: 87.4 kJ/m <sup>2</sup> Grade Count:25
	60.0 - 70.0 kJ/m <sup>2</sup>	28.6 - 33.3 ft-lb/in <sup>2</sup>	Average value: 68.0 kJ/m <sup>2</sup> Grade Count:5
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	
	NB - NB	NB - NB	Average value: 68.0 kJ/m <sup>2</sup> Grade Count:1
	@Temperature -20.0 - - 20.0 °C	@Temperature -4.00 - - 4.00 °F	
	NB - NB	NB - NB	Average value: 68.0 kJ/m <sup>2</sup> Grade Count:1
	@Thickness 4.00 - 4.00 mm	@Thickness 0.157 - 0.157 in	
Charpy Impact Unnotched	2.00 J/cm <sup>2</sup> - NB	9.52 ft-lb/in <sup>2</sup> - NB	Average value: 11.6 J/cm <sup>2</sup> Grade Count:90
	0.300 J/cm <sup>2</sup> - NB	1.43 ft-lb/in <sup>2</sup> - NB	Average value: 6.53 J/cm <sup>2</sup> Grade Count:61
	@Temperature -40.0 - - 20.0 °C	@Temperature -40.0 - - 4.00 °F	
Charpy Impact, Notched	0.500 - 14.0 J/cm <sup>2</sup>	2.38 - 66.6 ft-lb/in <sup>2</sup>	Average value: 1.91 J/cm <sup>2</sup> Grade Count:120
	0.300 - 1.60 J/cm <sup>2</sup>	1.43 - 7.61 ft-lb/in <sup>2</sup>	Average value: 0.789 J/cm <sup>2</sup> Grade Count:60
	@Temperature -30.0 - - 30.0 °C	@Temperature -22.0 - - 22.0 °F	

<b>Gardner Impact Mechanical Properties</b>	<b>1.80 - 22.6 J Metric</b>	<b>1.33 - 16.7 ft-lb English</b>	<b>Average value: 16.7 J Grade Count:6 Comments</b>
Falling Dart Impact	2.82 - 37.6 J	2.08 - 27.7 ft-lb	Average value: 22.7 J Grade Count:6
Tensile Creep Modulus, 1 hour	2200 - 2500 MPa	319000 - 363000 psi	Average value: 2370 MPa Grade Count:3
Tensile Creep Modulus, 1000 hours	1500 - 1900 MPa	218000 - 276000 psi	Average value: 1770 MPa Grade Count:3
Taber Abrasion, mg/1000 Cycles	50.0 - 115	50.0 - 115	Average value: 101 Grade Count:9

<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Electrical Resistivity	1.00e+9 - 1.00e+18 ohm-cm	1.00e+9 - 1.00e+18 ohm-cm	Average value: 1.28e+16 ohm-cm Grade Count:96
Surface Resistance	1000 - 2.00e+17 ohm	1000 - 2.00e+17 ohm	Average value: 9.22e+15 ohm Grade Count:70
Static Decay	0.300 - 3.00 sec	0.300 - 3.00 sec	Average value: 1.56 sec Grade Count:5
Dielectric Constant	2.60 - 3.50	2.60 - 3.50	Average value: 2.93 Grade Count:46
Dielectric Strength	15.7 - 53.0 kV/mm	400 - 1350 kV/in	Average value: 30.0 kV/mm Grade Count:75

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

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