

Omnia Plastica ABS Acrylonitrile-butadiene-styrene

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

Material Notes:

Acrylonitrile-butadiene-styrene is an amorphous thermopolymer used largely for injection moulded items. The stock shapes are mainly used for the production of prototypes. Features: Good machinability Polishing: to obtain aesthetic pieces Easy bonding Colour: natural Weak Point: Poor mechanical and ageing properties, low abrasion resistance. Application: Prototypes: for various industrial fields Mechanical: it has no mechanical properties. Food contact: if natural it can be used in contact with food. Chemical: the chemical resistance is poor. It is not used for this purpose. Information provided by Omnia Plastica s.p.a. for semifinished products such as sheet, rod, and tube.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Omnia-Plastica-ABS-Acrylonitrile-butadiene-styrene.php

Physical Properties	Metric	English	Comments
Density	1.06 g/cc	0.0383 lb/in ³	ISO.1183 DIN.53479
Moisture Absorption at Equilibrium	0.00 %	0.00 %	50% relative humidity
Water Absorption at Saturation	0.70 %	0.70 %	23°C

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	82	82	dry sample; ISO2039.2
Ball Indentation Hardness	85.0 MPa	12300 psi	ISO2039.1 DIN.53456
Tensile Strength at Break	45.0 MPa	6530 psi	ISO.527 DIN.53455
Elongation at Break	25 %	25 %	ISO.527 DIN.53455
Tensile Modulus	2.50 GPa	363 ksi	ISO.527 DIN.53455
Compressive Strength	17.0 MPa	2470 psi	1% strain over 1000 hours; ISO.899 DIN.53444
Charpy Impact Unnotched	NB	NB	7.5 J; ISO.R179 DIN.53453
Charpy Impact, Notched	1.40 J/cm ²	6.66 ft-lb/in ²	ISO179/3C DIN.53453
Coefficient of Friction, Dynamic	0.50	0.50	on dry ground steel; load =0.05MPa; speed =0.6 m/s

Thermal Properties	Metric	English	Comments
CTE, linear	90.0 µm/m-°C	50.0 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
Thermal Conductivity	0.150 W/m-K	1.04 BTU-in/hr-ft ² -°F	DIN.52612

Thermal Properties	Metric	English	Comments
Temperature, Air			Maximum operating temperature continuously for 5000 hours based on a tensile stress of 50% at 23° C.
	100 °C	212 °F	short period, no load
Deflection Temperature at 1.8 MPa (264 psi)	85.0 °C	185 °F	ISO.75 DIN.53461
Minimum Service Temperature, Air	-20.0 °C	-4.00 °F	impact conditions and heavy loads not considered
Flammability, UL94	HB	HB	
Oxygen Index	19 %	19 %	ISO.4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ISO.93 DIN.53482
Dielectric Constant	3.3	3.3	ISO.250 DIN.53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	ISO.243 DIN.53481
Dissipation Factor	0.020	0.020	ISO.250 DIN.53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Descriptive Properties	Value	Comments
Form	Amorphous	

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