

TECHNICAL DATA SHEET

ABS

(acrylonitrile-butadiene-styrene)

ABS is an economical grade plastic that is easy to machine and fabricate. ABS is an ideal material for structural applications when impact resistance, strength, and stiffness are required. It can be used for machining pre-production prototypes or produced in volume since it has excellent dimensional stability and is easy to paint and bond. ABS plastics provide a balanced combination of mechanical toughness, wide temperature range, good dimensional stability, chemical resistance, electrical insulating properties.

Benefits

Excellent impact resistance
 Good machinability
 Excellent aesthetic qualities
 Easy to paint and bond
 Good strength and stiffness
 Relatively low cost

Applications

Aerospace interior
 Automotive parts
 Enclosures
 Covers
 Structural Components
 Machined Prototypes

SHAPES AVAILABLE



TYPICAL PROPERTIES of ABS		
ASTM or UL test	Property	ABS
PHYSICAL		
D792	Density (lb/in ³) (g/cm ³)	0.038 1.04
D570	Water Absorption, 24 hrs (%)	-
MECHANICAL		
D638	Tensile Strength (psi)	6,500
D638	Tensile Modulus (psi)	340,000
D638	Tensile Elongation at Break (%)	25
D790	Flexural Strength (psi)	11,000
D790	Flexural Modulus (psi)	320,000
D695	Compressive Strength (psi)	-
D695	Compressive Modulus (psi)	-
D785	Hardness, Rockwell	R105
D256	IZOD Notched Impact (ft-lb/in)	7.0
THERMAL		
D696	Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F)	5.3
D648	Heat Deflection Temp (°F / °C) at 264 psi	215 / 102
D3418	Melting Temp (°F / °C)	- / -
-	Max Operating Temp (°F / °C)	140 / 60
C177	Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	- -
UL94	Flammability Rating	H-B
ELECTRICAL		
D149	Dielectric Strength (V/mil) short time, 1/8" thick	-
D150	Dielectric Constant at 60 Hz	-
D150	Dissipation Factor at 60 Hz	-
D257	Volume Resistivity (ohm-cm)at 50% RH	10 ¹⁵

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.