

## ABS (Acrylonitrile-Butadiene-Styrene)

ABS is a low cost engineering 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 is widely used for machining pre-production prototypes since it has excellent dimensional stability and is easy to paint and glue. Natural (beige) ABS and black ABS are FDA compliant for use in food processing applications. The following physical property information is based on typical values of the base acrylonitrile-butadiene-styrene resin.

- Excellent impact resistance
- Good machinability
- Excellent aesthetic qualities
- Easy to paint and glue
- Good strength and stiffness
- Low cost

### Applications

- Machined prototypes
- Structural components
- Support blocks
- Housings
- Covers

Property	ASTM Test Method	Units	ABS	ABS FR
<b>Physical</b>				
Specific Gravity	D792		1.04	1.21
<b>Mechanical</b>				
Compressive Strength	D695	psi	–	7,650
Flexural Modulus	D790	psi	340,000	330,000
Flexural Strength @yield	D790	psi	10,500	9,500
Hardness–Rockwell	D785		R105	R97
Izod Impact Strength, Notched @ -40°F	D256	ft•lbs/in	2.7	1.0
Izod Impact Strength, Notched @ 73°F	D256	ft•lbs/in	7.7	4.0
Tensile Modulus	D638	psi	310,000	320,000
Tensile Strength @yield	D638	psi	6,100	5,500
<b>Thermal</b>				
Flammability Rating, @ .058"	UL94		HB	V-0
Flammability Rating, @ .108"	UL94		–	5V-A
Heat Deflection Temperature, @66 psi	D648	°F	214	190
Heat Deflection Temperature, @264 psi	D648	°F	203	162
<b>Electrical</b>				
Dielectric Strength	D149	V/mil	–	400

*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.*