

# ABS

## Acrylonitrile Butadiene Styrene (ABS)

The everyday workhorse of consumer plastics.

Acrylonitrile butadiene styrene (ABS) is a tough amorphous thermoplastic that combines impact strength, dimensional stability, and clean machining response. It is the workhorse polymer for prototypes, housings, and consumer products.

ASTM D4673

UL 94

ROHS / REACH

### APPLICATIONS

- Prototype housings and enclosures
- Consumer-product casings and trim
- Equipment guards and panels
- Material-handling totes and bins
- Automotive interior trim

### STANDARD COLORS

Grey Opaque

#### GENERAL

Density **1.04 g/cm<sup>3</sup>**  
ISO 1183 0.037 lb/in<sup>3</sup>

Water absorption **0.07 / 0.2 %**  
24h / 96h (23°C) · ISO

#### MECHANICAL

Tensile strength **32 MPa**  
50mm/min · ISO 4,600 psi

Tensile modulus **1700 MPa**  
1mm/min · ISO 246,000 psi

Elongation at yield **3 %**  
50mm/min · ISO

Elongation at break **49 %**  
50mm/min · ISO

Flexural strength **49 MPa**  
2mm/min, 10 N · ISO 7,100 psi

Flexural modulus **1600 MPa**  
2mm/min, 10 N · ISO 232,000 psi

Impact strength (Charpy) **n.b. kJ/m<sup>2</sup>**  
max. 7.5J · ISO

Shore hardness **75**  
D · ISO

#### OPERATING ENVIRONMENT

Flammability (UL 94) **HB**  
corresponding to · IEC

Glass transition temp. **104 °C**  
ISO 215 °F

Service temperature **100 °C**  
short term 210 °F

Service temperature **75 °C**  
long term 165 °F

#### ELECTRICAL

Surface resistivity **10<sup>14</sup> Ω**

Volume resistivity **10<sup>14</sup> Ω·cm**