

ABS Plastic

Acrylonitrile Butadiene Styrene



Acrylonitrile Butadiene Styrene (ABS) is the polymerization of Acrylonitrile, Butadiene, and Styrene monomers. Chemically, this thermoplastic family of plastics is called "thermo-polymers", in that they involve the combination of three different monomers to form a single material that draws from the properties of all three. ABS possesses outstanding impact strength and high mechanical strength which makes it so suitable for tough consumer products. Additionally, ABS has good dimensional stability and electrical insulating properties.

Features

- Melting Temperature = 105°C
- Volume Resistivity = 10¹⁶Ωcm
- Shore Hardness D = 82

Availability

- Available in 1mm thickness
- Sheet sizes are 45cm x 45cm

Benefits and Applications

- Low Melting Point
- Good Tensile Strength
- Good Volume Resistivity

Applications

- Automotive
- Home Appliances
- Electronics
- Building & Construction

Physical & Mechanical Properties

Property (unit)	Test Method	ABS
Density (g/cm³)	ISO 1183	1.06
Water Absorption: - At saturation in air of 23°C / 50% R.H. - At saturation in water 23°C	ISO 62	- 0 - 0.7
Tensile stress at yield and break (N/mm²)	ISO 527	45
Elongation at break (%)	ISO 527	25
Tensile modulus of elasticity (N/mm²)	ISO 527	2500
Charpy Impact strength – Notched (N/mm²)	ISO 179-1/1eU	14
Charpy Impact strength – Unnotched (N/mm²)	ISO 179-1/1eU	No break
Shore Hardness D	ISO 2039	82
Coefficient of friction to steel	ISO 8295	0.5

Thermal & Electrical Properties

Property (unit)	Test Method	ABS
Melting temperature (°C)	ISO 3156	105
Thermal conductivity at 23°C (W/9km)	ISO 22007.2	0.15
Deformation temperature (°C)	ISO 75	85
Coefficient of linear thermal expansion: - Average value between 23 and 60°C (m(m.k))	ISO 11359	90
Max. allowable service temp in air (°C): - Continuously - Short Periods	-	90 100
Minimum service temp (°C)	-	-20
Dielectric Strength (KV/mm)	ISO 243	20
Volume Resistivity (Ωcm)	ISO 93	10 ⁶³



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