

Acrylonitrile Butadiene Styrene (ABS)

Acrylonitrile butadiene styrene (ABS) is a popular engineering thermoplastic that has been in use since the late 1940s.

ABS offers a good combination of properties, including high strength, ease of moulding, a high quality surface finish, good heat resistance and increased toughness compared to standard styrene.

These qualities make ABS suitable for a very wide range of applications, from car dashboards to office equipment casings, and children's toys such as Lego.

<i>Key Properties</i>		<i>Units</i>	<i>Test Method</i>
General			
Density	1.07 (0.039)	g/cm ³ (lb/in ³)	ISO 1183
Density Relative to Water (=1)	1.07	-	ISO 1183
Water Absorption (24 hrs)	0.30	%	ISO 62
Thermal			
Continuous Service Temperature	85 (185)	°C (°F)	-
Vicat Softening Temperature	90 (194)	°C (°F)	ASTM D1525
Linear Thermal Expansion	9.5	x10-5 / °C	ASTM D696
Vacuum Forming Temperature	140 - 190 (284 - 374)	°C (°F)	-
Melting Point	105 (221)	°C (°F)	-
Flammability Rating		-	
Mechanical			
Impact Strength, Notched Izod (23°C)	0.25 - 4.0 (0.46 - 7.5)	J/cm (ft-lbs/in)	-
Flexural Strength	65	MPa	ASTM D790
Tensile Strength	44	MPa	ASTM D638
Elongation at Break	45	%	ASTM D638
Rockwell Hardness	103	R scale	ASTM D785
Electrical			
Dielectric Strength	350 - 500	V/mm	ASTM D149

Notes

Figures shown are for panel thickness 3mm

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