ABS

Acrylonitrile Butadiene Styrene (ABS) Sheet.
ABS is an extruded thermoplastic sheet, which can be basically described as an alloy of acrylic, butadiene (rubber modifiers) and Styrene. It has excellent toughness, rigidity, thermoforming and impact resistance, thus making it ideal for a wide range of transportation, recreational and industrial applications.

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PRODUCT RANGE

ABS is available in a variety of speciality blends including, UV, high heat and flame retardant grades. This data sheet refers to a general purpose (GP) grade, which Mulford Plastics carry in a variety of standard sheet sizes and thicknesses. Special run to size configurations are available, which are subject to minimum order quantities.

Colours, Finishes & Handling:
Ex stock colours include black and white in standard finishes of gloss, haircell, leathergrain and embossed. Special colours are available subject to minimum order quantities.

As ABS tends to absorb some moisture, it is important to keep all stock covered and stored in a cool, low humidity area. Predrying prior to thermoforming may be required.

PRODUCT FEATURES

- Excellent thermoforming characteristics.
- High impact strength.
- Retainment of properties over a wide temperature range.
- Mold and mildew resistant.
- Very low water absorption.

TYPICAL APPLICATIONS

Transportation: ■ Rear window louvres ■ battery trays ■ seat backs and arm rests ■ formed automotive components ■tractor and ute canopies.

Recreational: ■Luggage and brief case exteriors ■bicycle helmets ■vacuum formed toy components.

Industrial: ■Cool room and refrigerator panels and linings ■air conditioning ducts ■fan housings.

PHYSICAL PROPERTIES

PROPERTIES	ASTM METHOD	UNIT	VALUE
General			
Specific Gravity	D-792	g/cm^3	1.07
Water Absorption	D-570	%@ 24 hrs	0.2 - 0.6
Light Transmission	D-1003	%	N/A
Dielectric Strength	D-149	Volts/Mil	350-500
Mechanical			
Notched Izod Impact	D-256	J/m	235
Tensile Strength	D-638	MPa	43
Flexural Strength	D.790	MPa	65
Hardness Rockwell	D-785	M or R	R103
Thermal			
Cont. Working Temp.		°C	80^0
Vacforming Temp.		°C	$140 - 190^0$
Thermal Expansion	D-696	$10^{-5}/^\circ C$	9.5

FABRICATION

Sawing, Cutting, Drilling & Guillotining: A circular saw blade with carbide teeth utilising the triple chip tooth design is preferred for thicker gauges. For drilling, use conventional drill bits with the standard drill angles and a negative rake. Other suitable methods for cutting ABS sheet include: shearing, blanking and punching. Shears produce straight-edged cuts, while blanking dies and punches can produce a wide variety of shapes. Appropriate clearance angles are required.

Forming: ABS can be thermoformed using typical strip heating and vacuum forming equipment. ABS inherently tends to absorb moisture, under unfavourable storage conditions. Despite storage precautions, it may be necessary to predry ABS sheet in a freely suspended drying area at 70^0 C for at least 2 hours immediately before forming. Moist sheet will give rise to the formation of surface blisters during the thermoforming process.

Cementing: ABS can be successfully bonded using Weldon 2354.

N.B. For sheet sizes, gauges and colours, refer to your price list, or contact your nearest Mulford Plastics Branch.

The information detailed in this Data Sheet, is provided in good faith and should only be used as a general guide. For further information on various processes and technical properties, contact your local Mulford Plastics Branch. ©