**Clarity Sign and Design Limited**
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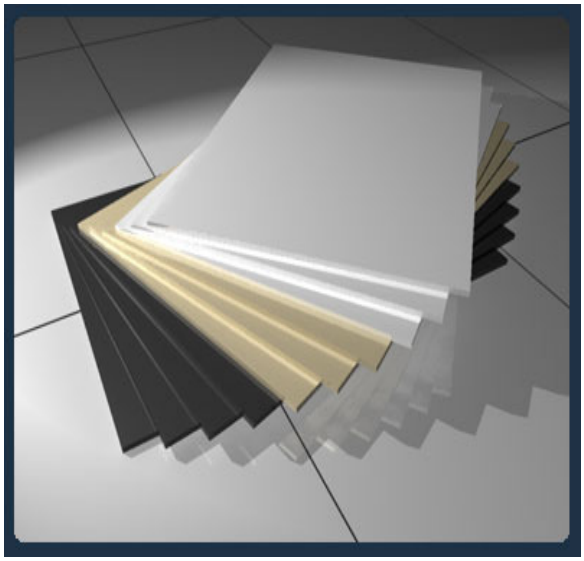
# Material Information Sheet – ABS



## Description

ABS (Acrylo-nitrile Butadiene Styrene) is a versatile plastic material used to make light, rigid products where moderate levels of performance are acceptable. The material is particularly easy to shape, cut and bond; post-painting or similar treatments can be carried out where necessary with minimal preparation.

Its main characteristics are as follows:-

- High rigidity
- Good impact resistance, even at low temperatures
- Easily processed (can be electroplated or post-painted)
- Good insulating properties
- Good bondability/weldability
- Good abrasion and stain resistance
- High dimensional stability (low water absorption)

## Limitations

Although ABS is a good general purpose plastic and can be used in many applications, it does have certain limitations:-

- Poor resistance to Ultra-violet light
- Can be easily scratched
- Poor solvent resistance
- Can suffer from stress cracking in the presence of some greases.

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## Applications in Sign-making

ABS is traditionally used for large short- to mid-term signage where good rigidity is required whilst maintaining lightness.

The ease in which ABS can be drilled, cut and bonded make it comparatively easy to install.

It is particularly suited to coated or plating and it can readily be printed using a variety of techniques (such as wide-format digital printing, screen printing etc.). ABS can be readily engraved and responds well to both laser and rotary techniques.

Due to its moderate weathering performance it is not recommended for long-term signage.

## Special Grades

ABS can be supplied in a variety of formulated grades for specific applications:-

- High-impact
- Fire-retardant
- Acrylic capped (High gloss)

## Physical Properties (Typical)



| Property | Unit | Test Method | Value |
|---|---|---|---|
| Density | $g/cm^3$ | DIN 53479 | 1.04-1.06 |
| Tensile strength at yield | MPa | DIN 53455 | 50 |
| Ball indentation hardness | MPa | DIN 53456 | 85 |
| Modulus of elasticity in tension | MPa | DIN 53457 | 2400 |
| Impact strength | $Kj/m^2$ | DIN 53453 | 220 |
| Glass transition temperature | °c | DIN 53736 | 115 |
| Max. service temperature<br>(Short term)<br>(Long term) | <br>°c<br>°c | <br>-<br>- | <br>100<br>75 |
| Water absorption at saturation at 23 ℃ | % | DIN 53495 | 0.7 |

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## Availability

ABS is commonly supplied in sheet form in thicknesses from 1mm through 20mm. It is available in a variety of finishes:-

- Smooth
- Pin-seal embossed
- Carbon-fibre effect
- Leather/wood grain

It is available in a small range of colours:-

- White
- Black
- Grey

## Further information

For further information contact:-

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