

DESCRIPTION

Apex Polymer Solutions ABS (Acrylonitrile butadiene styrene) has very good toughness with a high degree of rigidity, and heat resistance. It is suited for vacuum forming.

APPLICATIONS

Automotive parts, technical articles, construction, industrial, machinery, printing, fabricating, Point of Sale, and tool housing.

KEY FEATURES

Certification/Approvals

The Certification is available on request and must be specified during ordering.

Thermoforming

Excellent thermoforming ability.

Printing/Painting

Screen printing. Can be painted but seek advice from the supplier for best type.

Conversion

Glueing: Hot - melt or PUR glue, corona treatment is recommended.
Welding preferred option.

Cutting: Guillotine, Band-saw, Circular-Saw, Routing.

Welding: Thermal, Ultrasonic and Hot Gas.

PRODUCT SPECIFICATIONS

Colour

Various Colours and colour matching.

Thickness

0.9mm to 8mm

Finish

Gloss finish only, Leathergrain, Pinseal (deep grain).

Sheet Size Specifications

Gauge	Width
0.9 - 9mm	350 - 2100mm

NB: Available sizes vary depending on gauge, colours, and order size, please ask confirmation to sales department.

TYPICAL PHYSICAL PROPERTIES*

Properties	Unit	Standard	Method	Value
Density #	g/cm ³	ISO 1183	-	1,1
Charpy Impact Notched	KJ/m ²	ISO 179	1eA at 23 °C	>19
Tensile strength	MPa	ISO 527	50 mm/ min	42
Tensile Modulus	MPa	ISO 527	1 mm/ min	2100
Elongation at Break	%	ISO 527	50 mm radius	3
Flexural Strength	MPa	ISO 527	2mm/ min	69
Vicat Softening Point	°C	ISO 306	A50/ oil	>95
Hear Distortion	°C	ISO 75	HDT/ A1.8MPa	>93
Flaming Rating	Rating	ISO 94	1.5mm	HB

#The density quoted should only be used as a guide. This value can change depending upon the type and quantity of pigments or additives used.

PRODUCT AVAILABILITY

Thermoforming

Ideally mould draft angles between 4-6% and allow for 0.6-0.8% post mould shrinkage. Typical forming temperatures are between 150-185 °C. During thermoforming the use of a heated steel or aluminium mould is strongly advised. Moulding Radii should at least be the same magnitude as the residual wall thickness. Drying ABS sheets before Thermoforming is recommended, Ideally at 80 C for approximately 2 hours. This prevents blister marks.

Fabrication

If sheet is stored in humid conditions for long periods then it should be dried before thermoforming, Ideally at 80 °C for approximately 2 hours, plus an additional hour for every 1mm thickness. It is essential that enough space be left between the sheets (20-30mm) to allow correct drying. The time lapse between drying and forming should be minimised in order to save energy and reduce heating times. If sheets are left to stand at room temperature for a long period of time they may need to be redried.

UV Resistance

Natural ABS when exposed to direct UV may discolour and become brittle in a matter of months. Black pigmented sheets will improve UV resistance. An addition of a UV stabiliser can further improve its longevity. For significantly higher protection then alternatives like PMMA (acrylic) cappe ABS (X6700) should be considered.

#Please contact the sales office to discuss any further requirements.

Cleaning and Maintenance

Most common soaps or detergents dissolved in warm water can be used to effectively clean general dirt and surface contaminants. More stubborn based markings i.e. ink, marker pen, etc. can be removed using detergents but will probably require the stiff bristled brush or slightly abrasive pad to remove stains or markings if material is affected deep in the surface emboss. If the above doesn't work then try iso-propyl-alcohol or n-heptane. Abrasive scouring powders should be avoided. Areas of mouldings that have been dulled through cleaning can be restored using silicone based polishes.

CHEMICAL RESISTANCE

Reagent	Chemical Resistance	Reagent	Chemical Resistance
Acetone	Not recommended	Brake Fluid	Not recommended
Acid - weak	Excellent	Butter	Excellent
Acid - strong	Good	Coffee	Excellent
Alcohol	Good/ Fair	Detergent (glycol-free)	Excellent
Anti-freeze (glycol free)	Excellent	Diesel	Good
Base - weak	Excellent	Foodstuffs	Good
Base - strong	Good	Lubrication Oil	Very Good
Battery Acid	Good	Petrol	Good

***NOTE** The information contained in this leaflet is based on our present technical knowledge and experience. In view of the large number of factors that may influence the processing and use of our products, the information does not relieve the processors and manufacturers of the need to carry out their own tests and experiments. Our information does not constitute a legally binding assurance of product availability, of properties or of a suitability for a particular end use. Patent rights that may exist must be duly observed.

ADDITIONAL INFORMATION

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**Previously trading as Perspex SA*