

ABS

ViSpec™ SHI 6150

Product Datasheet

Esform 5-400

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Description

ABS (Acrylonitrile Butadiene Styrene) has very good toughness with a high degree of rigidity, and heat resistance. It is suited for both vacuum and pressing forming.

ViSpec SHI 6150 has superior impact strength, particularly suited for low temperature applications.

Applications

Automotive parts, technical articles, construction, industrial, machinery and tool housing.

Key Features

Impact/Stiffness

Has very good impact compared to most other polymer types. High modulus/stiffness.

Thermoforming

Easy to thermoform. It has a broad visco-elastic range that gives good melt strength over a large temperature range.

Product Availability

Colour

Standard colour range and customer colour matches.

Finish

Natural smooth and a range of embosses.

Thickness

1.5 mm to 9 mm.

Sheet Size Specifications

Gauge	Width
1.5 to 9.0 mm	350 mm to 1500 mm

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

Options

Increased UV Stabilisation.

Alternative Solutions

Vispec HI 6100 – Standard ABS.

Typical Physical Properties

Properties	Unit	Standard	Method	Value
Density [#]	g/cm ³	ISO1183	-	1.07
Impact Notched Tensile	Izod KJ/m ²	ISO 180	1A at 23°C	36
Strength Flexural	MPa	ISO 527	50 mm/min	40
strength	MPa	ISO 178	2 mm/min	58
Tensile Modulus	°C	ISO 527	1 mr /min	1850
Vicat Softening Point	°C	ISO 306	B50/10N	96
Heat Distortion Temperature	°C	ISO 75	HDT/A 1.8MPa	90

[#]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.

**The thickness is after thermoforming

Disclaimer

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 particular properties or of a suitability for a particular use. Patent rights that may exist must be duly observed.

Additional Information

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.

Storage

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 1 mm 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.

Certification/Approvals

The following approvals are only available on request:
ROHS: European Legislation 2002/95/EC.

UV Resistance

Natural ABS when exposed to direct UV may discolour and become brittle in a matter of months. Black pigmented sheet will improve UV resistance. An addition of a UV stabiliser can further improve its longevity.

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 solvent 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

Chemical resistance is influenced by many factors, including concentration, temperature, exposure time and material stress. Therefore the data below should only be used as a guide.

Reagent	Chemical resistance	Reagent	Chemical resistance
Acetone	Not recommended	Brake Fluid	Not Recommended
Acid – (Weak)	Good	Butter	Excellent
Acid – (Strong)	Good	Coffee	Excellent
Alcohol	Fair	Detergent	Excellent
Anti-freeze	Excellent	Diesel	Good
Base (Weak)	Excellent	Foodstuffs	Good
Base (Strong)	Excellent	Lubricating Oil	Good
Battery Acid	Good	Petrol	Good

VitasheetGroup

Charta House
30 - 38 Church Street
Staines
TW18 4EP
United Kingdom
www.vitasheetgroup.com

Esbjerg

Hyrassivej 12
DK – 6862 Tistrup
Denmark
Tel : +45 75 29 19 00
www.vitasheetgroup.com

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