

## HIPS MIRROR PROCESSING

### PLEASE NOTE:

The construction of these sheets means that great care should be taken when cutting or using them. Remember that the metallised surface is a very thin film with an even thinner metal deposit, and these can be easily dislodged if not handled with care.

Consequently, please bear in mind the following points when using or processing these sheets.

### General information

The mirror film being used is based on a polyester film being vaporized with aluminium. The aluminium side is with a coat allowing for bonding to the polystyrene carrier. The weakest part of this construction always is the bond of polyester with aluminium. The protective film should only be peeled off very slowly after processing. Weak points are the extreme edges. To avoid any delamination, it is recommended to trim (cut) the extreme edges.

### Cutting

Great care must be taken when cutting the sheet due to the sensitivity of the metallised layer and film. Heat from the cutting process as well as the mechanical action of the blades, especially if blunt or rough, can damage the edges, separate the components, or even weld the protective film to the PS plastic.

There are many cutting methods and we cannot recommend any one over any other. Customers and users should always satisfy themselves as to the suitability of the cutting method by conducting the appropriate tests prior to processing large quantities.

Typical methods employed are Guillotine, Knife or even Laser. Cutting should always be done with sharp well-adjusted tooling working down into the metallised surface. Check that the finished edges are smooth and even and that the premask can be released and peeled off easily without damaging the surface.

Methods such as Milling or Sawing are not recommended since these are likely to damage the edges and compromise the component films.

- Cutting (guillotine cutting), punching of mirror sheets is practicable in the way as it is usual with high-impact polystyrene, but the entry of the tool must be into the mirror side.
- Tools suitable for the processing of plastics must be used.
- Sawing and routing are always causing a potential threat to the delamination of the Polyester film. When processing in this way it is recommended to lift the protective film off the area to be sawed or router.
- Do not use a jigsaw.

## **Other Processes**

We are aware of other processes such as Gluing, Bending, Forming, Printing etc. Customers and users should satisfy themselves as to the suitability of the process initially. Always avoid contact by adhesive, solvent, inks, chemicals etc with the edges of the sheet.

## Bonding

The matt backside of the mirror sheets can be bonded to other materials. It is important that the adhesive employed is suitable for high-impact polystyrene and for the surface to which the material should be glued. Bonds on a neoprene basis or water-soluble glues show very good results.

Nevertheless, it is obligatory that both surfaces are clean.

Contact adhesives should be spread on both areas to be glued and should be dried according to the information of the respective bond producer, so that the solvents can evaporate properly before the actual pressing together can take place. To achieve a better adhesion the mirror-sheet can be pressed by means of a rubber roller.

Bonds sensitive to pressure, e.g. adhesive tapes are not suitable for bonding.

# DATASHEET



## Printing

Printing of the mirror side is possible with colours sticking to polyester surfaces. Usually 2-component inks are recommended.

## Forming

The forming of mirror sheets is not recommended. If forming of mirror sheets is necessary, the following items imperatively must be paid attention to:

For the forming of inner or outer angles, heating of the sheet must be performed from the side averse to the mirror (matt back side).

A greater radius of forming requires a bending support instrument, which corresponds supporting to the intended form.

For heating purposes short-wave, round-pipe infrared heaters have proven to be very efficient.

We recommend performing pilot tests and adhering to the following rules:

- a) Heating always from the matt side.
- b) Never pull the mirror side against the form.
- c) Allow the vacuum to act very slowly.
- d) Cool with air only.
- e) Lift the form very slowly.
- f) Heating of the sheet may increase protective PE-film adhesion.
- g) Removal of PE-film prior to heating is recommended.

## **Humidity**

It is highly recommended to avoid contact with water at the edges of sheets. There is no risk with vapour.

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## **Cleaning**

Cleaning only with plastic cleaner or any conventional glass cleaner. Do not put cleaner to the surface but onto a wash-leather or soft cloth.

## **Removing premask protective film**

Locate thumb at one edge or near one corner and rub the edge inwards to release the protective film and start it peeling back. If you cannot start the peel back easily then repeat the same action on another edge. **DO NOT ATTEMPT TO DIG THE FILM OUT USING YOUR FINGERNAIL OR A TOOL.** If you are having difficulty starting the peel back then try using a piece of adhesive tape (Scotch or Sellotape or similar) applied to a corner, press firmly, and peel back gently with the protective film.

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