

# Resource page - Plastics



## **PVC and PVC Foam**

Often called Foamex, although like Hoover this is a trade name, PVC foam is a plastic sheet that has had gases introduced into it during the manufacture. It produces a sheet that is lightweight and is strong. There are different grades, although not immediately apparent and not always noted. Cheap foamed sheet will, in time become brittle and discoloured, but is fine in applications where time is not a major factor, exhibition displays etc. It can be screen-printed, or have vinyl graphics easily applied. Low flammability means it can be used in fire sensitive areas. PVC foam is available in 1mm up to 25mm sheet thickness.

PVC can easily be formed, drilled, routed, cut and is resistant to many chemicals. Is used in many applications including point of sale.

## **Polycarbonate Sheet**

Polycarbonate sheet is clear, has good impact resistant qualities and so is well suited to areas where vandalism is an issue. Without the addition of UV protective layers exterior use is limited. Screen printing or vinyl graphics can be used. In flammability tests it has been shown to be self-extinguishing and so is rated either class 1 or 2 when tested to British Standards.

## **Acrylic Sheet**

Often known by the ICI product name, 'Perspex', acrylic sheet is an extremely versatile material that is available in many different colours and forms. It is almost impervious to the adverse discolouring effects of the sun. Clear cast acrylic offers over 90% light transmission with little or no colour bias and will remain that way for many years in external situations. There are many colours both opaque and translucent, it can be cut, polished, routed to shape and in-laid into other

acrylic panels. Applications include cut out letters and shapes, fascia panels; inserts for illuminated sign boxes and panels for edge lit signs. Extruded acrylic sheet can be thermoformed more easily than cast acrylic to produce 3 dimensional lettering and shapes.

Standard cast acrylic has been found to have more than 3 times the impact strength of plate glass, but is brittle and will break if struck with any force. There is a modified sheet that offers improved impact resistance if required.

## **Glass Reinforced Polyester Resin (GRP)**

GRP can be moulded or cast into intricate shapes like letters or crests or into large shapes like panels and signboards. With the addition of coloured pigments the signboards can be made into different colours. They can be easily screen-printed and take the application of vinyl letters very well. They can be extremely tough

because of the glass fibre matting that is laid into the surface gel coat, with the addition of UV absorbers to the gel the sign boards can be used outside for many years. They are used quite often in the by building developers.

## **Flexible Face Signboxes**

Sign boxes using an extruded aluminium frame, often supplied with internal illumination, with a woven politicised polyester cover stretched over a hinged or removable face. The cover is kept taut by means of adjustable devices. They can be decorated with self adhesive vinyl films or using the full colour electrostatic printing process, which is often to be seen on curtain sided trucks. The advantages of the flexible face sign box is that they can be fabricated to almost any length without joins in the face. They provide excellent tear resistance if tensioned correctly but may need to re-tension the face occasionally or after bad weather.