



Mirrored acrylic sheet

ACRYLIC

by Jonda Baldwin

The lightweight, fabrication versatility, increased strength and break resistance are just a few of the advantages acrylic mirror offers over glass mirror. Mirrored acrylic is 10 times more break resistant than glass mirror of equal thickness, allowing it to be used in many applications where glass is not acceptable.

Depositing aluminum on the substrate creates a superior reflective surface. A paint backing is then applied over the aluminum for protection. The quality and durability of the paint used in this process is crucial to prevent scratching during shipping, handling and various fabrication techniques.

Additional backings on the substrate include paper masking and vinyl. These backings provide heightened protection in demanding fabrication processes. A pressure sensitive adhesive backing is also available replacing hand applied adhesives that can be difficult to apply and more likely to produce an un-uniformed adhesive coverage. Pressure sensitive ad-

hesive backing is used in those applications where the mirror is mounted to a fixture or in a permanent setting.

Protective coatings

A variety of protective coverings are used on acrylic, polycarbonate and PETG mirror sheet products. These include polyfilm, 3-mil laser polyfilm, papermask and adhesive film.

Mirrored acrylic products

Mirrored acrylic sheet is produced mainly in a thickness range of .060" to .236". Generally, sizes are from 36" x 60" up to 80" x 120". A one-inch overage on both the length and width provide maximum yield in fabrication processes such as laser cutting. A variety of colors and textures are available including shades of red, blue, green, gray and bronze, yellow, pink and purple, as well as stipple, prismatic and non-glare patterns.

See-thru mirrored acrylic

See-thru, or two-way mirror allows a percentage of incident light to pass while reflecting the remainder. The illuminated side becomes a mirror and the darkened side becomes transparent. These mirrors are used in monitoring and surveillance devices in institutions, hospitals, casinos and stores. Main thicknesses available are .118" and .236".

First surface mirrored acrylic

First surface, or two-sided mirror consists of an opaque film of aluminum protected by a clear coating. Incident light is reflected in either direction making this sheet ideal for applications where the back of the mirror remains exposed, or where a reflection in both directions is desired.

PETG mirror

PETG mirror combines versatile fabrication properties with good impact strength, design flexibility and speed of fabrication. PETG mirror is ideal for children's toys, cosmetic uses and office supplies.

Scratch-resistant coating

A scratch-resistant coating that is applied to the substrate is used in more demanding applications requiring abrasion, stain and solvent resistance. A coated sheet can be written upon with erasable pencils making it ideal for scheduling boards and restaurant menus.

Polycarbonate mirror

Polycarbonate mirror offers increased strength, heat and flame resistance. It is also available in see-thru, first surface and with a scratch-resistant coating. ■

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Fabback® acrylic mirror from Plaskolite, Inc. is available in a variety of colors, thicknesses, sizes and textures.

FABRICATION DO'S AND DON'TS

- Because acrylic has a relatively soft surface and is flexible, some imperfections or distortion may occur. It should not be used for precise image reflection. An appropriate thickness should be determined well in advance of cutting.
- Acrylic mirror can be cold formed.
- Acrylic mirror can be router, saw or laser cut.
- Some adhesives attack the mirrored surface. You should test expendable pieces at least 72 hours in advance to determine suitability.
- Do not use see-thru or first surface mirror for glazing or any outdoor applications.
- Acrylics tend to absorb moisture. High humidity levels may cause temporary warpage to the material. The warpage is characteristic of the material and should be considered in the design of the product or application.
- Solvent gluing at edges may cause crazing.
- Acrylic sheet is a combustible thermoplastic. Precautions should be used to protect the material from flames and high heat sources.
- Materials should be stored in a cool, dry area.
- Protective masking should not be removed until fabrication is complete. Exercise care during fabrication and handling of both sides of the mirror.