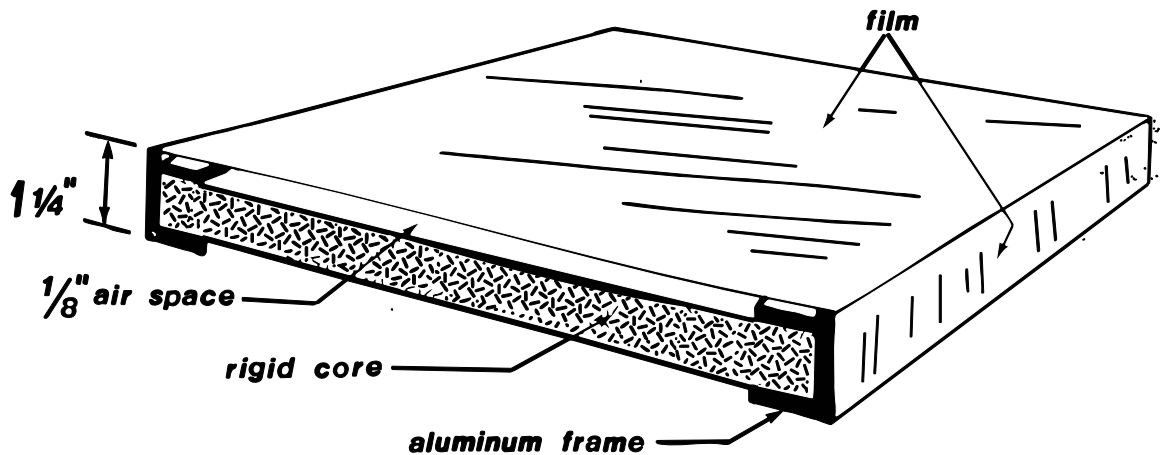


# GLASSLESS MIRROR



## DESCRIPTION

**Glassless Mirrors** consists of a rigid foam core framed by an aluminum extrusion. The frame has a raised lip around the four edges. A polyester film, aluminized on the back side, is stretched across the raised edges to form the mirror surface. Because the film is mounted on raised edges, an air space is created between the back of the film and the core. This air space,  $\frac{1}{8}$ " , allows the film to flex under minor impact with- out damage.

## DIMENSIONS AND SIZES

Mirrors are available in nominal 1" and  $1\frac{1}{4}$ " thicknesses. Thickness may vary for small or very large custom size mirrors.

## STANDARD SIZES

Typical standard sizes are listed below:

24" x 24"	36" x 36"	48" x 48"
24" x 48"	36" x 48"	48" x 60"
24" x 72"	36" x 72"	48" x 72"
24" x 96"	36" x 96"	48" x 96"

**Custom sizes** are available up to a maximum width of 70" and length of 12 feet (or longer with special construction). Custom shapes are also possible including triangles, circles and trapezoids.

## PHYSICAL PROPERTIES

**WEIGHT:** Approximately 6 oz. per square foot. A 4 ft. x 8 ft. (32 sq. ft.) Glassless Mirror weighs 12 lbs.

### CORE

**COMPOSITION:** Aluminum foil-faced isocyanurate

**INSULATION VALUE:** 6.0 for 1" thickness

**FRAME:** Aluminum extrusion-nonflammable

**POLYESTER FILM:** Of insufficient mass to be considered a hazard.

## APPLICATIONS

**Glassless Mirrors** expand reflection beyond the practical limitations of conventional glass mirrors. The unique construction of **Glassless Mirror** provides **optical clarity, ghostless images and distortion-free color** previously found only in more expensive front surface glass mirrors. **Lightweight** and **portable**, they require no complex mounting system. **Shatterproof Glassless Mirrors** are safe and are able to withstand shock and vibration.

**EXHIBITION.** For the designer, **Glassless Mirrors** introduce a new means for dramatic presentation. Lightweight and shatterproof, they enable the display of all sides of a product with ease and complete safety. Point of purchase displays, exhibitions and display cases are but a few examples of their versatility. **Glassless Mirrors** provide an excellent surface for silk screen printing. Patterns, pictures, words and advertisements can be color-printed permanently and clearly.

**ARCHITECTURE.** The versatility of **Glassless Mirror** enables it to adapt to creative demands. **Glassless** ceiling and wall mirrors heighten visual perception of space with ghost-free clarity. Lower in-place costs allow space to be manipulated at will.

**MONITORING.** **Glassless Mirrors** contribute to today's growing need for the protection of life and property. Inaccessible industrial processes can be monitored with easily installed light- weight **Glassless Mirrors**. For security and surveillance systems, mirrors can be placed in strategic locations. An unobtrusive, low maintenance system can be installed quickly and inexpensively.

**VISUAL AIDS.** **Glassless Mirrors** are teaching tools for artistic and athletic instruction. Their safety, lightweight and portability find application in gyms, skating rinks, swimming pools, hospitals and health clubs. **Glassless Mirrors** are suitable for use as front surface mirrors in optical projection systems. Rear screen projection systems are easily devised.

**THEATRICALS.** The lightweight, ease of fixturing and inherent safety make **Glassless Mirrors** a good choice for theatrical use. They are readily mounted for use on flying and pivoting scenery. Lighting can be directed to otherwise inaccessible locations. Special effects are possible with custom made two-way mirrors.

## INSTALLATION

**Glassless Mirror** may be applied to any flat surface with little or no preparation. Because of its light weight, wall inserts and supports are eliminated. The mirror can be mounted directly to finished plaster, wood paneling and interior partitioning.

For wall mounting, mirrors are provided with a serrated metal hanger commonly used to hang pictures. Rectangular mirrors have mounting holes to allow hanging on the long or short dimension. Velcro "hook and loop" fasteners are utilized at the corners to position the mirror. For irregular wall surfaces other conventional attachments can be used such as moldings or foam tape.

The lightweight and shatterproof qualities allow **Glassless Mirror** to be suspended from ceilings with wire or nylon line. Standard suspension systems are easily adapted for mirror installation. The aluminum frame can be drilled for various self-tapping fasteners giving the designer complete freedom to devise custom attachments.

## MAINTENANCE

Because the mirror surface is non-static, the frequency of cleaning is minimized. **Glassless Mirror** can be cleaned with a non-abrasive liquid household cleaner like Windex or Johnson's "Kleen n' Shine." A soft lint-free cotton cloth should be used to apply the cleaner. Should the surface become lightly scratched, it can be restored by applying a carnauba wax, like Pledge, and polishing with a soft cloth.

As the mirror film has so little mass and the air space behind the film is ventilated through the core, **Glassless Mirror** is virtually free from condensation and fog in areas such as bath-rooms and swimming pools.

The air space behind the film allows it to flex under minor impact. While the film is extremely strong, a hard blow may dent the surface. Often this can be removed with a hot air blower. A sharp instrument could penetrate the surface. However, the penetration will not run and the remainder of the surface will be undisturbed.

## ARCHITECTURAL APPLICATIONS

In architectural applications recessed canister light fixtures and air diffusers are often encountered. Recessed circular lights, typically 4" to 8" in diameter, may be required to project through the ceiling. If the location is known, for example, in the exact center of the module, the mirror can be provided with the required hole. Where the location is not yet determined or other miscellaneous penetrations occur, such as sprinklers or display fixtures, holes can be cut at the job site. A soldering iron is used to melt the film and form the required hole in the film. Using this as a guide, the core can be cut with a sharp knife or circle cutter. The flange of the adjustable collar from the fixture should be slightly larger than the opening. The collar is brought up to, but not in contact with, the film surface.

Larger cutouts to accommodate air diffusers are made similarly. The diffuser should have a circular stub, although the collar may be rectangular. In general, penetrations must occur within the area enclosed by the perimeter aluminum frame of the mirror. Should the penetration be closer than 2" to the perimeter, the module should be changed as the frame cannot be penetrated.

Irregular ceiling perimeters may require non-rectangular mirrors. Individual requirements will be accommodated where possible according to shape and size.

As with other types of ceiling panels, **Glassless Mirror** should be considered non-structural. Therefore, light fixtures and other projected elements must be independently supported from above the ceiling.

## SPECIALTY APPLICATIONS

Other surface finishes are available in addition to standard silver. Semi-silvered mirrors are available for 2-way effects or as security mirrors. As there is no core in this type of mirror, physical construction varies from the standard mirror.

A limited selection of colors is available. Availability of colors should be confirmed before specifying. For large projects consideration can be given to custom colors.

Outdoor use, while not specifically recommended, is possible for limited duration. Short term display or exhibit use in a sheltered location would probably be acceptable. The purchaser assumes responsibility for determining suitability.

While not intended as a sound absorber, **Glassless Mirror** will absorb some acoustical energy, depending on frequency. Absorption is generally greater at higher frequencies. In any case, it does not reflect sound to the same degree as glass or metal.

The core of **Glassless Mirror** is effective as thermal insulation. In the interest of energy conservation, particularly in air-conditioned structures, consideration should be given to the insulation value of **Glassless Mirror**.

Mirrorliteasia.com

“SHATTERPROOF”

Glassless Mirrors

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