

MetalCast® Cold Cast Metal

INSTALLATION INSTRUCTIONS

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MetalCast® is a glassfiber reinforced gypsum composite made with a metallic surface cast from real metal powders. MetalCast® decorative elements are for interior applications and are supplied with a clear, non-gloss lacquer finish to reduce oxidation. **IT IS NOT SUITABLE FOR USE ON FLOORS, EXTERIOR APPLICATIONS, IN CONTACT WITH WATER, OR WHERE SUBJECT TO HIGH HUMIDITY, MECHANICAL ABUSE AND WEAR.**

STORAGE & HANDLING:

Delivery time should be scheduled to minimize storage time of MetalCast® parts at the job site. Parts shall be kept clean and stored on a dry surface and not stacked or leaned on each other to prevent distortion and other physical damage. Use clean gloves when handling unpacked items to protect surface finish.

ITEMS NEEDED FOR INSTALLATION:

Screw gun; Drill bits and countersink; Level; Hot Glue gun; Caulking gun; Saw(s) - see cutting Instructions below; Disposable dust masks (e.g. 3M cupped respirators #8710); Flexible plastic scraper; Cotton and/or rubber gloves; Adhesive; #8 Screws; Sanding block; Sandpaper #220 grit; Adhesive; Painter's tape (no other); Soft clean rags; Caulk for joints (supplied by others); MetalCast® (2-part) patching compound.

CUTTING INSTRUCTIONS:

Cutting dust represents a nuisance dust when exposed to occasional dust from cutting, and may contain trace amounts of respirable silica. Take precautions to minimize dust production such as using dust collection attachments on saws etc. Always wear goggles and a respirator (or dust mask) to minimize any irritation. See MSDS for more specific details.

Use the most applicable method listed below for the type of cut required.

- A table saw with a sharp 80+ teeth Carbide tipped blade for most cuts.
- A hand held 4" [100mm] disc grinder with Diamond blade for small cuts.

Method:

Perform Test cut(s) first. Cutting should be done slowly and carefully.

Apply painter's tape (no other) over the area to be cut. Cut face up very carefully to avoid chipping. Remove the tape immediately after cutting (peel tape toward the cut edge).

Sand the cut edges lightly with #220 grit sandpaper.

GENERAL NOTES:

1) These instructions should be used as a guide in planning the design and installation of MetalCast® parts and fabrications to facilitate a practical installation method that is both easy to execute and yields the optimal aesthetic appearance.

2) Warning: The MetalCast® finish can be irreparably damaged if these instructions are not followed.

3) Wherever possible, MetalCast® parts should be secured with concealed fastening methods and/or with fasteners placed in inconspicuous areas of parts, such as: along top surfaces above eye level; in reveals or recessed areas; behind or below projections etc. Occasionally, opportunities exist to secure some parts from behind when used in conjunction with millwork, cabinetry, new construction etc. Note: Screw holes filled with MetalCast® patching compound will remain visible afterward.

4) Refer to the Shop drawings for specific details concerning the installation method and location of reinforcement materials of specific parts.

5) MetalCast® parts (except veneer panels) have built in reinforcement materials such as plywood strips to facilitate secure attachment to the support substrates.

6) The substrates to accept MetalCast® parts shall be surfaced with drywall or plywood that is installed straight and true within 1/8" in 8 linear ft. (3mm in 2500mm). Plywood is the preferred substrate material as it facilitates easier installation of most parts without having to always be secured into framing members.

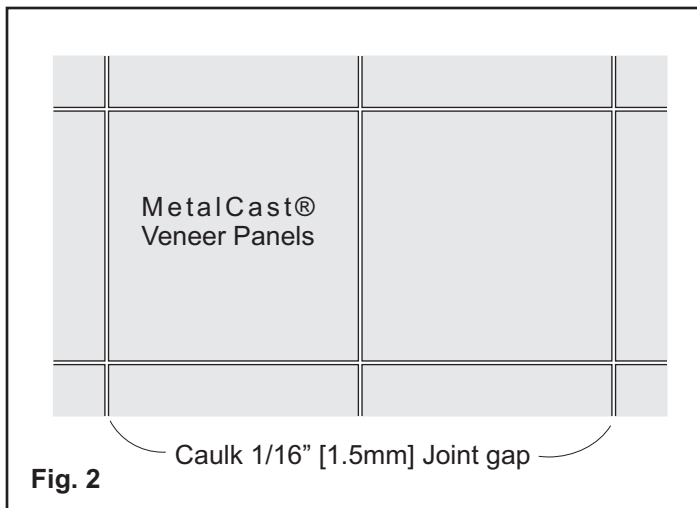
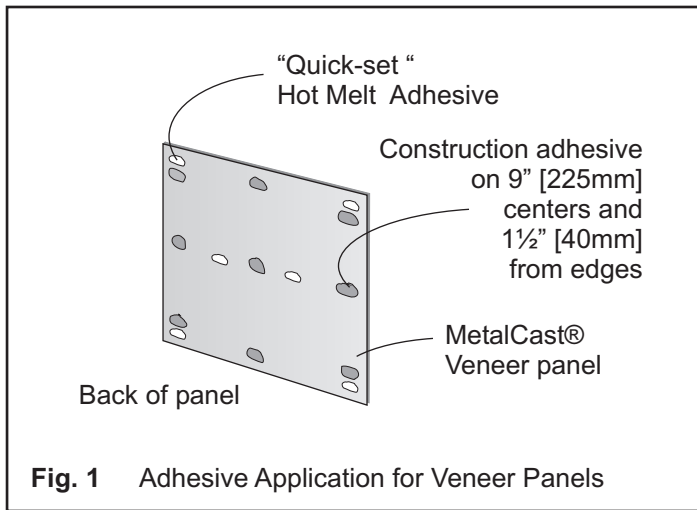
7) Minimize all field cutting. Use factory made corners to eliminate the need for field cut miters.

8) Use a Formglas recommended adhesive to reduce the number of visible fasteners required. See page 4.

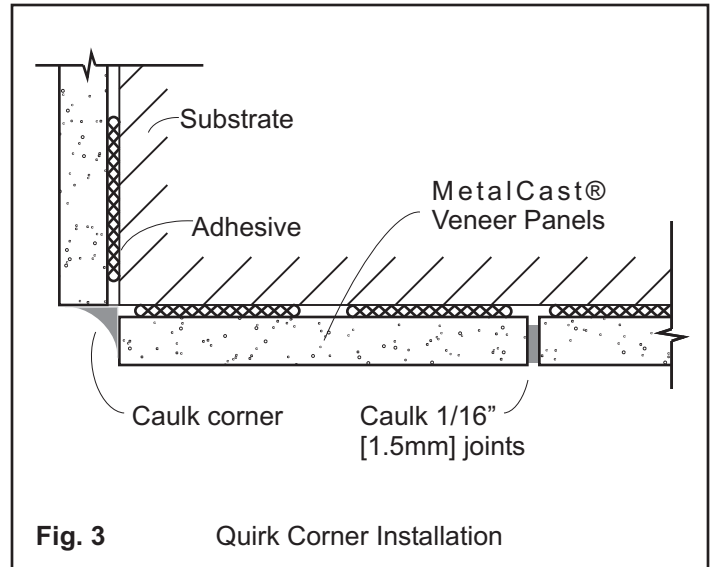
9) Color variations occur within and between MetalCast® parts and panels.

VENEER PANELS:

- 1) MetalCast® Veneer Panels are cast solid and have a nominal thickness of 1/4" with a maximum panel size of 2' x 4' [600mm x 1200mm]. Veneer panels do not have any embedded reinforcement materials for screw attachment purposes - do NOT use face fasteners.
- 2) Veneer panels are secured to a continuous substrate of plywood (preferred) or drywall with construction adhesive. Use a Formglas recommended adhesive such as PL400 - see page 4 for details. Apply walnut size dabs of adhesive to the backs of panels on 9" [225mm] o.c. keeping the adhesive set back 1 1/2" [40mm] from the perimeter edges of the panels to prevent the adhesive from oozing out onto the finished surfaces. See Fig. 1.
- 3) To hold the panels in place until the adhesive sets, apply a few dabs of quick-set "Hot Melt adhesive" (near the corners or where required) immediately before installation and press panel into place. See Fig. 1 and 2.
- 4) Provide a joint gap of 1/16" between panels - use spacers to maintain a uniform joint gap. Joints are to be caulked - NEVER use MetalCast® patching compound for joints. Refer to Fig. 2. Note: Formglas does not supply caulk but recommends a Brand name type and color - see page 4 for details.

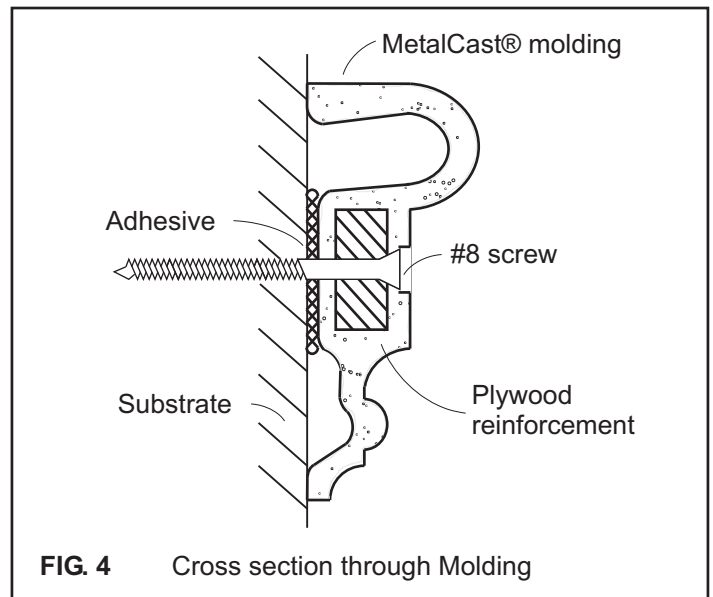


- 5) If factory made corners are not supplied, install "Quirk" corners as illustrated in Fig. 3 and caulk.



MOLDINGS and OTHER COMPONENTS:

- 1) Refer to the Formglas Shop drawings for specific details to install MetalCast® parts and the location of embedded reinforcement materials.
- 2) When face fastening is required, use countersunk screws recessed below the finished surface of the MetalCast® in conjunction with construction adhesive, as shown in Fig. 4. Use a Formglas recommended adhesive such as PL400 - see page 4 for details.
- 3) Carefully locate and pre-drill countersunk holes and use #8 screws, preferably trim head countersunk screws which have smaller heads than standard screws which will be less noticeable.



- 4) Screw holes can be filled with MetalCast® 2-part patching compound. Follow hole patching instructions. Note: Screw holes filled with MetalCast® patching compound will remain visible afterward. Alternatively,

use screw caps to conceal screws. Formglas can supply matching MetalCast® screw caps - see Fig. 5. In addition, screw caps can be custom made to suit part designs. For example, instead of standard domed shaped screw caps, consider other designs to suit the application, such as: hex head bolts; rosettes; rivets; squares, discs etc.

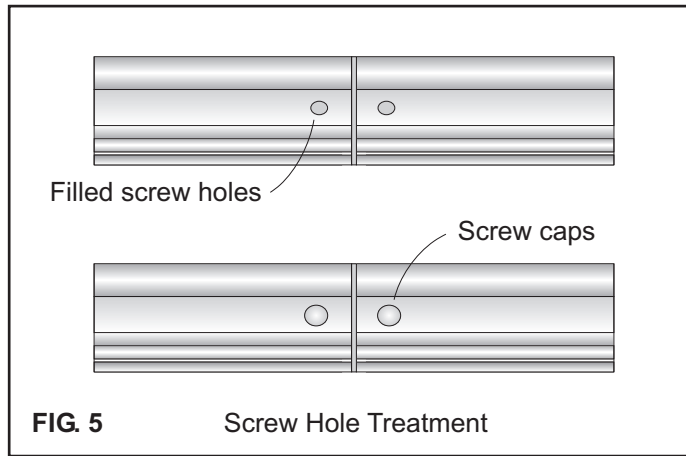


FIG. 5 Screw Hole Treatment

5) When a series of face fasteners are to be used, such as on panels or running trim, evenly space the screw holes apart for improved aesthetics.

MOLDED PANELS:

1) Plan in advance for the finishing method to be used for face fasteners ,if any (e.g. MetalCast® screw caps, MetalCast® patching compound) - see Fig. 6. Also, secure the caulk for joints. Formglas does not supply caulk but recommends a brand name type and color - see page 4 for details.

2) For panels that are to be attached with face fasteners, a uniform hole placement pattern is recommended for aesthetic purposes. Refer to Fig. 7. A plywood substrate is recommended for this purpose to allow for screw holes to be placed in a uniform pattern with respect to the panels without concern for the location of the substrate framing members.

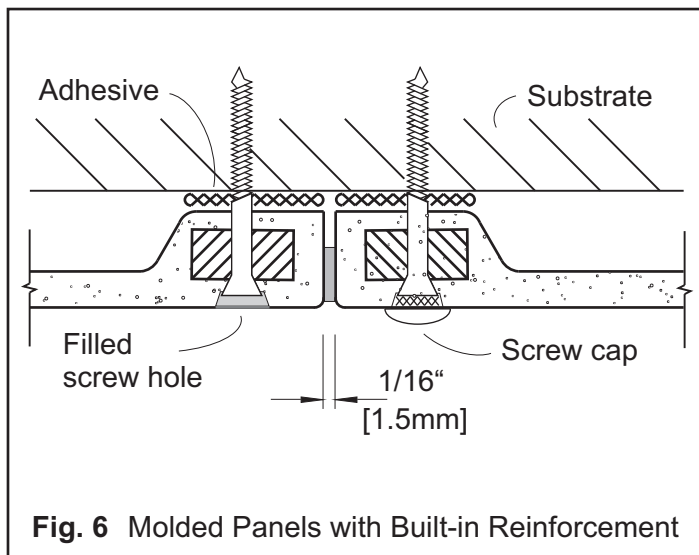


Fig. 6 Molded Panels with Built-in Reinforcement

3) Provide a 1/16" [1.5mm] joint gap between panels - use spacers to maintain a consistent gap.

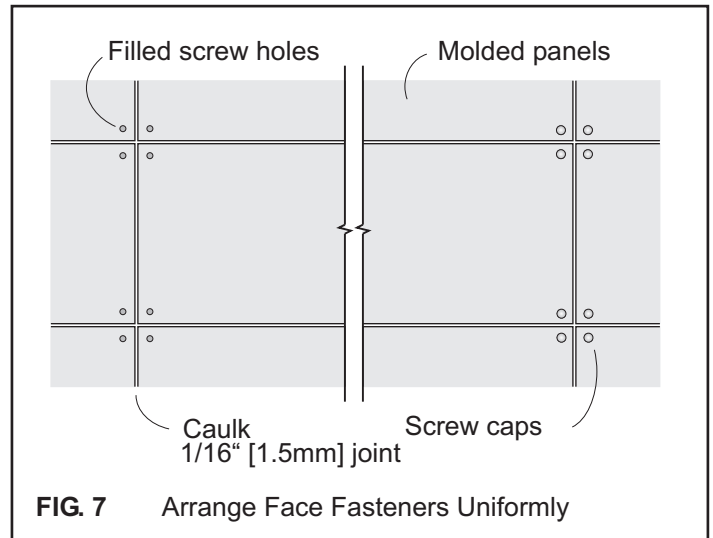


FIG. 7 Arrange Face Fasteners Uniformly

Always use patching compound sparingly. Avoid smearing compound beyond the holes. Always remove excess compound immediately.

CLEANING AND MAINTENANCE:

1. Surface dirt, fingerprints and water stains can be removed with a clean, damp, soft cloth and gently wiped dry.
2. Similar to actual bronze or brass castings, superficial scratches on the protective laquer will not detract from the overall appearance, but severe damage cannot be repaired.
3. Field polishing is not possible because of the laquer coating required to reduce oxidation.
4. Do not use any type of household cleaner or solvent based cleaners. **USE MILD SOAP AND WATER ONLY.**

FINISHING MATERIALS:

See page 4 for details concerning Adhesives, Caulk and MetalCast® Patching Compound.

FINISHING MATERIALS

MetalCast® Patching Compound (XMPK)

Patching Compound to Match MetalCast® Metal finishes

Note: 1 patching kit will patch 15 holes.

Caulk: (Not supplied by Formglas) Brand name caulk for use with **MetalCast®** metal finishes.

Caulk is not an exact match.

Note: 1 standard tube will do approx. 250 linear ft [75 m] of 1/16" [1.5 mm] wide joints.

MetalCast® Finish	Caulk Brand	Caulk Color
BRASS	Dymonic	" LIGHT BRONZE "
COPPER	Mono Ultra Exterior	" BROWN "
BRONZE	Mono Ultra Exterior	" BROWN "
NICKEL SILVER	Dap Silicone	" ALUMINUM GRAY "
WHITE METAL	Dap Silicone	" ALUMINUM GRAY "

Recommended Adhesives:

PL 400, PL 400voc, PL Premium - Manufactured by the Henkel Corporation - sold under Loctite and Lepage Brand names.

Note: PL400voc & PL Premium have 50 g/l VOC's or less for use at Green Building projects such as LEED® where low emitting materials are required.