

READ ALL INSTRUCTIONS PRIOR TO INSTALLATION

KAL-LITE FRP sheeting should only be installed over solid wall surfaces (wood, plasterboard, gypsum, etc.). All wall surfaces should be clean, dry, flat and smooth. Uneven wall surfaces should be corrected for best results. FRP sheeting will form to the contour of the wall surface when attached. Drop in ceiling tiles are also available. Hold down clips and/ or caulking* are recommended to hold ceiling tiles in place.

Note: KAL-LITE FRP Sheeting is U.S.D.A. and CFIA accepted.

Inspection, Storage & Preparation:

KAL-LITE FRP sheeting should be inspected immediately upon arrival in a well-lit area to insure the customer is satisfied with the FRP sheeting prior to beginning the installation. FRP sheeting should be stored in a dry area, do not store the panels outside. The sheeting should be removed from the pallet and stored on a flat dry surface. The standard fire safety precautions should be followed when storing and using the material.

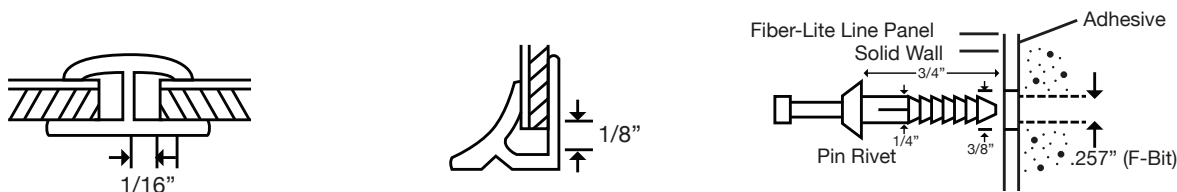
Tools:

KAL-LITE FRP sheeting can be cut or drilled using power saws/ drills with carbide tipped saw blades/ bits. A masonry bit should be used when drilling into brick or concrete (if required). Always use sharp saw blades and drill bits.

Caution: Protect eyes with safety glasses and cover mouth with a filter mask when cutting or drilling KAL-LITE FRP sheeting.

Expansion & Contraction:

KAL-LITE FRP sheeting will expand & contract due to changes in ambient temperature. KAL-LITE recommends that during that installation process, allow 1/8" gap at the ceiling and the base as well as 1/16" gap between the sheeting and the divider strips. If two piece moldings are used allow for 1/8" gap. (see diagrams)



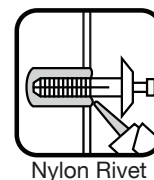
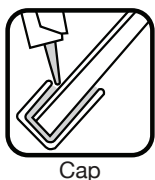
The space allowed for expansion & contraction should be increased for sheeting longer than 8', as well as areas with noticeable temperature changes. Pre-drilled holes for drive rivets in KAL-LITE FRP sheeting should be slightly larger than the diameter of the rivet shank to allow for normal expansion & contraction. Note: Allow for expansion & contraction when installing KAL-LITE FRP sheeting around pipes, outlets, conduit, etc.

Moldings & Sealants:

Note: KAL-LITE does offer anodized gray aluminum standard molding profiles, as well as vinyl moldings that match our standard color palette.

We recommend using vinyl moldings along with a silicone sealant* when installing KAL-LITE FRP sheeting to assure a moisture resistant installation. The matching vinyl moldings also help achieve a finished appearance.

The vinyl moldings should be cut to size (if necessary), and place a bead of silicone sealant* into the channel of the required molding profile. Place the molding on to the KAL-LITE FRP sheeting prior to fastening (if required).



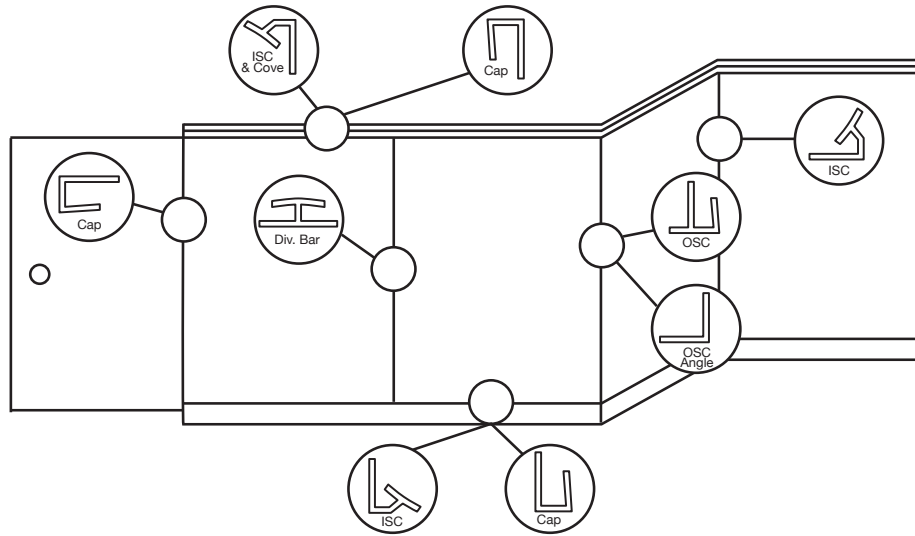
In high moisture and frequent washdown areas, the silicone sealant* should be in all molding seams from floor to ceiling to discourage water from seeping in to the seams and getting behind the KAL-LITE FRP sheeting and damaging the substrate. When using KAL-LITE FRP sheeting along cement floors a self-priming sealant* should be used.

If moldings are not used, a bead of silicone sealant* should be applied at every seam between panels as well as the floor and ceiling for a moisture resistant installation. Remove excess silicone sealant* during installation or trim off after the silicone has cured.

Caution: If moldings and/ or silicone sealant* is not incorporated into the installation it may cause the KAL-LITE FRP sheeting to prematurely deteriorate. In high moisture areas or in standing water, edge swelling and water absorption may occur in the substrate if proper installation procedures were not followed.

Molding Installations:

This diagram illustrates where the different molding profiles may be utilized.

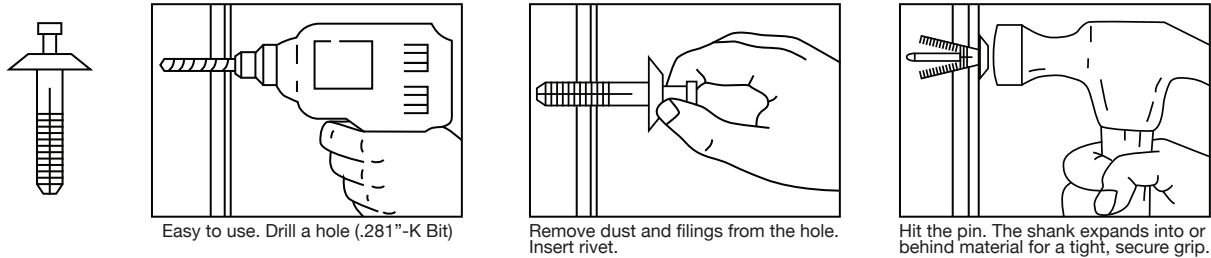


- Aluminum molding profiles can be substituted for the vinyl profiles in this sketch.
- Vinyl molding profiles should not be considered for exterior applications.
- Vinyl moldings are USDA & CFIS accepted. Aluminum moldings should not be used where USDA & CFIS acceptance is required.
- The moldings should be cut as needed, for the proper fit. The dividers, inside & outside corners may need to be cut to accommodate ceiling and/ or base molding* or trim.
- Place the molding profiles on to the KAL-LITE FRP sheeting prior to fastening edges (if required).
- Always use molding in high moisture and washdown areas.

Fasteners:

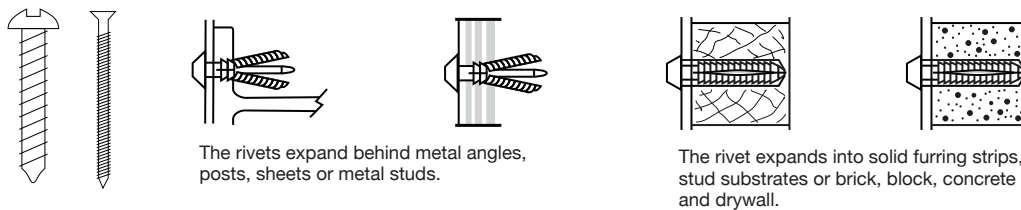
KAL-LITE FRP sheeting should always be installed with non-corrosive fasteners. KAL-LITE stocks a variety of two-piece plastic drive rivets in varying lengths. It is not uncommon (depending on application) to have other methods of fastening like stainless steel nails or screws. Any fastener that is being used should be installed to have a snug fit and should not get over-tightened. Always choose the proper fastener for the project.

Plastic drive rivets fasten KAL-LITE FRP sheeting to wood, metal, drywall, concrete, a variety of insulating materials, etc.



Stainless steel nails and screws are used in some applications.

Note: KAL-LITE recommends when using stainless steel screws, retainer rings should be utilized as well.

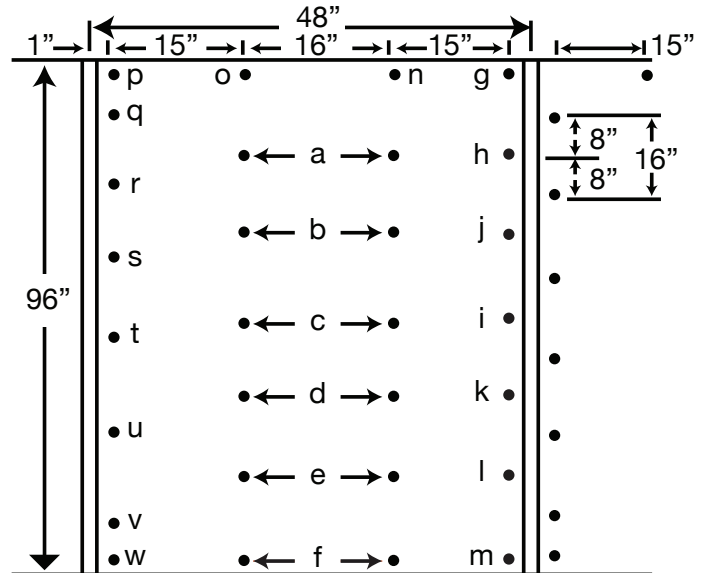


Fastening/ Fastener Layout:

- The first panel installed should be set true with a plumb line.
- Re-check plumb line during installation.
- Do not fasten edges of panels until moldings are in place. (except when using face mounted moldings)

Kal-Lite FRP sheet/ fastener layout/ solid wall

1. Fasten KAL-LITE FRP sheet at the center and work outward.
2. Fasteners based on 16" on center.
3. Fasteners should be staggered on opposite panel edges and next to the divider strip for a flat seam (see diagram).
4. KAL-LITE FRP sheeting should be pre-drilled for fastener installation using a guide sheet.

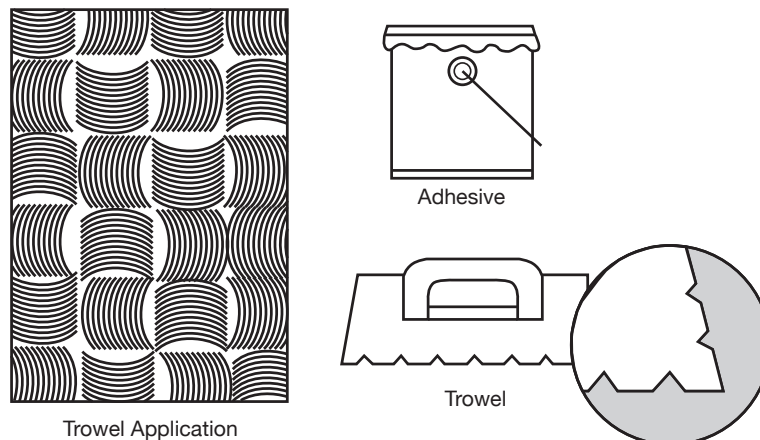


Adhesive:

In typical general-purpose construction wall panel applications, the use of an FRP adhesive is most commonly recommended. Whenever adhesive is used, it is very important to follow the adhesive manufacturers' installation recommendations carefully. Many types of adhesive are flammable and some adhesives may not be compatible with either the panel or the substrate.

KAL-LITE sells two (2) types of adhesive, made for FRP applications. Both are manufactured by Tite-Bond (Franklin Adhesives). First is a 4 gallon pail of a low voc (water based) FRP adhesive, which allows for 200 sq. ft. of coverage (based on the manufacturers' calculations). The other adhesive is a 3.5 gallon pail of an Advanced Polymer Adhesive, which allows for 210 sq. ft. of coverage. More specific information about the different adhesive products is available at the Tite-Bond website at (www.titebond.com). As well as Tite-Bond FRP Installation Instructions, MSDS sheets and adhesive comparison and application information.

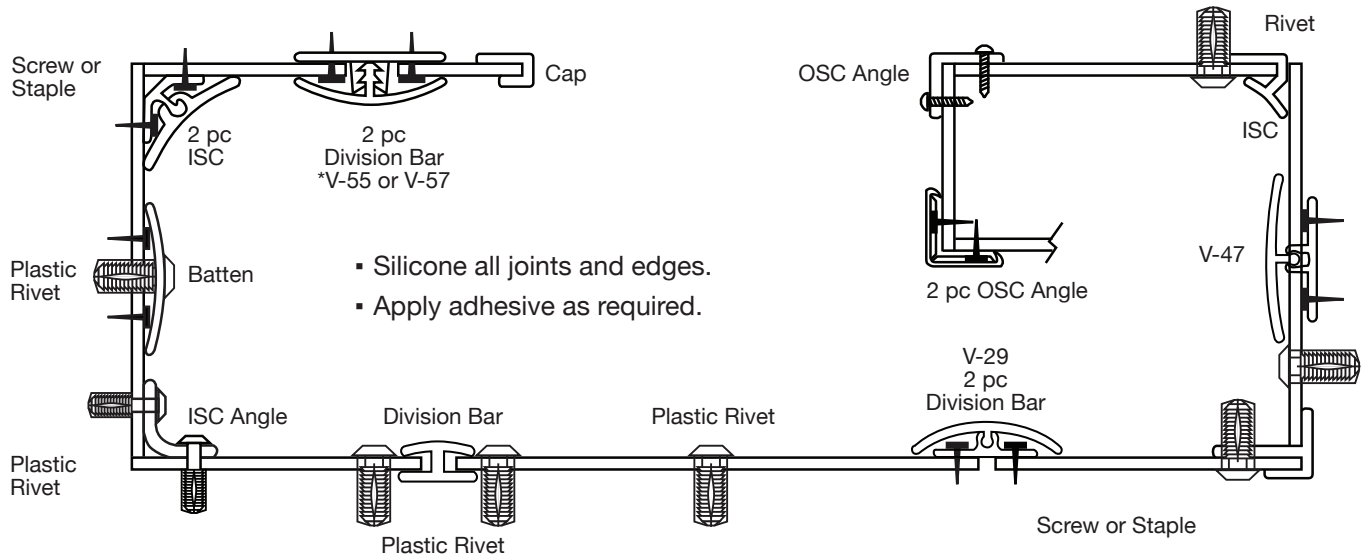
KAL-LITE FRP sheeting can be easily installed over most standard substrates with an FRP adhesive. Using both fasteners & adhesive together is not necessary, but can be done. When using adhesive as the main source of attachment in KAL-LITE FRP sheeting installations the adhesive should be applied, completely covering the back side of the sheet, a ¼" thick with a v-notched trowel* (see diagram).



After troweling* the adhesive onto the KAL-LITE FRP sheeting press the sheet against the wall and use a panel roller* to bond the KAL-LITE FRP sheeting onto the wall. If a panel roller* is not available, an alternative may be used like a block of wood and a rubber mallet.

Cleaning Instructions:

KAL-LITE FRP sheeting is designed for minimum care and maintenance. When cleaning KAL-LITE FRP sheeting, wash the sheet face with a light, non-abrasive detergent such as soft scrub, pine-sol, mineral spirits or a tri-sodium phosphate solution. Steam cleaning, high-pressure sprayers and soft bristle brushes can also be effective cleaning tools. KAL-LITE strongly recommends that the material not be cleaned with any kind steel wool, scrubber pads or abrasive cleaners like Comet or Ajax.



Installation Reminders

- 1) Follow safety & fire guidelines while installing KAL-LITE FRP sheeting. Compliance with local building codes is recommended.
- 2) The first KAL-LITE FRP sheet installed should be set true with a plumb line. Re-check the plumb line during the installation.
- 3) KAL-LITE FRP sheeting should be fully acclimated to room temperature (68°) to allow for expansion & contraction.
- 4) Use moldings, silicone sealant, adhesive & fasteners with KAL-LITE FRP sheeting, during the installation for best results.
- 5) Wipe down any excess silicone sealant during installation or trim after the silicone sealant has cured.
- 6) Install the moldings (if required) onto the KAL-LITE FRP sheeting prior to fastening or adhering the sheet to the wall.
- 7) Cut moldings as required (Moldings may need to be trimmed to accommodate ceiling or base cove*).
- 8) Cut KAL-LITE FRP sheeting to size (if required) where it may be needed to complete the installation.
- 9) Use hold-down clips* if KAL-LITE FRP sheeting is used in a suspended ceiling.
- 10) Wipe down KAL-LITE FRP sheeting (if required) after the installation is completed.

*These are all items that are not stocked or sold by Kalwall Corporation or the KAL-LITE..

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- b) While all data presented in KAL-LITE technical data sheets is based on the best information available to Kalwall Corporation and believed to be correct, such data is not to be construed as a warranty that the products will conform to such specifications. Any technical data sheets supplied by Kalwall Corporation are subject to change without notice.
- c) The liability of Kalwall Corporation shall not exceed the purchase price of the KAL-LITE FRP sheeting (and installation accessories) and the Buyer shall not be entitled to, nor Kalwall Corporation be liable for any consequential, incidental, indirect or special damages resulting in any manner from the furnishing of KAL-LITE FRP sheeting & accessories or any damages of any kind arising from the use of KAL-LITE FRP materials

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