

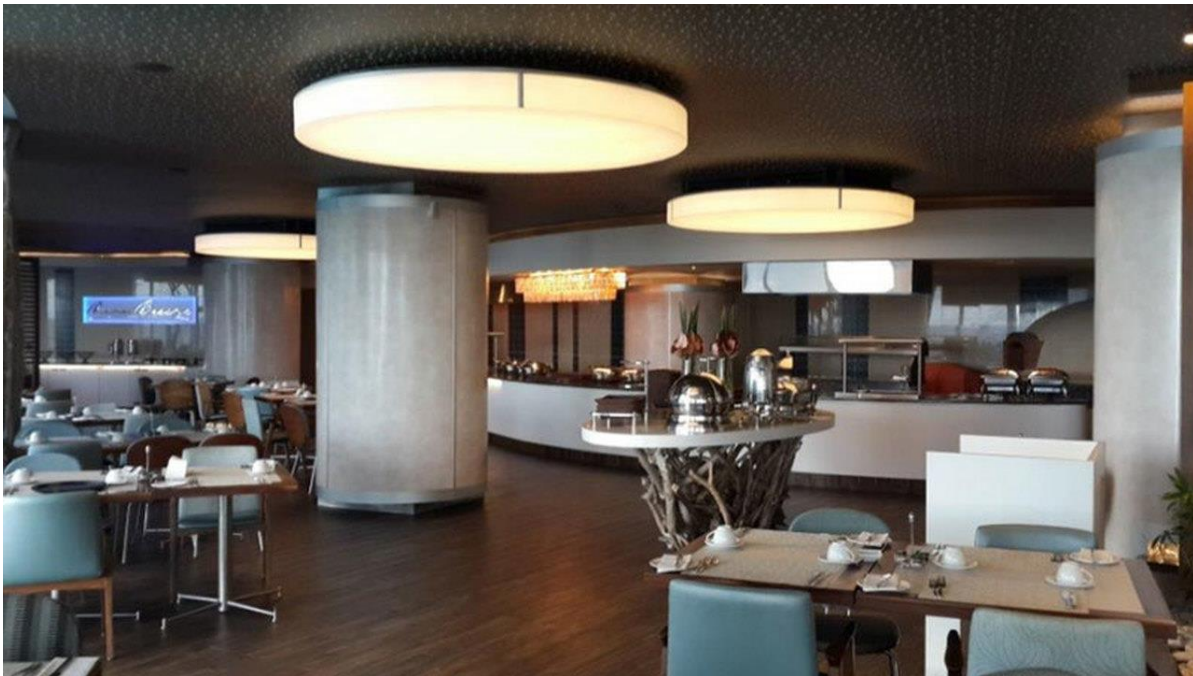
## **Installation Instructions for White FRP**

**ATTENTION: WHITE FRP PANELS MUST BE ACCLIMATIZED FOR 24 HOURS BEFORE INSTALLATION.**

**PLEASE READ ALL INSTRUCTIONS PRIOR TO INSTALLATION**

**DISCLAIMER PLEASE READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION**

These guidelines are provided in good faith to help prevent installation problems caused by common errors. The manufacturer and/or distributor of the product bears no responsibility for installation actions taken or not taken. There are many nuances of installation that are assumed to be general construction knowledge to an experienced installer; such nuances are not included in these instructions. Rather, these installation guidelines are strictly recommendations and are not intended to serve as a step-by-step, foolproof installation checklist. Selection of an experienced FRP installer is the sole responsibility of the project owner and architect. ATI or its associated distributor's do not accept any responsibility for job failure resulting from or associated with improper job site conditions.



### **INSPECTION & SAFETY**

Please inspect White FRP panels for any imperfections prior to installing; once installed, panels may be very difficult to remove. WHEN CUTTING OR DRILLING, ALWAYS WEAR PROTECTIVE GLASSES OR GOGGLES AND A FACE MASK WHICH COVERS THE FACE AND MOUTH. Itching due to glass fibers may be avoided using barrier creams on exposed skin areas. Hearing protection is also recommended when using power tools.

## **STORAGE AND ENVIRONMENTAL CONSIDERATIONS**

Panels should be stored indoors on a solid, flat, dry surface other than the floor. Do not stack on a concrete floor or any other surface that emits moisture. Lay panels flat with proper support on the ends of panels. Do not stand panels on edge. All FRP panels must be stored inside. Optimum storage conditions are 60° to 75° (16°C to 24°C) and 35% to 55% relative humidity.

The following special conditions require additional preparation or installation techniques:

- **DIRECT SUNLIGHT** The panels should never be exposed to direct sunlight. Any environment where the panels may be exposed to indirect sunlight or filtered sunlight for prolonged periods should be tested prior to installation.
- **HIGH HUMIDITY ROOMS** Acclimate panels in the operating humidity conditions. Carefully follow the guidelines in this installation guide for expansion/contraction spacing and sealing. Failure to seal moisture entry points with silicone sealant can cause swelling of the substrate resulting in warping, curling, delamination or bond line separation. Use an adhesive that is recommended for high humidity conditions. A vapor barrier (e.g. 6 mil poly sheet) may be required. \*Follow the architect or owner's specifications or check your local building codes for specific requirements.
- **LOW-TEMPERATURE CONDITIONS** Acclimate panels in the operating temperature conditions. Carefully follow the guidelines in this installation guide for expansion/contraction spacing and sealing. Use an adhesive that is recommended for low-temperature conditions. A vapor barrier (e.g., 6 mil poly sheet) may be required. Follow the architect or owner's specifications or check your local building codes for specific requirements.
- **FOAM INSULATION** An approved thermal barrier system (e.g., gypsum board) must be used between the FRP panels and any foam insulation. Check your local building codes for specific requirements.

## **TOOLS REQUIRED**

- Laminate Roller
- V-notched Trowel 3/16" x 1/4" x 5/16"
- Circular saw with fine-tooth carbide tipped saw blade
- Swivel-head 18-gauge shears
- Drywall Roto-Zip®
- Jigsaw
- Flat edge finishing tool (putty knife or equivalent)

## **PANEL TRIMMING**

If not using trim strips, it is recommended that the edges be properly trimmed with a router. This will mitigate showing “white lines” from the factory edges of the panel. A commercial high-speed router using a Bosch 3/8” Laminate Trim Bit with ball bearing, carbide tip, and roller tip (when appropriate) is recommended.

## **MATERIALS REQUIRED**

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- FRP Panels
- Adhesive - Advanced Polymer Adhesive or Fast Grab Adhesive.
- Soap and water for clean-up (Latex or Polymer adhesives)
- Saw horses
- Plywood larger than panels
- Dry, lint-free rags
- Sandpaper or Paper Tiger® Wallpaper Removal Tool for roughing up wall
- Tape measure
- Utility knife
- Six-penny nails or tool to measure spacing 1/8"
- Carbide tipped laminate cutter

**IMPORTANT NOTE:** If the installation room has high humidity (65% or higher) then a portable low-cost dehumidifier unit is suggested.

## **ADHESIVE**

For applications requiring adhesive, suggestions include (Titebond Fast Grab FRP) adhesive or (Titebond® Advanced Polymer) Panel Adhesive (applied with a notched trowel). Titebond® Panel Adhesive should be applied in a crosshatch pattern to the wall, enabling even distribution of substrate. For best results, Titebond® Panel Adhesive should be stored above 50°F.

**\*NON-POROUS SURFACES\*** Non-porous surfaces (i.e., ceramic tile, glazed block, moisture-resistant substrates, and metal panels) do not provide a good surface for adhesive bonding. General-purpose latex-based, polymer or solvent based adhesives will not dry properly on a non-porous surface. The Advanced Polymer is recommended in these applications. Installation over this type of surface can be accomplished with rivets or you may contact an adhesive manufacturer for additional recommendations.

Due to the abrasive nature of the adhesive, it is highly recommended that those working with the adhesive, wear protective safety equipment which includes, but are not limited to the following: safety glasses, gloves, and a filter mask.

<b>FRP TO:</b>	<b>Adv Polymer</b>	<b>Fast Grab</b>
Standard Unpainted Drywall	Y	Y
Painted Walls (if the paint is well anchored)	Y	N
Fire Rated Gypsum Drywall	Y	N
Fiberglass Faced, Mold Resistance and Fire code Core Drywall	Y	N
Standard Unpainted Plywood	Y	Y
Treated Plywood	Y	N
Fire-Rated Plywood	Y	N
Aluminum	Y	N
Galvanized Metal	Y	N
Cement Board	Y	Y
Cement Block (above grade or inside wall)	Y	Y
Polystyrene Foam	Y	N
Polyurethane Foam	Y	N
Foil-Faced Insulation	Y	N
Traditional Green board	Y	N
Moisture Resistant Cement Board	Y	N
FRP	Y	N
Dens Glass	Y	N
Ceramic Tile	Y	N
Stainless Steel	Y	N
Metal	Y	N

## **FASTENERS**

Nylon drive rivets or corrosion-resistant screws are appropriate fastener options. If fasteners will be used in the installation, panels should be pre-drilled using a drill bit that is 1/8"-1/4" larger than the fastener. During installation, holes drilled into the substrate should also be made 1/8" - 1/4" larger. This is required to allow room for expansion and contraction of the panels.

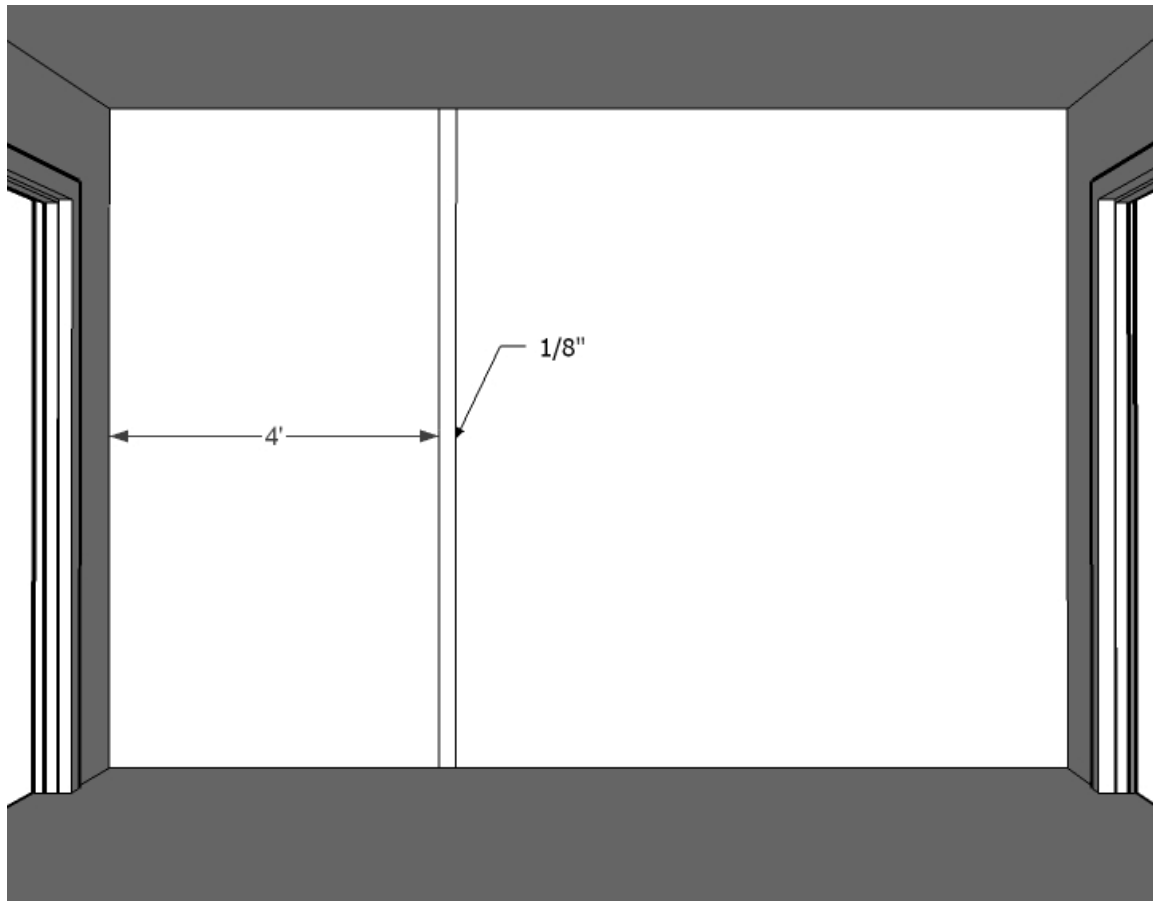
## **EXPANSION JOINTS**

As temperature and humidity levels fluctuate, White FRP panels will expand and contract. Therefore, adequate space must be allowed around panel edges, holes drilled in panels, and around fixtures attached to the panel/wall. Please refer to the expansion joint chart below for spacing at the ceiling, floor and between panels.

## **EXPANSION JOINT CHART**

<b>PANEL SIZE</b>	<b>4X8</b>
Gap at ceiling	1/4"
Gap at floor	1/4"
The gap between the panel and center of 1-piece molding	1/8"
The gap between the panel and center of 2-piece molding	1/4"
The gap between panel without molding	1/4"
Gap around rivets	1/8"
The gap between panels and wall fixtures	1/8"

## **EXPANSION JOINT LAYOUT**



## **INSTALLATION**

**Note:** For best results, White FRP panels should be used in conditions which result in temperatures that are less than or exceed the allowable temperature ranges. Do not use in areas exposed to temperatures exceeding 200°F for extended periods of time, or to intense or continuous direct sunlight.

### **STEP 1 – PLANNING AND CUTTING**

- Fit each panel in advance before fastening and/or adhering in place.
- Perform all cutting and drilling prior to adhesive application. It is recommended that the edges be properly trimmed with a router. This will mitigate showing “white lines” from the factory edges of the panel. A commercial high-speed router using a Bosch 3/8” Laminate Trim Bit with ball bearing, carbide

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tip, and roller tip (when appropriate) is recommended. • Verify that the substrate surface has no bumps or uneven areas.

- Pre-drill rivet holes using a bit that is 1/8"-1/4" larger than rivet allowing for panel expansion according to the sizes in the chart on the previous page.
- Plan for cove or base molding. Base molding should be installed in such a manner as not to restrict the White FRP panel's normal movement. Cut panels 1/4" short of where the base molding will extend; poured molding should be in place prior to installation.
- Mark a plumb line 48-1/8" from the corner. In areas where several courses of panels are used, such as on a high wall, use vertical and horizontal lines to assure alignment.
- When using rivets, pre-drill holes in the panels using a drill bit that is 1/4" larger than the rivet. Plan so that fasteners will not interfere with moldings or other wall fixtures.
- When using mechanical fasteners through FRP to attach wall angles or other fixtures, pre-drill holes using a drill bit that is 1/4" larger than the mechanical fastener. Without oversizing the holes, the FRP will likely have bulges and/or buckles when panel movement occurs during expansion and contraction.

### **Fabrication Warning:**

#### ***POSITION PANEL FACE DOWN DURING FABRICATION***

When cutting with a circular saw, position the panel so that the saw blade enters the back-side panel first to avoid chipping or damage. Radius Corners of Cut-Outs: The inside corners of all cut-outs must have a radius of at least 1/8" (3.2 mm). Failure to radius corners may result in stress cracking. For pilot holes, a 1/4" (6.36 mm) diameter router bit or drill bit may be used, use a jigsaw to complete the radius cut out. Allow 1/8" (3.2 mm) clearance around all fixtures, electric boxes, piping, etc. Due to the nature of the FRP and manufacturing variables, it is important to remember that the printed FRP has a tolerance of +/-1/8 inch when fabricated by ATI Inc.

### **STEP 2 – INSTALLATION**

- Install one piece of corner molding and apply silicone sealant in the molding groove.
- If using rivets, drill holes into the substrate through the pre-drilled holes in the panel.
- If using Titebond® Advanced Polymer Panel Adhesive, or Fast Grab FRP Adhesive, apply adhesive to panel using adhesive manufacturer's recommended notched trowel to ensure good adhesion.

- Set first panel true to the plumb line.
- If using adhesive, firmly roll over the panel using a laminate roller, starting at the top corner nearest the molding rolling down and away toward the opposite edge, eliminating air pockets.
- If using fasteners, install fasteners as each panel is put into place and before the next division bar or molding strip is applied. Begin fastening at top edge and work towards the opposite end. Apply silicone sealant prior to inserting rivets or fasteners. Install fasteners one row at a time.
- Install one-piece division bar and caps or next molding piece by laying down a bead of silicone in molding groove and sliding completely onto the panel. Withdraw the molding or division bar 1/8" to provide proper spacing. The free edge of the molding or division bar may be tacked in place, if preferred, before installing the next panel.
- If using Titebond® Advanced Polymer Panel Adhesive and fasteners are not used, a few nails may be placed at the top 5 (above the ceiling grid line) to help hold panels in place while the adhesive cures. Once cured, the nails must be removed, as they do not allow for normal panel expansion and contraction.
- Repeat the process, working in one direction around the room.

### **STEP 3 – COMPLETING PANEL INSTALLATION**

- **MOLDINGS** When using moldings, panels and molding are installed in sequenced.
- **COLOR COORDINATING CAULK AND SEAM SEALANT** When using caulk and sealant, all panels are installed prior to the seam treatment. Before caulk and sealant can be applied, installed panels need to adhere for a minimum of 6 hours, but 24 hours is recommended when the room temperature is at 72°F and 45%-50% humidity.
- Use a laminate roller to ensure all air pockets are removed between the panel and the wall and to ensure a good bond between the panel and the wall. Start in the top corner of the panel away from the leading edge. Begin rolling down and out towards the panel edge without a molding.
- The adhesive residue may make panels appear stained and will collect dirt. Remove any adhesive residue upon completion of the job. To remove latex-based adhesive, clean with a non-abrasive cotton cloth and warm water. If necessary, use a mild, non-abrasive detergent. For best results, change the water and cleaning rags frequently. For clean-up with solvent-based adhesives, use mineral spirits or acetone to remove residue.



**NOTE: SOLVENT-BASED OR ABRASIVE CLEANERS SHOULD NOT BE USED ON PANELS**

- Be sure to apply silicone sealant in all molding and around all panel edges, fasteners, and fixtures to prevent moisture from penetrating behind panels.
- Remove any residue left by adhesive as recommended by the manufacturer.
- Clean panels thoroughly prior to leaving the job site. Depending on your seam treatment selection, panels are either installed in sequence with the seam treatment or panels are installed independently. Before starting, determine which seal treatment is being used.