

# ***Installation Manual For Laminating Sandwich Panels***

***Version 1.0***

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## **2 General Information**

### **2.1 Disclaimer**

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

This document covers installation instructions for the Hygibreak® product range in various applications. Hygibreak® products are very easy to install. However, since they are based on self adhesive backing, they require different installation techniques to those in standard FRP installations. It is important to note the following:

1. Review the Engineer's specifications in conjunction with this document.
2. Read all relevant sections to the particular Hygibreak® product being installed and/or the application.
3. Should there be any doubt on how to install Hygibreak® it is advisable to contact your Hygibreak® Sales representative who will advise as to the best method of 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.

### **2.2 Factory Mutual Approval**

Fire-X Glasbord (FXE and FSFM) is the only fiberglass reinforced interior wall and ceiling panel that is accepted under Factory Mutual Research approved FRP, Plastic Interior Finish Materials when installed in accordance with Factory Mutual Research Approval Standard 4880. This information is available at [www.approvalguide.com](http://www.approvalguide.com) and [www.FRP.com/FMAproved.pdf](http://www.FRP.com/FMAproved.pdf). NOTE: Please contact your local FM Global Representative to provide a field exemption of alternative methods of installation.

### **2.3 Safety Information**

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 by the use of barrier creams on exposed skin areas. Hearing protection is also recommended when using power tools.

## 2.4 Supplies and equipment

### Standard tools needed:

- Laminate roller
- Circular saw with fine tooth carbide tipped saw blade
- Swivel-head 18 gauge shears
- Jig-Saw
- Flat edge finishing tool (putty knife or equivalent)
- Hole saw
- Saw horses + plywood / flat working surface
- Tape measure
- Utility knife
- Carbide tipped laminate cutter
- IMPORTANT NOTE: If installation room has high humidity (65% or higher) then a portable low-cost dehumidifier unit is required
- Dry lint free rags
- Soap and water

### Materials needed:

- Hygibreak® FRP composite panels

## 2.5 Storage

- Panels and accessories should be stored indoors on a solid, flat, dry surface other than the floor.
- Do not stack on 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. The ideal conditions to store panels are 16°C to 24°C and 35% to 55% relative humidity.
- Careless unloading like dropping or throwing from a truck can result in edge damage or damage to the outer layers.
- Do not expose to any source of flame, ignition, or intense heat

## **2.6 Environmental considerations**

### **2.6.1 Direct sunlight**

Prolonged Direct Sunlight on panels may cause abnormal fading and/or rapid expansion depending upon amount of heat buildup. Use caution in these areas.

### **2.6.2 High humidity rooms**

Acclimate panels in the operating humidity conditions. Carefully follow the guidelines in this installation guide for expansion/contraction spacing and sealing. (see Expansion Joint Chart 4.7.1). Failure to seal moisture entry points with silicone sealant can cause swelling of the substrate resulting in warping, curling, delamination or bond line separation. \*Follow the architect or owner's specifications or check your local building codes for specific requirements.

### **2.6.3 Low temperature conditions**

Acclimate panels in the operating temperature conditions. Carefully follow the guidelines in this installation guide for expansion/contraction spacing and sealing (see Expansion Joint Chart 4.7.1). Installation should not occur at temperatures below 10°C.

### **2.6.4 Near Heat Source**

FRP panels will discolor when installed behind or near a heat source which radiates temperatures exceeding 55°C, such as cookers, ovens, and deep fryers. Stainless steel is recommended for these types of areas.

## **3 Installation Preparation**

### **3.1 General instructions**

- Ensure that the Sandwich Panel surface is clean, dry and at ambient temperature prior to installation. This involves removing dust, rust, grease, oil, scale, flaking paint and the like from the surface. Ensure all plastic protection film is removed from sandwich panel
- To clean the substrate surface, first wipe down with a clean cloth to remove excess dust. Then remove grease and oil using a suitable cleaning agent. Wipe surface clean and allow cleaning agent to evaporate.
- Work in a clean, dry area and avoid dusty places

## 3.2 Pre conditioning

Before beginning the installation, the installer must determine that the environment of the job site meets or exceeds all requirements specified in the installation guide. Prior to installing, remove the packaging and allow the panels to acclimate to the room temperature and humidity for 24 hours. The ideal conditions should be 16°C to 24°C and relative humidity is 35% to 55%. Ideally, both the room temperature and humidity during acclimation and installation should be the same as the final operating conditions.

## 3.3 Lamination conditions

Lamination should not begin until the building is enclosed (windows and doors are installed). The ideal conditions to install panels are 16°C to 24°C and 35% to 55% relative humidity. Lamination should not occur at temperatures below 10°C.

## 3.4 Sandwich panel adhesion guide

Sandwich panel surface	Can be used
PPGI	YES
Unpainted	YES
FRP	NO
Stainless steel	YES
Aluminum*/ Aluminum foil *	YES

\*Depending on pattern, high void aluminum will cause lamination issues


## 4 Installation guide



### 4.1 Pre installation planning

- Pre-fit each panel before adhering in place.
- All cutting and drilling should be done prior to the application of panel.
- Width of the panels should be 4-6mm less than the width of the sandwich panels as a generalization. Hygibreak® should not extend past the side bends of the sandwich panels.
- For length of the sandwich panel, Hygibreak® should reach 2-4mm before the top and bottom edges of the panel to avoid delamination.
- When using screws in the FRP, pre-drill holes in the panels using a drill bit that is larger than the fixing (see Fastener predrilling guide below)
- When using mechanical fasteners through FRP to attach wall angles or other fixtures, pre-drill holes using a drill bit that is larger than the mechanical fastener. Without over-sizing the holes, the FRP will likely have bulges and/or buckles when panel movement occurs during expansion and contraction.

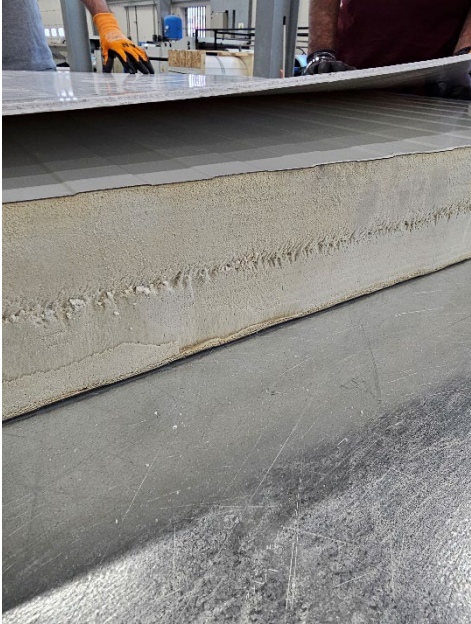

### 4.2 Basic Hygibreak® installation steps onto sandwich panels



1.


Step	Instruction	Image
1	Ensure panel is clean and wiped with ethyl alcohol prior to installation. If there is a protection film on the sandwich panel, remove before cleaning.	

			
2	<p>If using a Hygibreak® coil, cut panel to required length of panel as discussed in 4.1.</p>		



<p>3</p>	<p>Dry fit the panel to ensure the size of the panel is correct.</p>	
<p>4</p>	<p>Once panel is aligned, working from the top down, partially remove adhesive backing and initially stick onto the surface, ensuring all air is expelled.</p>	

5	<p>Slowly continue to peel off adhesive backing, ensuring it is removed evenly and any braking of the craft paper is removed from the adhesive back. Continue to stick onto the panel surface.</p>	 A close-up photograph showing a person's hands peeling a white, glossy adhesive backing from a sandwich panel. The backing is being lifted away from the panel, revealing the underlying core. The person is wearing orange work gloves.
6	<p>Using a laminate roller, remove air pockets by rolling down and out toward the panels bottom edge.</p>	 A close-up photograph showing a person's hands using a laminate roller to smooth the white adhesive on a sandwich panel. The roller is being rolled across the surface of the panel, moving from the top edge towards the bottom edge. The person is wearing orange work gloves.

7	Once fully installed, inspect the full panel, ensuring 100% bonding on the surface and ensure all surfaces are thoroughly rolled using the laminate roller. The adhesive is pressure sensitive and requires sufficient pressure for the adhesive to activate.	
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### **4.3 Cutting instructions**

When cutting with a circular saw, position the panel so that the saw blade enters the panel first to avoid chipping or damage.

### **4.4 Specific adhesive instructions**

The adhesive used relies on pressure to properly bond to the surface. Once fixed, adhesive should be padded firmly to ensure contact with the surface. The adhesive can be re-positioned for better alignment, provided no pressure is applied and it is done immediately. However, once the adhesive cures, it will be impossible to re-position or peel off the surface. Full curing of the adhesive onto the substrate typically takes about 24 hours, depending on ambient temperature.

Peel off only a small section to start off with. Align piece and gently apply to the wall. Pad firmly once alignment is correct. Ensure air is expelled. Do not try to stick the entire sheet in one attempt as this will lead to trapped air pockets. Thermobreak is a closed cell material and will not allow trapped air to escape.

### **4.5 Embossed panel installation direction**

Embossed (pebbled) panels should be installed in a uniform orientation, with direction of pebbling to be vertical. Installers should avoid alternating the orientation, to ensure compliance with HACCP certification.