

Wallshell EIFPanel™

INSTALLATION MANUAL - v1.4

www.wallshell.com

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Introduction

About Wallshell EIFPanel™

Wallshell EIFPanel™ is a composite thermal panel system that creatively uses hidden patch to increase cladding system watertightness. It enables panel to be cut at its vertical edges during the panel installation. This prefabricated EIFPanel™ system allows the panel to be cut and trimmed on-site without compromising the continuous insulation and watertightness. The prefabricated panel trim and closures can form various shapes, textures, colors and embellishment details.

Advantages of Wallshell EIFPanel™

- Maximum protection against weather
- Excellent longevity, 15 years of decoration life warranty, minimum 50 years of lifetime
- Lightweight and large sized (up to 10' long) panel enables easier and faster (90% dry) installation under any weather conditions.
- Cost effective in both labor and material, and no maintenance required.
- High quality manufactured in strictly controlled environment and process, machine finishes and anti-cracks.
- High tensile resistance for high wind load using hidden fasteners.
- High impact resistance and weather barrier in glass-fiber mesh reinforced concrete



Inspection, Proper Handling and Storage

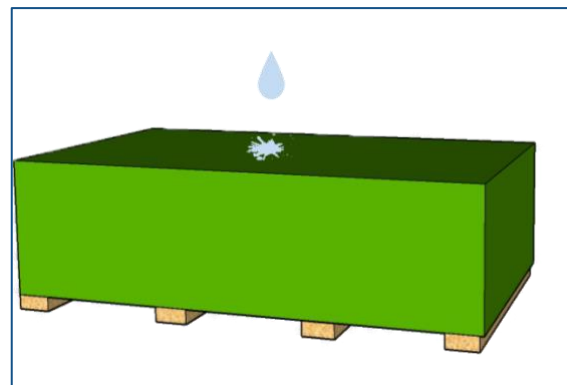
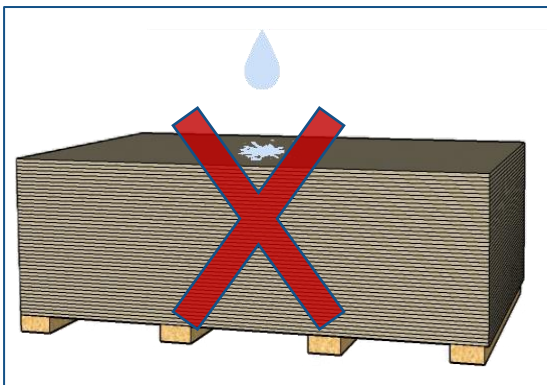
Product Inspection

Please carefully inspect all products before installation, whether they are damaged during transportation or have irregular surface products. Should you have a question or problem with your order, contact your local dealer or Walpanel Customer Service.

Storage

Wallshell Panels products are delivered with on the pallet. Hereafter the pallets should be kept under a roof, protected from rainfall, direct sunlight, and other weather influences. If panel is stored outside, it should be protected with an additional waterproof covering. Any material to be installed must be kept dry.

Wallshell Panels must be stored on a flat and dry level surface on pallets or sleepers with a minimum distance of 12" (300mm) between the stacks on all sides, leaving the possibility of ventilation around the panels. Maximum 2 pallets in a stack at the warehouse and maximum 2 pallets in a stack on the building site. Each stack should not be more than 59" (1500 mm) high. Use foam protection layer between the panels.



It is recommended to organize the pallets of the pre-cut and pre-drilled panels according to their sequences marked by manufacturer or prefabricator in the order to make the installation more efficient.

Proper Handling

Always lift panels off each other by two persons, and do NOT slide them over one another to avoid scratches and damages of the panel surface. To carry the panels, always lift up them vertically and handle their edges by two persons, avoid handling them with panel flat side from facing up or down, as this can result in cracks in the panel. Do NOT draw panel over the next panel, as this will cause scratches and damage on the surface. These actions will cause the damaged panel to be out of warranty.

Forklift

Fork length must support pallet entirely; if required, use fork extensions.



Basics

Panel Cutting

All Wallshell EIFPanel™ may be cut with a circular saw or a jigsaw equipped with a diamond tipped blade. The panel can be cut by either a hand tool or a stationary device.

Note 1: When using fast running tools, dust exhaustion must be employed. In poorly ventilated areas when dusty conditions exist and/or dust levels exceed permissible exposure limits, wear a NIOSH certified dust respirator with an efficiency rating of N95 or higher.

Note 2: When using hand tools, cut the panels backside up. When using stationary saw equipment, cut the panels front-side up (the saw blade must always attack the board from the front-side).

Note 3: Cut only one panel at one time.

Note 4: Cutting depth should be beyond the panel thickness.

Note 5: At the window or door head position, when the panel groove is cut and the Option 2 installation scheme in the *Wallshell EIFPanel™ Architectural Details* is adopted, the groove must be cut on site to facilitate the fixing of the panel. See Figure 1.

Note 6: The outer corner needs to be cut with a 45-degree angle. When cutting, cut from the back of the panel. The cutting size is shown in Figure 2. After cutting, at least a 3/16" (5mm) width opening should be left at the outer corner (Figure 3) for the room to apply the joint mortar.

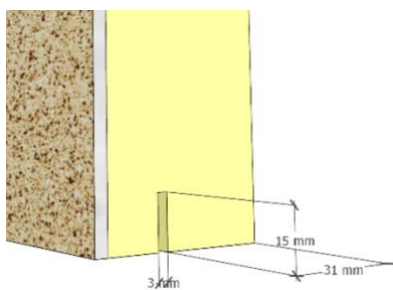


Figure 1: Cut Groove for Clip

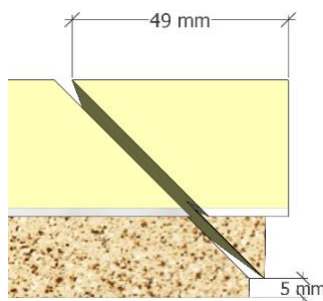


Figure 2: Cut for Corner Joint

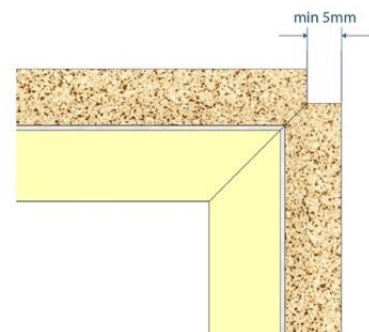


Figure 3: Corner Joint

Support

Wallshell EIFPanel™ System Components

1. Wood Stub
2. Sheathing
3. Vapor Barrier
4. U/H-Profile Clip
5. Sealant on fasteners
6. Polyurethane Foam Sealant
7. Joint Mortar with Finish Coat
8. EIFPanel™ Board

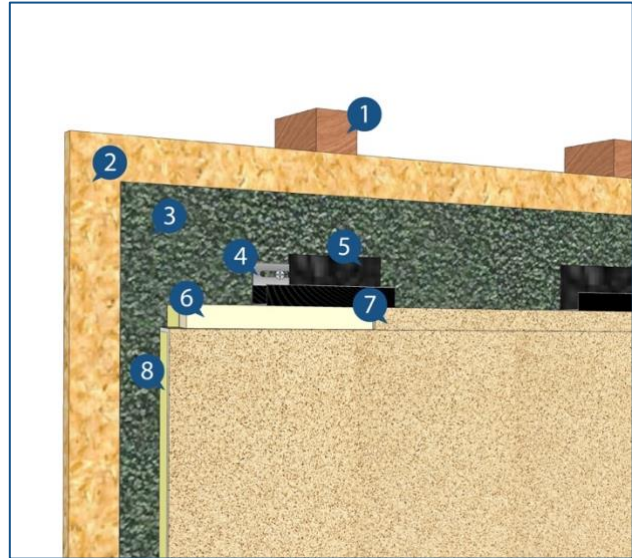


Figure 4: EIFPanel™ System Components

UH Anchoring System



Figure 5. H-Profile Clip



Figure 6. U-Profile

H-Profile Clip is used between the upper and lower panels while U-Profile Clip is used at the bottom edge of the bottom panels.

Attention: Use one screw for the clips where there is a stud behind, two screws where there's no stud behind.

System Requirement:

1. For standard size of panel (2'x8'), minimum 12 clips each panel, i.e., 6 clips on the top, and 6 at the bottom are required.
2. The maximum O.C. between two clips is 20" (500mm).
3. Make sure there is a clip across two vertically adjacent panels.
4. Use one screw for the clips where there is a stud behind, two screws where there's no stud behind.



Figure 7: Use thermal break on clips if performance requires.

Secure the panel with clips & fasteners. See figure 7.

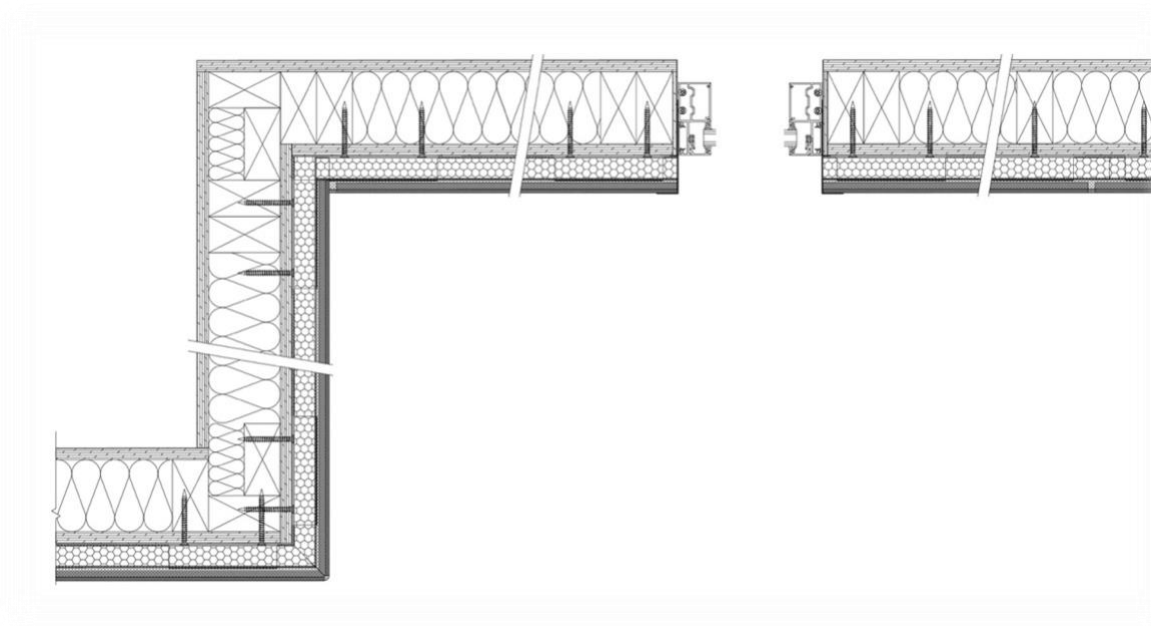


Figure 8: Locate the corner clips to the corner as close as possible.

Attention: Failure to comply with this requirement or use Wallshell clips may invalidate Product warranty.

Installation

Special Location

Outer Corner

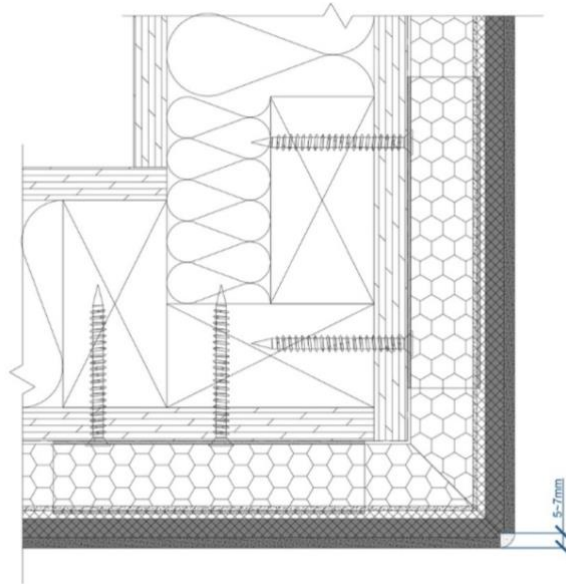


Figure 9. Outer Corner

Do not cut to form a sharp angle. Leave a space of 3/16" ~ 5/16" (5~7mm) to form a round corner at the outer corner joint for placing the joint mortar or sealant.

*Note: Locate the corner clips to the corner as close as possible

Inner Corner

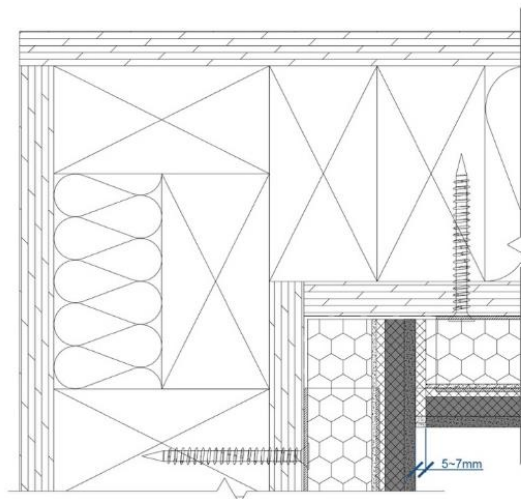


Figure 10. Inner Corner

*Note: Leave a space of 3/16" ~ 5/16" (5~7mm) horizontally between panels at the inner corner for joint mortar or sealant.

Window Closures

Step 1: Prepare Window Closures. Measure the depth and height of clips, and using knife to cut the grooves on the edge of EIFPanel™ closures, such as windowsills, window jambs and window heads.

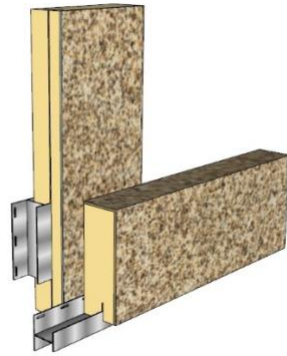


Figure 11. Prepare Closures

Step 2: Apply Adhesive for Windowsill. Apply lath if necessary, to hold adhesive mortar for windowsill.

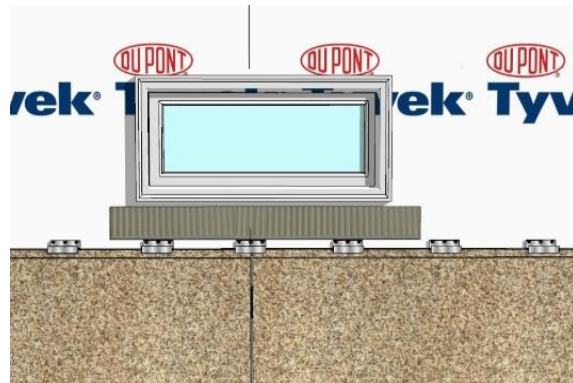


Figure 12. Apply Adhesive

Step 3: Install Windowsill. Insert windowsill underneath of the window before installing the adjacent panels.

Note: You should install window closures at first, even before starting install the corner panels.



Figure 13. Install Windowsill

Step 4: Apply Adhesive for Window Jambs. Apply lath if necessary, to hold adhesive mortar for window jambs.



Figure 14. Apply Adhesive for Window Jambs

Step 5: Install and Clip Window Jambs

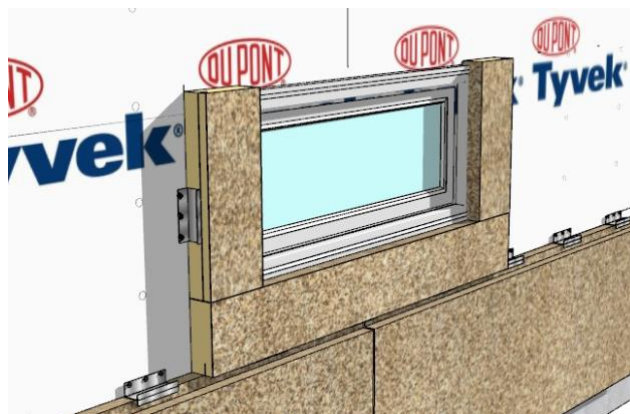


Figure 15. Install window jambs

Step 6: Install and Clip Window Head. Apply lath if necessary, to hold adhesive mortar for window head.



Figure 16. Install window head

Step 7: Seal Window Closures



Figure 17. Seal window closures

Alternative: Alternative aluminum window closures can be selected for simple installation. see figure 18.



Figure 18. Use aluminum window closures.

Bottom-Up Installation Approach

The key steps of bottom-up installation approach are as follows:

Step 1. Create the base horizontal chalk line around the building. The base chalk line is to nail down the position for the U-profile clips at the bottom of the bottom row of panels.

Attention: Make sure that the end of the chalk line will meet its starting point after circling around the building. See Figure 4.



Figure 19. Draw the horizontal and vertical chalk lines

Step 2. Starting from the bottom of the walls, measure, and mark vertical line from the corner of the walls to layout the panel joints at the very bottom row. Place and fasten the U-profile clips on the marked horizontal line with minimum required numbers.

Attention: Make sure that each vertical chalk line is placed with the U/H-profile clip, and place the corner clip to the corner as close as possible.

Step 3. Seal the clip fasteners on the U/H clips with silicon sealant before starting to place the panels.

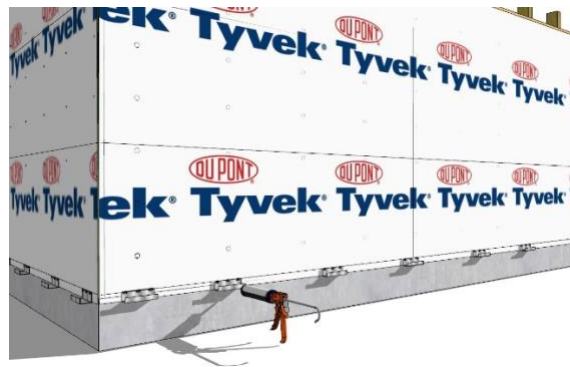


Figure 20. Seal the clip fasteners on the U/H clips

Step 4. Start from the corner of the wall toward the middle, place panels onto U/H-profile clips. See figure 6.

Attention: Make sure that the horizontal distance between two panels, i.e. the panel vertical joint is at the range of 3/16" ~ 5/16" (5~7mm). see figure 7.



Figure 21. Start from the corner of the wall toward the middle.



Figure 22. Make sure keep the horizontal distance.

Step 5. Install the H-profile clips above the panels with required minimum clips, each joint clip at the panel joint, and seal the screws on the clips with silicon sealant after installing the clips.

Step 6. Repeat the Step 1, 2, 3, 4 and 5.

Step 7. Seal the panel joints.

Seal the Panel Joints

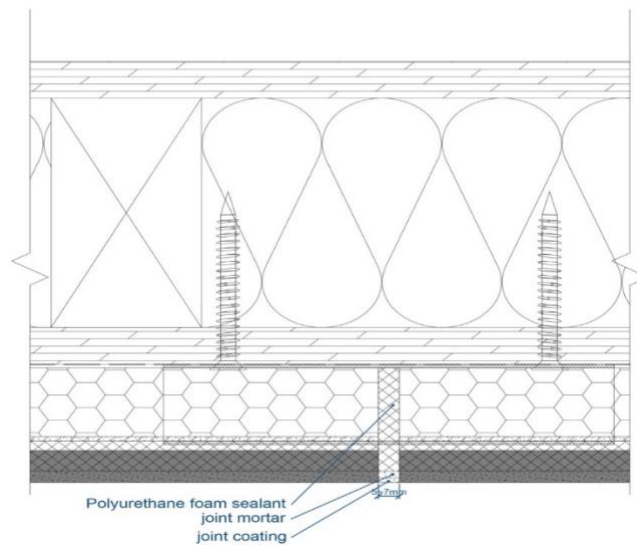


Figure 23. Seal Vertical Joints

Seal the Vertical and Horizontal Joints

Step 1: Use polyurethane foam sealant to fill the panel vertical joints and ensure to keep at least 1/4" (6mm) depth for the room to apply the joint mortar, where the width of vertical joint shall be in the range of 3/16" ~ 5/16" (5~7mm).

Note: Polyurethane foam sealant can be replaced by cell backer rod.

Step 2. After filling polyurethane foam sealant, apply joint mortar to seal the grooves, and After the joint mortar required tack-free time, apply exterior joint coating to match the color.

Step 3. Waiting for the joint mortar required tack-free time, apply exterior paint to match the panel's finish coat color.

Note: Using the paint tapes if necessary.

About Joint Mortar

Joint mortar can be any Portland cement plaster repair mortars designed to fill up to ¼” (6 mm) thick in stucco surfaces, such as Dryvit Rapidpatch, Quikcrete stucco patch, DAP premixed stucco repair mortar, and any all-purpose stucco repair mortar, of which the bond strength between the mortar and polystyrene insulation board is required to exceed 20.0 psi (138 kPa) after 14 days curing time.

Make sure to follow the third-party mortar installation preparation, mixing and application procedures when using them.

Remarks

Cleaning

There are two methods of cleaning panel, mechanical cleaning and chemical cleaning. In principle, perform the cleaning of the panel over the entire surface, because partial cleaning can result in color and tonal imbalance. Normal stains can be removed with a sponge and water. Warning High Pressure Cleaning is a rough treatment of panel. Use of a high-pressure cleaner may damage the surface. Therefore, high pressure cleaning is not recommended.

Impact by Pollution and Nature

Weather and nearby vegetation may affect the appearance of the panels. Take caution to avoid pollution, dust and leaves from trees, bushes and flowers to not impact the integrity of the panels. Excessive humidity, salts, or other chemical agents can corrode the panel and attack metal.

Special Information

THE INFORMATION OR DATA IN THIS SHEET SERVES TO ENSURE THE PRODUCT'S INTENDED PURPOSE OR ITS SUITABILITY FOR USE AND IS BASED ON OUR FINDINGS AND EXPERIENCE. NEVERTHELESS, USERS ARE RESPONSIBLE FOR ESTABLISHING THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE. APPLICATIONS OTHER THAN THOSE EXPLICITLY MENTIONED IN THIS TECHNICAL DATA SHEET ARE ONLY PERMISSIBLE AFTER PRIOR CONSULTATION WITH WALPANEL, INC. WHERE NO APPROVAL IS GIVEN, SUCH APPLICATIONS ARE AT THE RISK OF THE USER. THIS APPLIES IN PARTICULAR WHEN THE PRODUCT IS USED IN COMBINATION WITH OTHER PRODUCTS. WHEN A NEW TECHNICAL DATA SHEET IS PUBLISHED, ALL PREVIOUS TECHNICAL DATA SHEETS ARE NO LONGER VALID. THE LATEST VERSION IS AVAILABLE ON THE INTERNET AT WWW.WALLSHELL.COM.

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