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Tropical Pro Clad Clip™, Rain Screen and Cladding Installation Guide

Tropical Pro Rain Screen, Cladding, Soffit and Façade system is a unique wood board and clip system designed and engineered for use in both exterior (as an open back ventilated wood rain screen) or closed exterior cladding system or for interior use as an open or closed wood façade and ceiling system.

It is important to recognize that Rain Screen Systems are not as simple as applying boards to the side of a building. Cladding systems must be structurally engineered to meet building code requirements which take into account geographic wind loading and other performance factors. When evaluating cladding systems it is important to verify that the manufacture of the system you are using can meet required state code compliance. The Tropical Pro Clad Clip™ Rain Screen, Soffit, Cladding, Ceiling and Façade System is a combination of superior materials, technology and engineering that can be applied, horizontally, vertically or diagonally and as open or closed cladding and or soffit for both interior and exterior applications.

In drained and back ventilated systems, the cavity behind the cladding provides positive back-ventilation which promotes the rapid evaporation of any rainwater deposited in the air cavity. FEMA recognizes the benefits of back ventilated rain screen systems in high wind environments though this does not constitute a guarantee or warranty of any kind, or as a substitute for the engineers, specifiers, architects, builders or contractors, own analysis, investigation and due diligence regarding the appropriate material selection, application and installation of Tropical Pro facade systems in any particular location or application.

Wall Assembly Types

Moisture Resistant Barrier over Wood Sheathing (OSB, Plywood, Fire Rated Plywood SIP Panel.

Apply moisture barrier to wood sheathing. Apply clips to wood Sheathing and moisture barrier.

Zip Panel.

Apply clips directly to wood panel.

Galvanized batten over continuous insulation.

Apply galvanized battens through continuous insulation to girts or studs. Apply clips to galvanized battens.

Galvanized batten over DensGlass.

Apply galvanized battens through DensGlass to studs. Apply clips to galvanized battens.

Galvanized or wood batten on Masonry, Concrete Block, Poured Concrete, Fiber Cement.

Apply liquid moisture barrier to Masonry. Apply Galvanized Battens using shims to level. Apply clips to galvanized battens.

Galvanized or Wood Batten over Stucco.

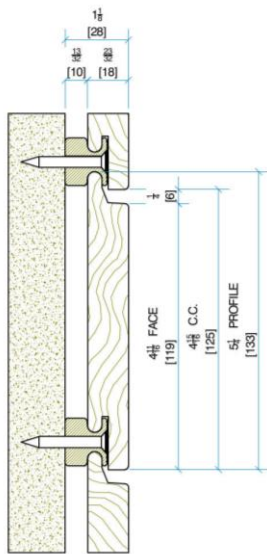
Remove stucco down to battens. Apply wood sheathing and vapor barrier. Apply Clips to Battens.

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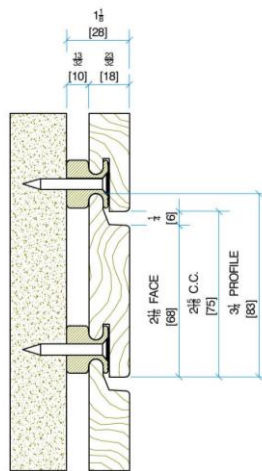
Important Notes

- * Review manufacturers specification language before installing.
- * Recommended maximum clip spacing should be 16" on center. There are some wood species that will allow spacing up to 24" on center.
- * Make sure that weather resistant barrier, flashings and all windows and doors have been installed properly as per manufacturer's instructions.
- * Door, window and weather resistant barrier manufacturer's installation instructions must be followed to assure successful envelope performance.
- * Pre-finish of wood cladding prior to installation is recommended.
- * Apply wood end sealer to all freshly cut wood cladding ends.
- * Use recommended clips and fasteners.

Installed Lay Up Dimensions



SECTION: LAYUP



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All section details are conceptual to assist designers in developing working section details. Final design and code compliance in any specific application are the responsibility of the designer. Tropical Pro accepts no responsibility for the improper installation of its products.

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System Installation – Best Practices

Step 1. – Pre-finishing

Pre finish all four sides of boards prior to installation whether it is intended to maintain a finished appearance through a maintenance program or allow cladding to weather naturally. Pre-finishing slows the acclimation process minimizing surface checking and wood movement.

Step 2 – Wood Acclimation

Acclimate wood cladding to installation site conditions. Wood equilibrium varies throughout the U.S. from typically between 8 and 14% moisture content. Failure to acclimate wood to site equilibrium may result in an unsatisfactory outcome.

Step 3 – Wood Color Variation

All wood has natural color variation. This is not a defect and attempts at color selection are not authorized by the manufacturer.

Step 4 – Wood Character Selection

All wood has natural characteristics. Trim any characteristic out that is not desired. This is not a defect and the manufacturer bears no responsibility in any material downfall associated with character removal.

Step 5 – Wood Bow, Warp, Twist, Cup, Split, Knot or other defects

Inspect boards for Bow prior to installation. Cut any defects out prior to installation preserving usable lengths.

Step 6 – Clip Starter Row

Create a level starter row using laser or chalk lines. We recommend that this be done on all walls prior to beginning clip installation to assure siding will be applied consistently throughout the building. This step is critical to a successful installation. Install starter row of clips with appropriate screws. Allow a minimum of $\frac{3}{4}$ " between the bottom of the starter row clips and the ground to allow ventilation and protect cladding against ground contact.

Important note* The Clad Clip™ System does not offer a starter rail system because we believe starter rails impede air flow, do not offer adequate drainage and like any gutter organic debris will build up over time clogging the weep holes. In vertical applications apply two screws through the cladding board to the sill plate to prevent cladding from sliding down. If required use an occasional screw and plug up the length of the board.

Step 7 - Horizontal 'Nailer'

Cut wood nailers to match selected clip depth and install at top of wall before installing battens or channels. These will serve as nailers to attach your top course of siding.

Step 8 - Batten Channel Attachment

Install vertical battens or channel if required. Assure battens have been installed to adequately support system weight.

Step 9 – Insect Screen

Install Core-A-Vent or Rock Wool as insect barrier on top of clip starter row.

Step 10 – Cladding Starter Row

Insert your bottom cladding board. Use a rubber mallet if boards fit snugly. If your board does not seat properly, do not install it. Forcing a board into a clip will only damage the clip and screw connection.

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Step 11 – Butt Joints

Butt joints must always share both a top and bottom clip. If using 90 degree cuts we recommend utilizing a small hand router with a 1/16" radius bit to break the face edges. This prevents the butt joints from telegraphing as cladding moves. 45 degree scarf joints are not recommended as the angle increases exposed end grain and potential for end splitting. Butt joints must always be end sealed prior to installation.

Step 12 – Window and Door Openings

Notch and cut boards as required around window openings. Blocking/Nailer may be necessary above and below windows. Radius any hard edges with 1/16" router bit just like butt joints. Board ends must always be sealed prior to installation.

Step 13 – Cladding Top/Finish Row

Rip top board to appropriate width, radius hard edge and fasten to horizontal nailer using Tropical Pro Pro Plug™ screw and wood plug system.

Finishing and Maintenance

Preparation, Finishing, Maintenance, Cleaning and Restoration

When specifying wood products for exterior construction it is important to have realistic appearance expectations. When used outdoors wood products will not retain the appearance associated with their use in interior applications like furniture or flooring. Wood will not hold its original color over time without cleaning and reapplication of finishes. Wood by its nature will be subject to some limited amount of natural reaction as it cannot be predicted how a natural product like wood will behave in any given environment or conditions.

New Cladding Preparation

Unless the cladding is provided prefinished, clean your cladding using a Sodium Bicarbonate deck cleaner like Tropical Pro Pro-Deck Cleaner to remove dirt and debris from the wood surface. Follow the cladding cleaning with an application of Tropical Pro Pro Wood Brightener to remove any stains or discolorations from weathering. Oxalic Acid based wood brighteners also improve finish penetration. Make sure you allow for wood to dry thoroughly before and between any and all cleaner, brightener or finish applications.

Finishing and Maintenance

A first coat on all faces prior to installation with an oil-based finish is not necessary but recommended even if you intend to let the rain screen weather. Application of even an inexpensive oil-based finish slows moisture absorption and release during seasonal moisture transitions, reduces surface checking and improves stability during the initial acclimation process. This can significantly improve project outcome if you are in arid dry conditions and direct sunlight. It is important to remember that you can apply water-based finishes over oil-based finishes but you cannot apply oil-based finishes over water-based finishes so make sure you take this into consideration when selecting finishes.

To maintain natural color use high quality oil based outdoor finishes with UV inhibitor, fungicide like Tropical Pro Ipe+ Marine Oil. Test finishes on cladding to determine their compatibility and appearance. Before application, brush and clean decking surfaces to remove dirt, dust and other airborne contaminants. Hardwoods are dense, so apply thin coats, wipe down and allow each coat to dry thoroughly. Over application will result in a sticky surface which will collect dirt and promote mold growth. Cladding, pre-finished

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with a first coat of penetrating oil, may or may not, be available in your market. Check with your local dealer for availability of this service. Grain, density and moisture content can all affect finishing. Every piece of wood will accept finish differently, even pieces from the same tree. Sampling finishes is always recommended prior to full application. Tropical Pro does not warrant the performance of finishes. Warranties if available are the responsibility of the finish manufacturer.

Finished Cladding Maintenance and Weathering

Periodically cleaning and reapplication of finish (as needed), will enhance the appearance of your cladding. The lowest maintenance approach we have found for maintaining finished decks is to treat them like you would a piece of furniture in your home. Simply clean your cladding when it is dirty and wipe-on wipe-off a fresh coat of finish before the finish deteriorates from UV exposure and the greying out or other forms of discoloration begin to take place. We recommend you do this twice per year (spring and fall) or as needed. Light power-washing is an acceptable practice.

Restoration

If you wait for the finish to deteriorate beyond the restoration capabilities of deck cleaners and wood brighteners, or you over apply the oil-finish and it becomes sticky, all is not lost. Simply remove the old finish with a finish stripper, followed by a cleaner, wood brightener and oil-based finish. The beauty and benefits of natural wood is that it can always be restored to its original condition.

Natural Weathering

Left Unfinished or over time without cleaning and refinishing wood rain screen will weather to a grey patina. It is important to note that areas which do not receive direct UV rays, like soffits will weather more slowly than areas which receive direct sunlight.

Spotting, Staining and Discoloration

From time to time we get calls asking about black spots that appear on wood cladding. These spots are caused either by mold or by a reaction between the iron in water with the natural tannic acid found in all wood. Mold or Mildew can be cleaned with deck cleaner containing Sodium Bicarbonate. Other stains can be removed with wood brighteners. Wood cleaners and brighteners are supplied in both powder or a concentrated solution form and are mixed with water. Multiple applications may be necessary to remove some types of stains.

Important note* Caution should be exercised when using Wood Brighteners containing Oxalic Acid, and only used if the cladding will be refinished shortly after brightening. Oxalic Acid converts lignin in natural wood species to sugar and can accelerate the mold process if left raw after cleaning. Do not overapply oil-based finishes. Over application will not extend finish life. Over application will result in a sticky surface which will attract dirt. Dirt serves as fuel for mold growth. Wipe on oil-based finishes and then wipe off like polishing a piece of furniture. Use extreme caution when handling any type of cleaner, brightener or wood finish. Always wear protective clothing gloves and glasses. Do not mix cleaners and wood brighteners with other chemical like ammonia or household cleaners. We recommend that tests be in small areas on different boards be made before overall use on any aspect of the finish and maintenance process. Always consult and follow the manufacturers recommendations when using proprietary products.