Installation Manual

ChamClad®
CCMC 14323-R
ICCES ESR 4560



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Glossary

This guide is written for construction professionals. Language typical of the cladding and cladding industry has been used throughout this document, the majority of which has been defined below. A simplified guide is available at the end of this document.

Back Sealing/Priming: Applying a sealer/primer to the back of cladding is NOT recommended for use with ChamClad® heavy gauge panels.

Belly Band: A decorative horizontal trim piece or board placed between two floors or types of cladding, usually along the rim joist.

Beaded: A narrow, half-round molding at the base of a cladding panel or board.

Blind Nailing: Fastening through the top edge of a lap cladding to hide the fastener head with the next course of cladding.

Butt End: A joint created by placing adjoining edges of cladding end to end with no overlap.

Casing: Molding of various widths used to trim around windows and door openings at the jambs. These are also known as lineal window and door surrounds.

Contraction: This commonly is referred to a building material contracting due to heat loss or moisture leaving the product. Generally, this occurs when the outside temperature drops.

Course: A row of cladding running the width of a house or wall. In the case of vertical siding, it would run the height of the wall.

Drip Cap: A horizontal flashing placed over an exterior door or window to divert rainwater away from the wall.

Eave: The overhang of a pitched roof; usually made up of a fascia board, a soffit for closed cornices, and the necessary trims.

Expansion: Most often refers to building materials expanding due to outside temperature increases. In the case of wood or wood by-products, expansion may be caused by moisture entering the product.

Exposure: The width of the exposed face of the board, sometimes called the reveal.

Face: The exposed side of the cladding, trim, or soffit after the material is installed.

Face Nailing: This is where a nail is fastened through the overlap; this exposes the head of the nail, screw, or staple. This is NOT a recommended method of fastening ChamClad® cladding and soffit panels.

Fascia: The flat, horizontal band that covers the rafter tails at the bottom edge of the roofline.

Flashing: A material (usually metal) placed around openings to prevent water penetration or to direct the flow of rainwater over the cladding.

F- Channel Trim: The horizontal trim used to connect and support the soffit at the top of the cladding.

Furring Strip: Long, thin lengths of wood or metal strips used to build out the surface of the wall to facilitate fastening. It is also used to even out imperfections on the wall surface, establish a rain screen, or provide a structural fastening surface on non-structural materials like rigid foam insulation.

Gable: A triangle formed by a sloped roof on the side or front of a house.

Hot Dipped Galvanized: A process whereby metal is dipped into molten zinc to apply a protective coating to prevent corrosion.

H-Channel Trim: Used to conceal cut edges when installing horizontal and vertical cladding or soffit material. The trim covers butt ends or joints as they approach each other. This is mainly for aesthetic purposes.

Lap cladding: Where two pieces of cladding over-lap each other.

Lineal: Moldings of various widths used to trim door and window openings at the jambs. Also known as casings or window/door surrounds.

Mitre Cut: A beveled cut (usually 45 degrees) made at the end of a trim or board, creating a mitre joint.

O.C.: On centre. The distances between the center of two members in a structure, most often studs.

Profile: The contour or outline of a cladding board, viewed from the side.

Rain-screen Wall: This is a method for building walls where the cladding is separated from a membrane by airspace. This allows the equalization of the air pressure behind the cladding and prevents rainwater from being forced in. This is usually created by using furring strips behind the cladding and over the weather-resistant barrier.

Rigid Sheathing: Plywood, OSB, or foam sheathing.

Rim Joist: A board that the rest of the joists are nailed to that run the entire perimeter of the house.

Rip-Cut: A cut made lengthwise on a board or plank along the grain.

Shim: A building material (usually made of wood) used to even a surface.

Soffit: The underside of an overhanging eave. Depending on local building codes, this can be vented or non-vented.

Square: A unit of measure for cladding or roofing equal to 100 square feet of exposure (e.g., $10' \times 10' = 100$ square feet = 1 "square").

Starter Strip: A trim piece used to start the first course (row) of cladding. This ensures a consistent visual line.

Structural Sheathing: A layer of boards, wood, or other materials applied to the outer studs, joists, or rafters to strengthen the structure and serve as a stable base for the exterior cladding.

Substrate: A layer of material applied to the exterior walls of a building.

Weather-Resistant Barrier: A membrane that protects the exterior wall envelope from exterior wind and water penetration.

Before You Begin

- 1. Read the install instructions *completely*. These installation instructions illustrate the "Best Practices" to install ChamClad® cladding and trim. These how-to tips will simplify the process. ChamClad® does not accept any liability or responsibility under their written warranty for product failure caused by improper installation.
- 2. No one can anticipate all questions or conditions which may arise during installation. This Installation Manual is focused on methods, tools, and techniques used for a typical install. Should you encounter something not covered in this manual, please contact ChamClad® customer service.
- **3.** Occasionally you may come across minor irregularities from the manufacturing process that does not affect the aesthetics and performance.

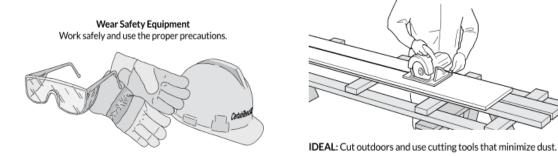
First Steps for a Successful Installation

- 1. Inspect all material for any breakage, defects, damage, and colour before installing. Do not install product that is questionable. Contact ChamClad® customer service or your dealer for assistance. Installing defective material may void your product Warranty.
- 2. Before installing ChamClad® cladding it is very important that installers read and understand the installation recommendations and topics covered in this manual. Such topics include, but are not limited to:
 - a. Local Building Codes
 - **b.** Storage
 - c. Handling
 - **d.** Wall Preparation
 - **e.** Safety
 - f. Proper Tools, Fasteners, and Accessories

Safety

Installer Safety

Safety glasses are required when working with ChamClad®. When cutting with a power saw a dust mask is recommended.



ChamClad® Transportation

When transporting ChamClad® products, keep bags flat. The boards must be supported along the full length. Whenever possible avoid using metal banding. Metal banding will cut into the boards if pulled too tight. Materials are required to be inspected for any accidental damage within 7 days of receipt, recorded on the Bill of Lading, and forwarded to info@chamclad.com. ChamClad® warranty may be voided if damaged product is installed on the wall without prior inspection.

Proper Handling

Always carry ChamClad® cladding by holding it by the narrow edge and pick boards up in the center. ChamClad® pallets should not be stacked more than 2 pallets high and always stored on a flat surface.

Storage of ChamClad®

Products must be on a flat surface which supports the entire length of the boards and should be kept dry & out of direct sunlight (when possible). Do not store or place on asphalt or in areas prone to excessive heat buildup. Cover with a tarp leaving ends open to allow for airflow. Store away from areas where there may be falling objects or construction debris that could cause damage. If stacking product, please ensure it is stable.

ChamClad® packaging is vented to limit the greenhouse effect. Do NOT store uninstalled panels in areas of excessive heat prior to installation; doing so may lead to product distortion.

Note: It is important that product is not stored for long periods where temperatures could exceed 30 degrees Celsius (86 degrees Fahrenheit).

Sealants

Recommended sealants for around windows and doors should comply with the building code. We recommend ASTM 920 Elastomeric Joint Sealants (eg. Tremco Spectrem 2).

BEST PRACTICES GUIDE

INTRODUCTION

These installation instructions illustrate the "Best Practices" to install ChamClad® cladding, and trim. ChamClad® does not accept any liability or responsibility under their written warranty for product failure caused by improper installation.

It is the responsibility of the installer to observe the requirements of the local Building Code as they relate to installation in any given area. Most Building Codes are derived from National Building Codes. In Canada, the primary model is the National Building Code (NBC), which is published by the National Research Council of Canada (www.nrc-cnrc.gc.ca). In the United States, the primary model is based on the International Building Code (IBC), which produces the International Residential Building Code (IRC).

It is the responsibility of the builder or contractor, to understand the local code and how it pertains to the location where ChamClad® is being installed.

GENERAL INSTALLATION REQUIREMENTS

Please check our website for most recent updated changes to Install Manual

Fastener Size is critical to a successful ChamClad® installation; we recommend the following:

• Screws: Use low profile, corrosion resistant or stainless-steel screws long enough to fasten through the pre-punched flange. The fasteners must penetrate the wall to a minimum depth of 1" and allow for the expansion and contraction of the PVC Board. Do not use electroplated fasteners. If using aluminum furring strips, use of self-tapping screw is required. It is important that the fastener head is able to fit inside the nailing slot. Fastener heads that protrude outside of the nailing slot will hinder ChamClad's® tongue and groove locking mechanism.



Exterior Wall
17 Self tapping
Round Washer Lo-root
#8 1 ½"



Soffit & Trims Modified Truss Head #8 1 1/4"

 Note: DO NOT USE a stapler, or nail gun for exterior cladding and soffit panel installation. GLUE IS NOT to be used to fasten strapping or ChamClad® exterior wall boards.

Random ChamClad® Panel Pattern

ChamClad® wall panels are laminated with a repeating pattern (48" x 48"). ChamClad® makes every effort to ensure the patterns are mixed in each bag to minimize repeat patterns. It is suggested to randomly check panels at the job site for repeat patterns and adjust as required.

Dual-Profile (1 Panel, 2 Looks)

ChamClad® offers a simple tongue and groove system with the product stacking from the bottom up. For a U-Channel profile, insert to the first stop. For a V-Groove profile, take a non-marking rubber mallet and tap to the next stop. Does not apply for Shadow Line Panel.

Air Barrier/ Rainscreen

ChamClad® exterior wall panels can be installed over many weather resistant sheet membranes. It is recommended as per CCMC/ ICCES that 6" exterior wall panels are installed on an air barrier/ rainscreen; however, 12" exterior wall panels must be installed on a rain screen. ChamClad® panels may be installed over wood furring strips (min. 7/16"), galvanized steel z-girt (min. 20 ga.) or a continuous 3-dimensional membrane such as home slicker, as per Building Code requirements. ChamClad® exterior wall panels should be fastened every 16-24" O.C. to strapping.

Wall Flashings and Penetrations

Windows, doors, and utility penetrations must be flashed and trimmed properly. It is the responsibility of the installer/designer/builder to ensure it is done to local codes and best industry practice. If sealants are required, ChamClad® recommends ASTM 920 Elastomeric Joint Sealants (eg. Tremco Spectrem 2).

2pc Trim - Vertical Installation

When installing 2pc trims vertically (2pcOutside Corner, 2pc Finish Trim, 2pc H-Trim), in order to prevent downward migration, it is recommended to fasten the base trim at the highest point of the nail slot with all other fasteners located in the centre of the remaining slots (every 12").

Before applying the top cap it is recommended to add a small dab of sealant (1") between the teeth at the top and bottom of the base trim. This is especially important around doors and windows where you are not completing a full perimeter wrap.

Compatibility

ChamClad® products are not compatible with asphalt or products containing asphalt. Do not store bags on asphalt (i.e., driveways or roads) as panels and asphalt should not be in contact with each other. Asphalt, if brought into contact with ChamClad® will leach into the panels and possibly weaken or discolour the product. If ChamClad® products come into contact with asphalt, clean the ChamClad® product immediately with a non-solvent cleaning product.

Temperature Changes & Expansion/Contraction

It is important to remember that ChamClad® materials will expand and contract with regular temperature changes. ChamClad® trims allow for any variance in panel lengths due to expansion/contraction.

When placing fasteners in the center of the designated nail slots, always leave a 1/32" gap between the fastener head and nail flange to allow ChamClad® panels expand/contract as needed.

The below guide provides expansion/contraction examples based on different panel lengths and temperature fluctuations.

Expansion Guide (by temperature shift)

			Length of Panel (feet)			
Temperature Change in						
°Celsius and Fahrenheit		12'	20'	30'	35'	
10		50	0.10	0.17	0.25	0.29
20		68	0.20	0.34	0.50	0.59
30		86	0.30	0.50	0.75	0.88
40		104	0.40	0.67	1.01	1.17
50		122	0.50	0.84	1.26	1.47
<mark>60</mark> (0	Optimal Gap)	140	<mark>0.60</mark>	<mark>1.01</mark>	<mark>1.51</mark>	<mark>1.76</mark>
70		158	0.70	1.17	1.76	2.05
80		176	0.80	1.34	2.01	2.35
90		194	0.90	1.51	2.26	2.64
100		212	1.01	1.68	2.51	2.93
ChamClad's Coefficient of Linear Expansion (CLE): 0.0000698		Total Expansion/Contraction Per Panel (inches)				

Example using ChamClad® products

The change in length of any material because of expansion and contraction is dependent on 3 factors:

- The Coefficient of Linear Expansion (CLE) of the material.
 For ChamClad[®] Panels, the CLE is 0.0000698 in/in/°C
- 2. The original length of the material at time of cut

3. The net change in temperature

Change in length (inches) = (Original Length in inches) x (Temperature Change in °C) x (CLE in in/in/C units)

If there is a 12' (144") ChamClad® length that goes from 20°C (68°F) to 0°C (32°F), it will contract, theoretically, by this amount:

144 x 20 x 0.0000698 = 0.20" or 7/32"

For example, if installed in 20°C (68°F), the final length of a 144" long ChamClad® panel at 0°C (32°F) would become 143.80"

When temperatures return to 20°C (68°F), it is expected that the PVC material will expand and return to 144" in length.

General Rules

Based on a temperature change of 60°C (140°F), for example: 0°C (32°F) in cooler months and reaching 60°C (140°F) in warmer months:

For panel lengths up to 20' leave a 1/2" gap per side; 20' or longer leave a 3/4" gap per side, and use larger faced trims (3.5" 2pc Finish Trim, 2.5" 2pc Outside Corner, larger faced H-Trim). **See Guide on page 10 and allow for gaps accordingly.**

It is imperative that ChamClad® panels are cut to fit the coverage of trim pieces. The temperature the day of installation factors into the expansion and contraction gap you leave. If installing on a cooler day allow for more expansion and a larger gap; if installing on a warmer day allow for less expansion and a smaller gap.

Touch Up Pens – Application Instructions

PREPARATION: The areas to be touched up must be dry and free from dust, dirt, and grease. Before each use, shake Pen for approximately 30 seconds. Rattle of mixing balls must clearly be heard.

DE-AERATION: Due to exterior influences (heat) an overpressure may develop. To prevent blotching, the pen must be de-aerated. Put pen with tip pointing downwards onto a solid, non-soaking surface and press down – hold for 2 seconds, release and repeat procedure until tip is filled with touch- up (7-10 times may be necessary).

APPLICATION: Touch down pen tip at a flat angle (about 45 degrees) using light pressure. The valve opens and touch-up flows continuously. With the new designed tip, you can work precisely on hard-to- reach areas. Different stroke widths can be easily applied. Touch up rapidly with one stroke using light pressure. **Important: Do not apply another coat of touch up until first coat has dried (approximately 3-5 minutes).** If opacity decreases, shake pen again and de-aerate as described above. If touch-up flow decreases, simply pump again. Put cap on immediately after use — cap has to snap with a "click". Over time, tip may become blocked with pigment sediments. If this occurs, replace tip with a new one, shake Pen well and repump.

CHAMCLAD® EXTERIOR WALL CLADDING - 6" & 12" PANELS







2 pc H Trim 2.75" Face (2" 2pc face also available)



Universal J Trim



Starter Strip

**Touch up Pens are available in all colours see page 11

Shadowline Series

(See assembly drawings on page 26)

The exterior Shadowline Series is installed the same as our traditional 6" wall panel. The distinct squared edges of the Shadowline profile are enhanced with a deep 1/4" (6.35mm) groove that reflects natural sunlight and creates defined shadow lines. Black PVC pigments, imbedded in the panel, are UV stable, heat reflective and provides depth to each groove – resembling a slat cladding system. The Series consists of a 6" exterior wall panel that will provide a full 6" reveal, a 6" panel that is sectioned into two 2 x 3" reveals and a 12" panel that is sectioned into 6 x 2" reveals.



7" 2 Piece Column Wrap

(See assembly drawings on page 26)

Our innovative 7" 2 piece column wrap (non-load bearing) design results in clean lines and an overall modern and precise appearance. This 2 piece system is environmentally friendly and easy to install over any wood or steel post; extremely durable, UV protected and scratch and grafitti resistant. Column interior measurements are 6" x 6.5".

To Install:

- Wrap column around wood post using 2pc laminated column. Columns
 can be pressure pressed together or use a non-marking rubber mallet to
 assemble the two pieces of column wrap.
- Prepare the column wrap by pre-drilling two holes (top and bottom) large enough to insert a spray foam nozzle in order to prevent any noise due to access movement. Apply spray foam between wood post and column wrap and secure until spray foam dries and column wrap is fixed in place. Other options could be use of shims to prevent the column wrap from rattling.
- Cut trims at 45 degrees.
- Use touch up paint to finish exposed mitered surface of the trim ends.
- Assemble the trims on top and bottom of the column wrap, ensuring to hide any holes created by spray foam application.
- Fasten trims against column wrap using 1.5" finishing nails (or similar) to secure in place.
- Touch up finishing nail heads.



EXTERIOR WALL & SOFFIT PANEL GUIDELINES

HORIZONTAL INSTALLATION - 6" and 12" Panels

(See assembly drawings on page 26)

Use a level to produce a guideline around the entire building and mark with a chalk line.

- Snap line where the starter strip will be installed.
- When installing air barrier/ rainscreen, use either furring (16-24" O.C.) or steel furring every (16-24" O.C.) vertically across the wall or a continuous 3dimensional membrane (homeslicker)
- Install a ChamClad® Starter Strip fastening every 12" (1/32" gap from fastener head to nail flange to allow for horizontal expansion and contraction) Install panel 2" above grade or ½" above concrete (set Starter Strip accordingly) following local building codes.
- Install flashing and trim bases around windows, doors, utility box fixtures, and all
 other penetrations through the wall cladding. We recommend all ChamClad®
 accessories be fastened every 12". It is common industry practice to align all
 vertical and horizontal trims on the same wall to ensure a visually clean look.
- Install ChamClad® panels using the first or second nail slot continuing every 16-24" O.C., ensuring that screws are placed in the middle of the nail slots to allow for proper expansion and contraction.
- Begin installing your bottom courses of ChamClad® wall panels using low profile screws (ChamClad® #17 Self tapping Round Washer Lo-Root #8 1 ½"). When installing panel lengths 20' and over, it is recommended to use the large faced trims to allow for appropriate expansion and contraction. Check every three or four courses to ensure that ChamClad® wall panels are level and that adjacent panels are aligned horizontally.
- Except where designated in this manual, fasteners must be placed in and through the **center** of the nail slot. The fastener must be installed straight and not at any angles. The head of the screw or crown should allow for the thickness of a dime (roughly 1/32") behind the face of the mounting hem to allow for expansion and contraction of the ChamClad® panels.
- If you need to apply a fastener in a section that does not have a manufacturers pre-drilled hole, you MUST pre-drill a nail slot to allow the panel to expand and contract without restriction. (Nail slot punch may be used).

- With each course of ChamClad® panels, proper gaps must be left between the end of the wall panel and the track of the base trims for expansion and contraction. Please refer to pages 10&11 for guidelines and examples.
- Application of all 2pc trim top caps is the last step to completing a ChamClad® panel installation. Ensure not to overdrive the trim tops to the point where panels can no longer expand and contract due to tightness.
- ChamClad® exterior panels may be used in beam, post or column wrap applications. When installing horizontally begin with installation of the bases of the 2pc Outside Corner on all corners. Continue with installing starter strip between corners at the base and 2pc Finish Trim between the corners at the top. Install all courses of ChamClad® panels and complete with the installation of the 2pc Corner Cap. When installing vertically replace starter strips with 2pc Finish Trim or a 1pc Universal J trim. See detailed assembly drawings on page 26.

Notes:

- It is recommended as per CCMC/ ICCES that 6" exterior wall panels are installed on an air barrier/ rainscreen; however, 12" exterior wall panels must be installed on a air barrier/ rain screen.
- DO NOT BUTT JOIN WALL BOARDS you MUST use an H-Trim. Leave a proper gap inside the H-Trim to allow for expansion and contraction (refer to pages 10&11). Do not install the H-Trim top cap until all wall panel courses are up.
- Based on a temperature change of 60°C (140°F), for example: 0°C (32°F) in cooler months and reaching 60°C (140°F) in warmer months: For panel lengths up to 20' leave a 1/2" gap per side; 20' or longer leave a 3/4" gap per side and use larger faced trims (3.5" 2pc Finish Trim, 2.5" 2pc Outside Corner, larger faced 2.75" H-Trim).
- Installation in weather colder than -20°C (-4°F) is not recommended due to
 potential chipping or cracking of the panels. Should that occur warranty may be
 voided.
- When installing final top horizontal panel, trimming the full length of the panel at a 45-degree angle may ease installation of last panel. Oversized nail slots must be added manually.
- Steel stud framing, associated sub girts & fasteners to be installed as designated by the appropriate design professional OR must be a minimum of 20 gauge or lower and installed 16-24" O.C..
- Note: DO NOT USE a stapler, or nail gun for exterior cladding and soffit panel installation
- Note: GLUE IS NOT to be used to fasten strapping or ChamClad® exterior wall board

EXTERIOR VERTICAL INSTALLATION – 6" and 12" Panels

(See assembly drawings on page 26)

- To install vertical cladding, position strapping horizontally or diagonally (at a 45° angle) with 12"-16" spacing. If horizontal, leave 2" gaps between straps every 3'-4' to allow any envelope moisture to escape. A continuous, 3-dimensional membrane with a vertical drainage cavity may also be used as a rainscreen (i.e., Homeslicker and follow manufacturers recommended install procedures). Always check and follow local Building Codes.
- Snap a level chalk line around the base of the building and install universal J-Trim that will act as a starter strip, fastening every 8 - 12". Prior to install, drill 3/16" weep holes in bottom of universal J-Trim 4" from ends and every 18"-24" to allow for drainage.
- Determine the center of the wall and install 2 starter strips back-to-back (spaced 1 7/8" apart) and 1" above the universal J-Trim, fastening every 12". Ensure proper vertical backing is behind starter strips. (See drawing #0.0.10)
- Continue installing bases of all 2pc. Outside Corners, H-Trims and Finishing Trim, fastening every 12". Please note all 2 pc trims require solid backing. We recommend all ChamClad® vertical panels and accessories be fastened every 12".
- Begin panel installation by positioning first panels into starter strips (working outward from wall center in both directions). It is good practice to fasten at the highest point of the nail slot at the top of each panel to limit downward migration. Balance of screws to be fastened in the center of nail slots and should allow for the thickness of a dime (1/32") between the screw head and the face of the nail slot.
- To complete the install, apply the top caps of all 2pc. trims using a non-marking rubber mallet tapping gently until it locks in place. Do not over drive the trim top cap to the point where the panels can no longer expand and contract due to tightness. If required, use a shim to help prevent the top cap from going deeper than needed.
- ChamClad® exterior panels may be used in a post or column wrap application.
 When installing in a vertical orientation, begin by installing all bases of 2pc
 outside corners on all corners. Continue with installing 1pc Universal J Trim or
 2pc Finish Trim between the Outside Corners at the base (punched with weep
 holes if required) and 1pc Universal J Trim or 2pc Finish Trim between the
 corners at the top. Apply all vertical panels and fasten at the highest point of the
 nail slot at the top of each panel to limit downward migration. To complete install,

apply top cap of the 2pc Outside Corner. Avoid over driving corner caps so panels can freely expand and contract.

NOTES:

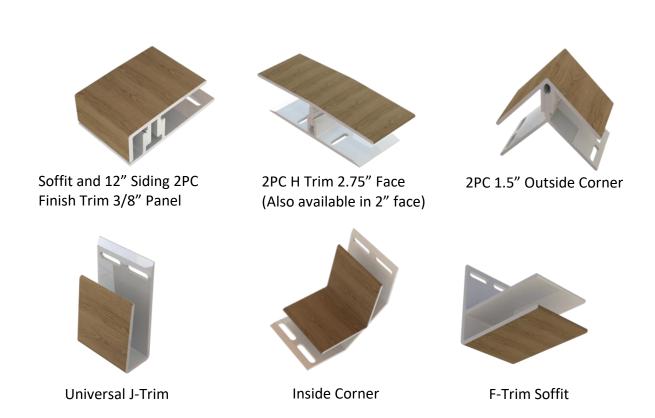
- Attach 6" or 12" exterior wall panels using exterior wall 17 round washer lo-root (Truss Head Screw) #8 1 ½". all trims to be attached using low profile (Modified Truss Head) screws 1¼" corrosion resistant or stainless steel. Screws must penetrate structural framing members.
- It is recommended as per CCMC/ ICCES that 6" exterior wall panels are installed on an air barrier/ rainscreen; however, 12" exterior wall panels must be installed on a rain screen.
- Install vertical exterior panels to structural framing members when using nonstructural sheathing, drywall, or foam. Install exterior panels a minimum of 2" above finished grade or as per local building codes. Allow 1/2" above deck or concrete.
- At every floor level, it is recommended to break the installation through the use of a thru-wall flashing (supplied by others) or a ChamClad® H-Trim and restart following steps above. The first course of cladding ends in the bottom of the H-Trim with the second course starting in the top of the H-Trim following steps listed above. Always confirm local building code requirements.
- Except where designated in this manual, it is critical that fasteners are installed in
 the manufacturers pre-drilled holes. If you need to apply a fastener and it is in a
 section that does not have a manufacturers pre-drilled hole, you MUST pre-drill a
 nail slot (using a nail slot punch) to allow the panel to expand and contract
 without restriction.
- Based on a temperature change of 60°C (140°F), for example: 0°C (32°F) in cooler months and reaching 60°C (140°F) in warmer months: For panel lengths up to 20' leave a 1/2" gap per side; 20' or longer leave a 3/4" gap per side and use larger faced trims (3.5" 2pc Finish Trim, 2.5" 2pc Outside Corner, larger faced 2.75" H-Trim).
- Installation in weather colder than -20 °C (-4°F) is not recommended due to potential chipping or cracking of the panels. Should that occur warranty may be voided.
- Note: DO NOT USE a stapler, or nail gun for exterior cladding and soffit panel installation
- Note: GLUE IS NOT to be used to fasten strapping or ChamClad® exterior wall board.

CHAMCLAD® EXTERIOR SOFFIT/FASCIA CLADDING

-4", 6" & 12" PANELS



CHAMCLAD® Exterior Soffit Trims



EXTERIOR SOFFIT INSTALLATION - 4, 6 & 12" PANELS

(See assembly drawings on page 26)

- ChamClad® soffit is designed to be installed in a similar manner to exterior wall
 products. Installers with moderate knowledge of common building practices will find it
 simple to install. The information provided in this guide is believed to be reliable;
 however, no guarantee is given as to conforming to local building codes, please always
 reference these codes before installing.
- ChamClad® solid soffit panels are available in 4", 6" and 12". The 4" panels are available in 12' and 20' lengths, 6" panel in 9',12', 14', 20', 30', and 35' lengths. Both 4"and 6" panels come in our Dual Profile design. Our 12" solid panel is available in a Seamless Profile design in 12' and 20' lengths.
- Verify that soffit substrate is even and level across all surfaces. Installers may need to install shims to achieve a consistent surface to attach the ChamClad® products to.
- If the eave span is greater than 16", additional blocking must be installed at 12-16" O.C.
- Attach ChamClad® boards at 12- 16" O.C. using Low Profile #8 (Modified Truss Head) screws 1 ¼". On exterior soffit installations maintain the proper expansion/ contraction distance from the end of the board and the required accessory (universal J-Trim, 2pc H-Trim, F-Trim or 2pc Finish Trim refer to Expansion Guide page 10&11).
- During the installation process, it is important that the soffit material is installed to
 freely allow expansion and contraction with changes in temperature. Please allow for a
 1/32" gap from the fastener head to the nail flange. If installed without this allowance,
 ChamClad® soffit panels may warp or buckle. Due to our PVC's recycled composition,
 ChamClad® soffit will not swell if exposed to moisture.
- Depending on the design of the soffit, ChamClad® boards may be installed parallel or perpendicular to the exterior walls. It is important that each board be fastened at every joist or rafter every 12"-16" OC. using Low Profile #8 (modified truss head) screws. Install additional courses and check alignment to either side of the line. Check that proper gaps according to the typical weather conditions are maintained to allow for

proper expansion/contraction



Soffit – Parallel to Building

Soffit – Perpendicular to Building Please note that all 2pc trims require solid backing. All trims must be fastened at 8-12" O.C. When wrapping fascia through soffit, install Outside Corner horizontally along the bottom of the fascia. The top portion serves as a starter for the fascia with the underside portion being the starter for the soffit.



- When installing vented soffit panels, it is recommended to alternate between solid and vented panels. Always begin installation with a solid soffit panel. Do not over torque screws when installing soffit. When installing in long lengths install from one side working your way down to avoid buckling. Confirm requirements with local building codes.
- For both 6" and 4" x 12' vented soffit panels, the ventilation area is 13.25 sq. in. per board and 20' vented soffit panels, the ventilation area is 22.08 sq. in. per board. ALWAYS reference building code when calculating ventilation requirements.
- The 12" soffit panel is available in a solid profile only. Additional soffit venting (supplied by others) is required.
- ChamClad® exterior soffit and cladding experiences thermal contraction and expansion as follows: in an area where temperature ranges from -30°C to + 30°C (-22°F to 86°F), a 20' exterior soffit panel may expand in length up to 3/4" per side. Allow the product to be acclimated for a minimum of 24 hours before install.
- Allow a minimum of a 1/2" per side for expansion when installing 12' panel in moderate temperatures (refer to pages 10 & 11 for expansion/contraction guidelines).
- Where more than one soffit length is needed, an H-Trim is required to cover the expansion/contraction gap. DO NOT BUTT JOIN PANELS.
 Please note 2pc trims require solid backing.
- When installing Trims and Soffit panels, it is important to use low profile #8 (modified Truss) head 1 ¼" screws and fasten solid soffit and vented panels every 12"- 16" and all trims fastened every 8"-12". In high wind areas all soffit panels should be fastened 12" O.C.
- When installing final panel, trimming excess panel at a 45° angle at the full length of the panel may ease installation of last panel. Nail slots must be added manually
- NOTE: 4" and 6" soffit panels may NOT be used in exterior WALL application as improper use will VOID WARRANTY.
- DO NOT install infrared heaters into a soffit or ceiling application!



4" Interior Wall & Ceiling Panels

6" Interior Wall & Ceiling Panels

12" Interior Wall & Ceiling Panels Seamless panel

NOTE: 4" & 6" panels available in v-groove and u-channel profiles.

Interior Wall and Ceiling Trims







Universal J-Trim



2PC 1.5" Outside Corner Trim (small face)



1.5" 2PC H Trim (Also available in 2.75" face)



2PC Interior wall & Ceiling Finish Trim



F Trim

INTERIOR HORIZONTAL INSTALLATION – 4",6" & 12" Panels

(See assembly drawings on page 26)

- ChamClad® Interior Horizontal panels are installed similar to Exterior Horizonal panels; please refer to Exterior Horizontal Guidelines on page 14.
- Always allow ChamClad® boards and accessories to acclimatize to current temperature conditions before starting the installation. Temperature variations are less on an interior installation.
- Verify that the walls and soffit substrates are even and level across all surfaces. Furring
 may be required to acquire a consistent surface to attach ChamClad® panels.
- Establish a level guideline using a chalk line on all wall areas to be covered with ChamClad® wall cladding, where the bottom of the lowest board is to be installed.
 Depending on the look or finish that is desired, the installer may use a starter strip or a universal J- Trim. Since this is an interior wall, no drain holes need be drilled into the bottom of the universal J-Trim.
- Install universal J-Trims or 2pc Finish Trims in areas where ChamClad® wall panels meet other finishes. Also install J-Trims or 2pc Finish Trims at all windows, doors, and other penetrations. It is common practice to fasten wall panels at 16- 24" O.C.. Every few courses of wall panels, the installer should check for horizontal alignment and level.
- Where the interior wall meets the ceiling, and depending on design requirements, use the ChamClad® 2pc Finishing Trim. Install all trim bases first and once ChamClad® wall panels are installed to the top course, finish off by installing the top caps.
- When joining ChamClad® interior wall panels, use 2pc H-Trim to connect panels. It is recommended to align the ChamClad 2pc H-Trim with other trim elements on the wall.
- On Interior applications, fasten trims (12-16" O.C.) and panels (16–24" O.C.) using #8
 Low Profile (Modified Truss Head) screws 1 ¼". Panels must be attached to structural
 framing members.

DO NOT USE STAPLERS/PNEUMATIC STAPLERS FOR INTERIOR OR EXTERIOR APPLICATIONS.
*DO NOT USE 4" and 6" INTERIOR panels in exterior applications. The use of 4" and 6" Interior wall panels on an exterior wall will void the warranty.

INTERIOR VERTICAL INSTALLATION

- ChamClad® Interior Vertical panels are installed similarly to Exterior Vertical panels; please refer to detailed Vertical Exterior instructions on page 17.
- Always allow ChamClad® boards and accessories to acclimatize to current temperature
 conditions before starting the installation. Temperature variations are less on an interior
 installation, but the same requirement applies.
- Verify that the walls and ceiling substrates are even and level across all surfaces. Furring may be required to acquire a consistent surface to attach ChamClad® panels.
- Establish a level guideline using a chalk line on all wall areas to be covered with ChamClad® wall cladding, where the bottom of the lowest board is to be installed. As in the Exterior Vertical Installation, use a universal J- Trim to start application. As this is an interior wall, no drain holes are required to be drilled into the bottom of the universal J-Trim.
- Commence application with installation of all trims at 12-16" O.C..
- When covering entire wall area, install starter at mid-point of wall and align V or U
 groove to the centre of the wall and work outwards from either side. Install balance of
 trim bases as per exterior vertical installation and finish wall application with installation
 of 2pc trim covers. It is good practice to fasten at the highest point of nail slot at the top
 of each panel to limit downward migration.
- If applying interior vertical panels as a feature on a portion of a wall area, use full panels (cut to height) in order to maximize overall appearance. Begin with installation of component pieces and base trims; followed by installation of all wall panels (working left to right) and complete with application of component top caps. Attach panels to structural framing members.

DO NOT USE Electric Staplers/Pneumatic Staplers for INTERIOR OR EXTERIOR APPLICATIONS. Installers to use a non- corrosive Low Profile #8 Modified Truss Head Screw 1 1/2".

DO NOT USE 4" and 6" INTERIOR panels in exterior wall applications. The use of 4" and 6" Interior wall panels on an exterior wall will void the warranty.

INTERIOR CEILING INSTALLATION – 4", 6" & 12" Panels

(See assembly drawings on page 26)

- ChamClad® interior wall panels may also be used as a ceiling finish. Installed like ChamClad® exterior soffit panels refer to page 19.
- Always allow ChamClad® boards and accessories to acclimatize to current temperature
 conditions before starting the installation. Temperature variations are less on an interior
 installation, but the same requirement applies.
- Verify that the wall and ceiling substrates are even and level across all surfaces. Furring
 may be required to achieve a consistent surface to attach ChamClad® panels. Install
 furring strips (1x3") at 12-16" O.C. perpendicular to the joist.
- We recommend all ChamClad® accessories be fastened every 12-16"
- Fasten at each furring strip, which should be 12-16" O.C. Once you have installed a few courses of ChamClad® ceiling panels, check for alignment of the perpendicular or parallel adjacent vertical wall. Where you are placing panels end to end, use H-Trim to finish the joint.
- Install the remaining ChamClad® panels and check for alignment. When using the 2pc finish trim install the top cap onto the base to finish the installation.

4" and 6" interior panels must be used for soffit applications, interior covered deck areas, barrel ceilings, sun porches, interior walls, and ceilings. The use of these panels on an exterior wall will void the warranty.



ChamClad® 6" Atlantic White Ceiling Panels

ASSEMBLY DRAWINGS

HORIZONTAL EXTERIOR

o see drawings 0.0.3 & 0.0.5

VERTICAL EXTERIOR

o see drawings 0.0.8 & 0.0.10

SOFFIT DETAILS

o see drawing 0.0.15

PILLARS & BEAMS

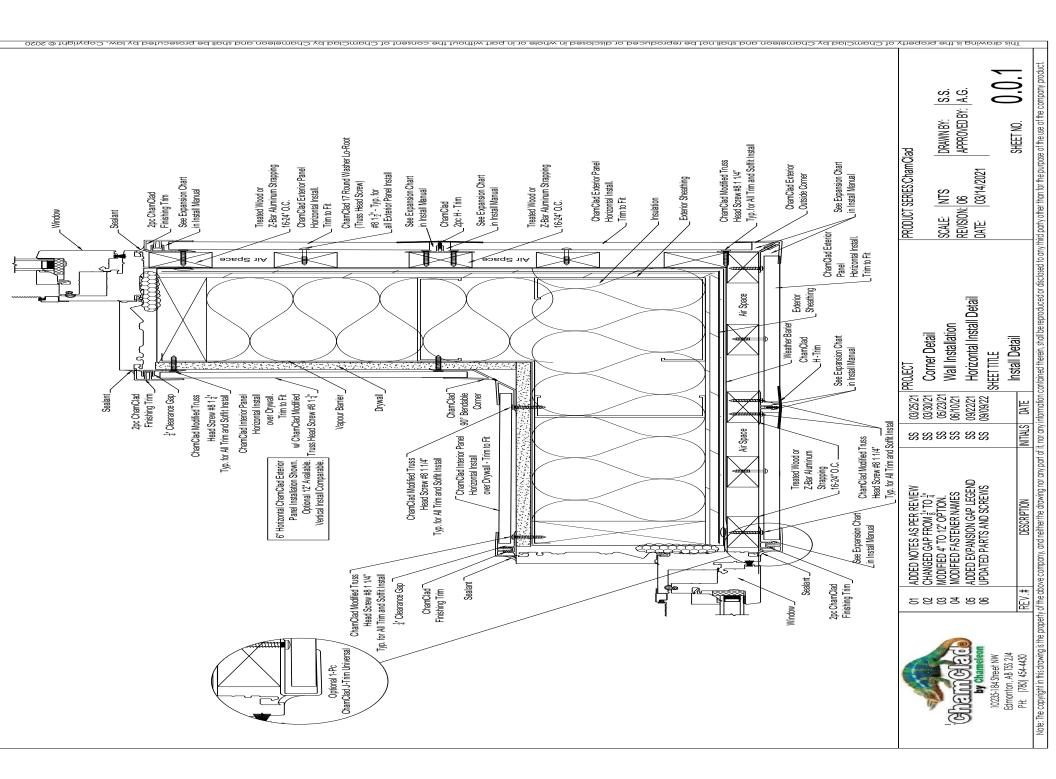
o see drawings 0.1.1, 0.1.5 & 0.0.16

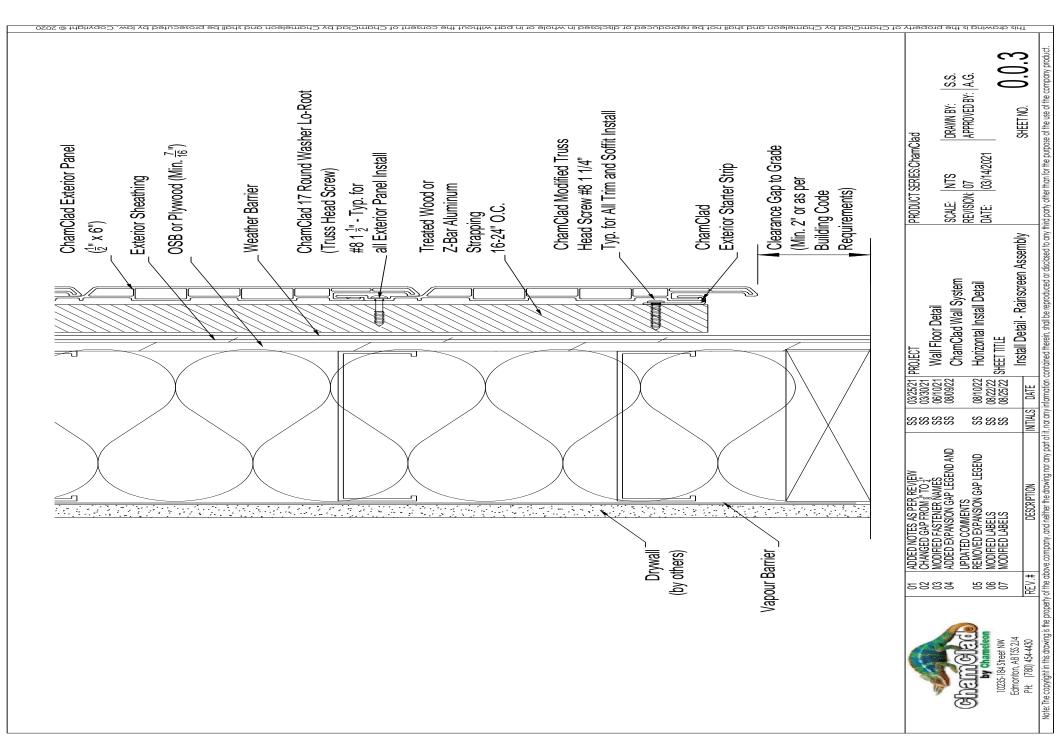
INTERIOR HORIZONTAL

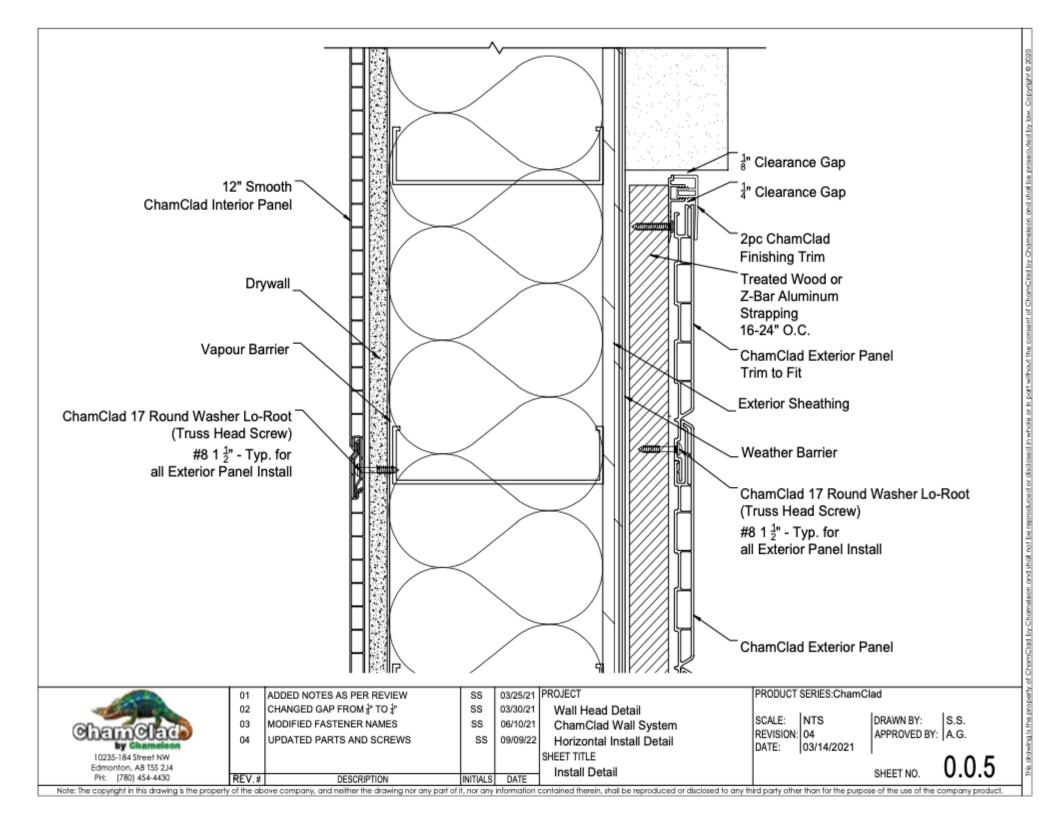
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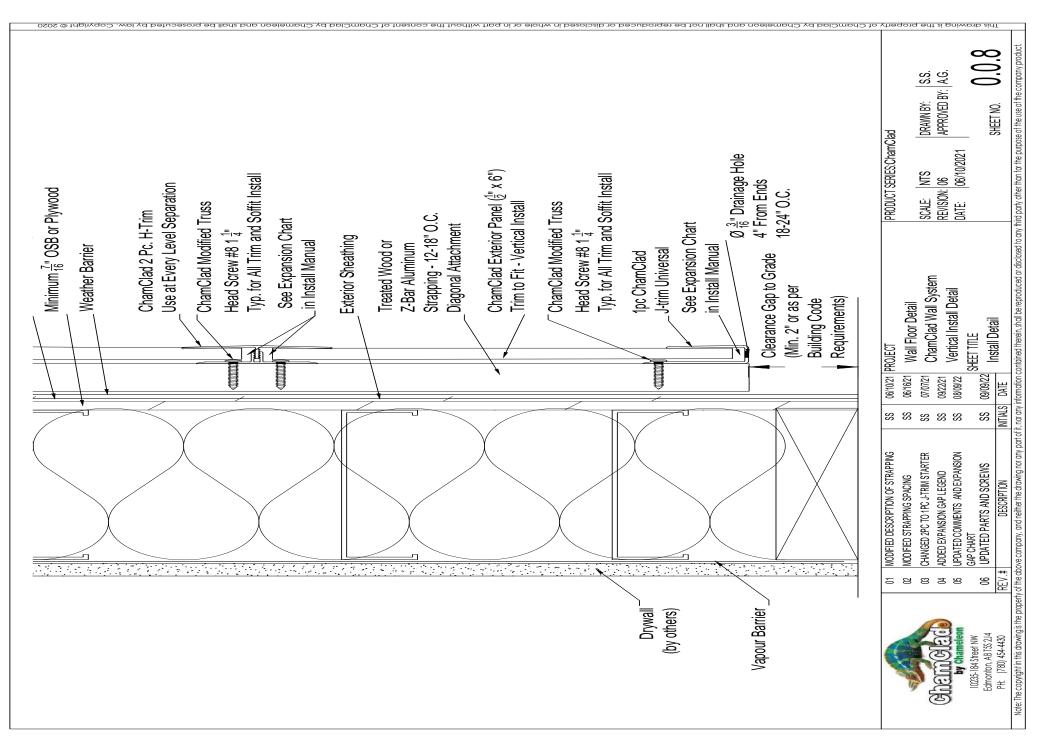
INTERIOR CEILING

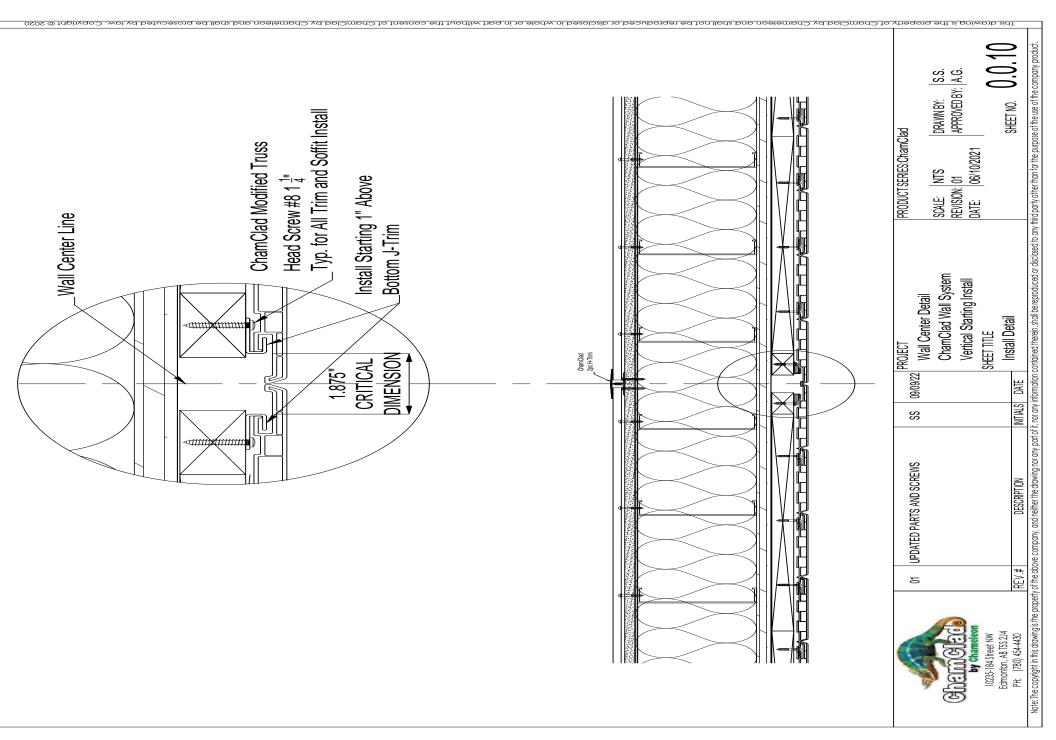
o see drawing 0.0.13

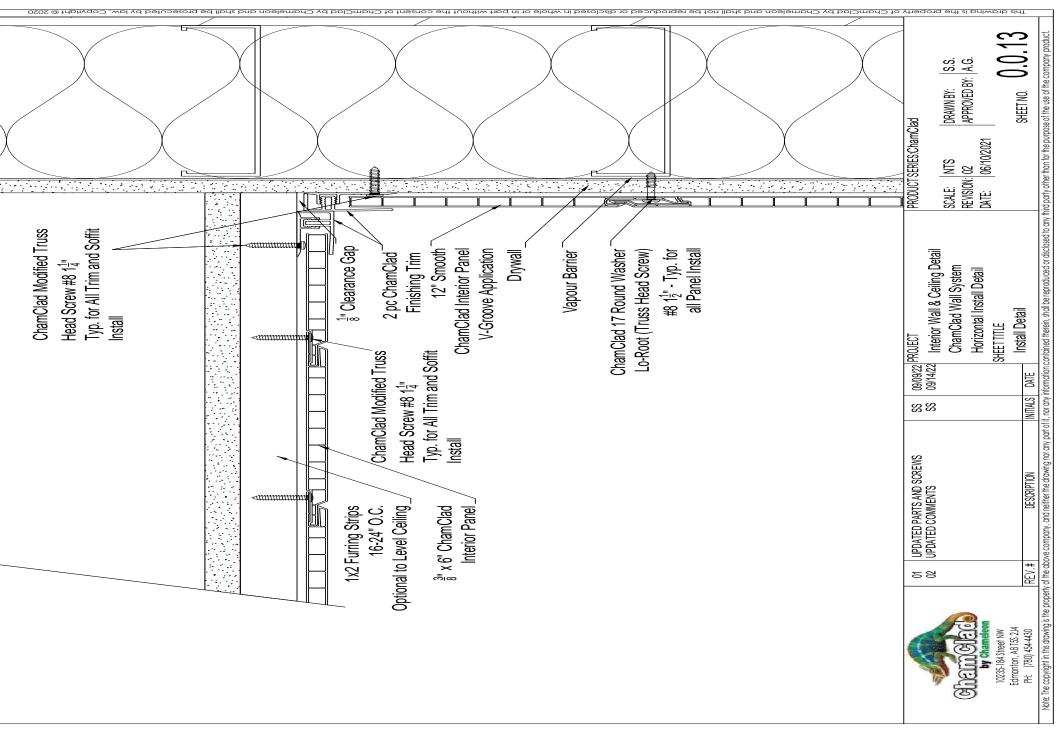


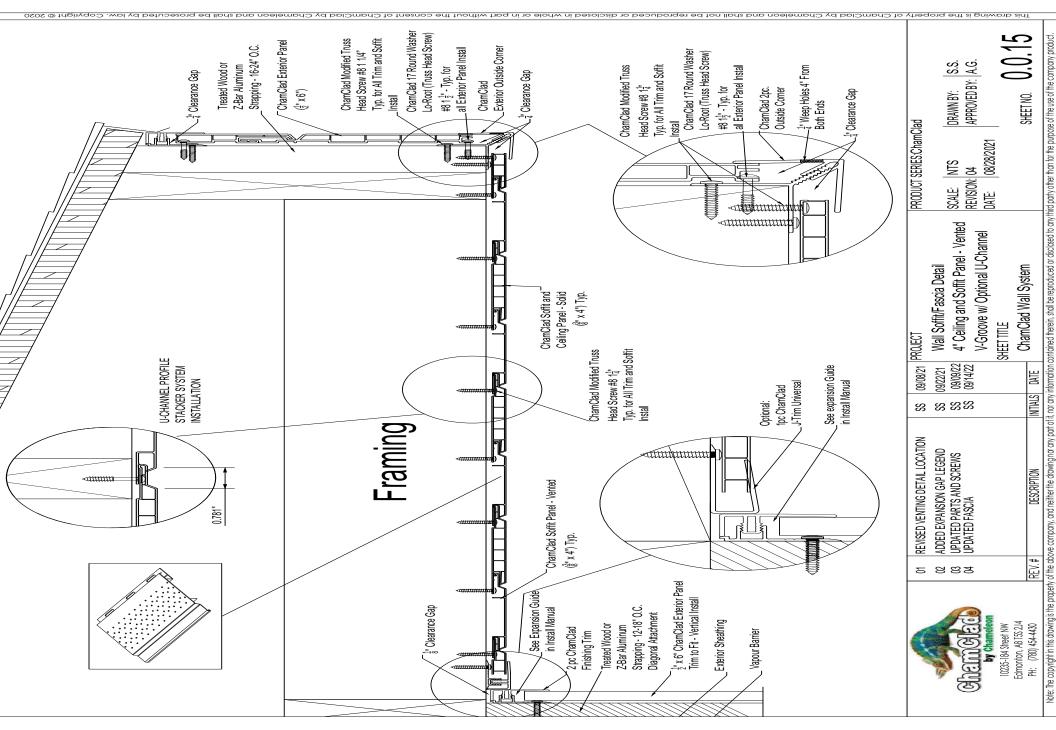


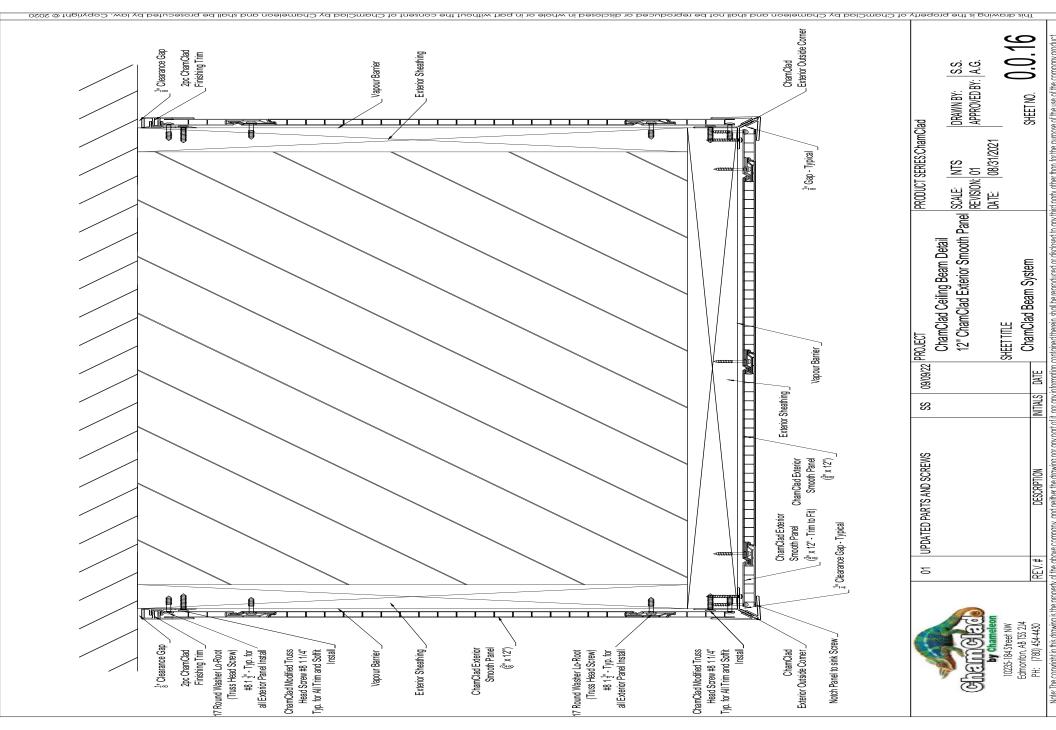


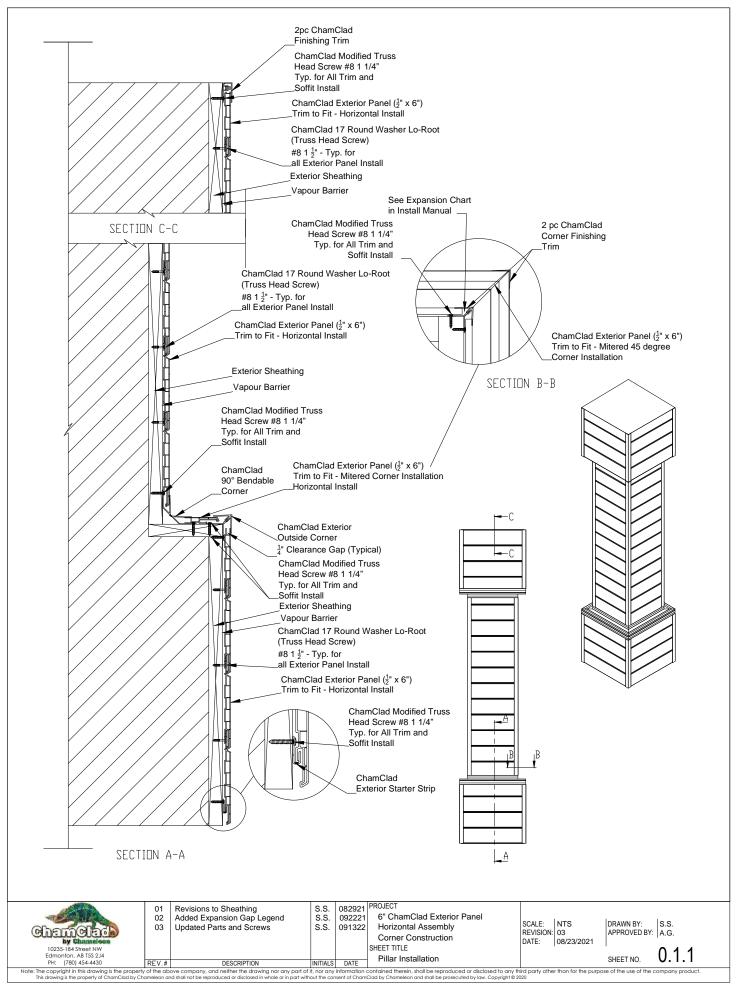


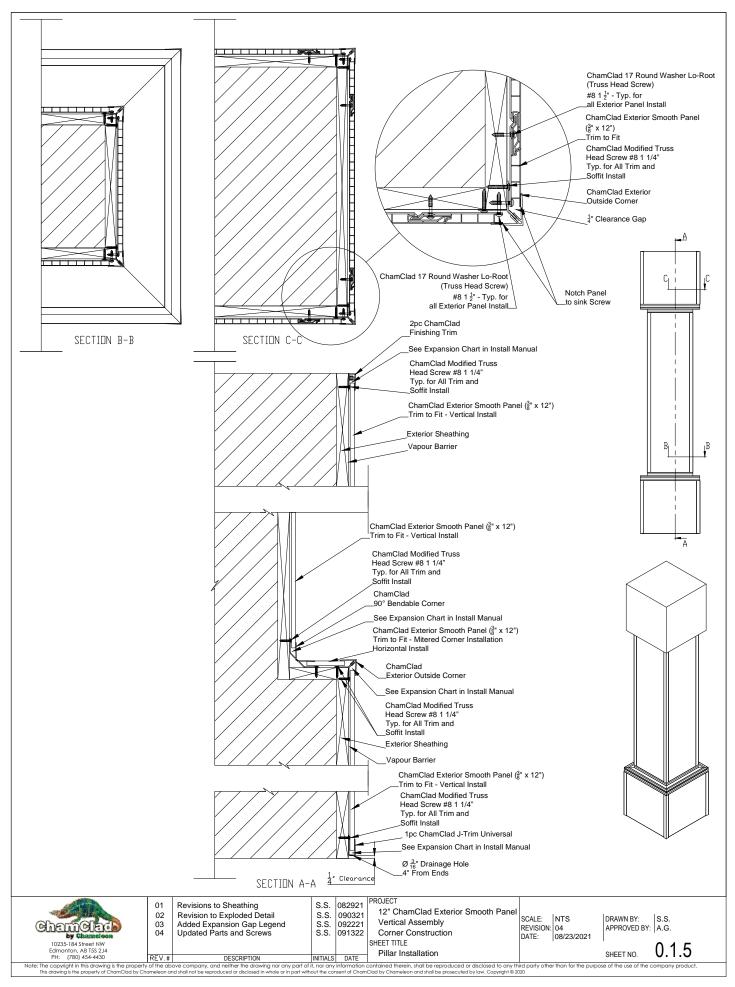












Care and Maintenance of ChamClad® Exterior Wall Panels

ChamClad® products are designed to be low maintenance and our Laminate Films have exceptional properties that ensure ease of cleaning and surface longevity. They are highly ultra-violet, pollution, and salt air resistant. The film's low surface tension makes it inherently dirt-repellent and therefore easy to clean. ChamClad® finishes include anti-graffiti properties and in most cases can be easily removed with a mild kitchen detergent and warm water. Should you experience removal difficulties, please contact us at info@chamclad.com.

In normal or urban environments, where atmosphere is considered to have low pollutants, we recommend cleaning every 12-18 months. In areas subject to high-pollutants such as industrial or coastal environments, we recommend cleaning more frequently – every 8-12 months.

- Using a soft bristled nylon brush attached to a garden hose, clean the surface
 with a mild PH neutral soap or non-abrasive kitchen detergent in warm water.
 DO NOT USE abrasive, erosive, or caustic solvents to clean ChamClad® panels as
 they can damage the panel finish and will void the warranty.
- To avoid streaking start at the top of the wall working your way to the bottom.
- Follow with a thorough rinsing of fresh water to ensure that substances such as airborne salts, dirt and pollutants are removed.
- Always remove unintentional paint splashes, stucco spills, etc. immediately to prevent the possibility of permanent staining.
- Do NOT pressure wash as this could damage the protective coating layers of ChamClad® Exterior wall panels and will void the Warranty.

Provided that Regular Care and Maintenance practices are followed, ChamClad® Exterior wall panels will provide long term performance and protect your investment.

Installation Tips - at a glance.

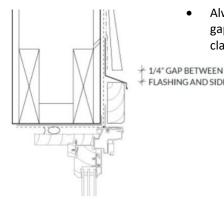
Do

Don't

- 1. Before You Start
- Review the installation manual and all local building codes before starting the install.
- Don't install damaged or questionable materials. Check all products and call ChamClad® customer service.

- 2. Storage and Handling
- If storing cladding outside when possible, keep out of direct sunlight.
- Don't allow panels to come in contact with asphalt or in areas prone to excessive heat buildup.
- Store on a flat level surface cover with a tarp leaving the ends open for air circulation.
- Don't use abrasive cleaners or solvents to clean ChamClad cladding.
- Carry ChamClad® panels by holding it by the narrow edge and pick boards up in the center.

3. Flashing



Use non-corrosive flashing.

FLASHING AND SIDING

- Always leave a minimum of 1/4" gap between the bottom of the cladding and metal flashings
- Don't use uncoated aluminum or other metal materials.

- 4. Wraps and Sheathing
- Install horizontal and vertical exterior cladding to structural framing when using nonstructural sheathing, drywall, or foam.
- Cladding must be installed onto structural framing/sheathing and over a water-resistant barrier in accordance with local building codes.
- Don't fasten ChamClad® cladding over non-structural framing or sheathing (e.g., foam) without reestablishing a structural surface like a rain screen or furring strips.

5. Clearances

- Install exterior cladding at least 2" or as per building code requirements above finished grade. Allow ½" above deck or concrete.
- Refer to the ChamClad® expansion/ contraction guidelines on page 10&11 in order to allow for proper spacing beneath trims.

6. Cutting

- Carbide-tipped blades with 100+ teeth are recommended. (Aluminum blades are optimal)
- If using a circular saw, cut cladding face down on a clean surface.
- If using a cut-off saw, cut face up.
- Don't score or snap ChamClad® exterior cladding.
- Don't cut ChamClad® with a coarse saw blade to avoid chipping or damaging the panel.

7. Butt Ends

 If attaching ChamClad® cladding end to end, use H-trim and cut boards to the appropriate length to allow for expansion and contraction.

- DO NOT butt join.
- Don't place boards into H-Trim without proper gap for expansion and contraction (refer to chart on page 10&11).
- Do not leave gaps between two butt ends without utilizing an H-trim. Do not glue butt ends.

8. Fastening

- Screws must penetrate the structural framing members.
- Structural sheathing should be 7/16"
 OSB or plywood or as per the local building code.
- Fastener must be installed into the center of the nailing slot.
- Always double strap beginning and end of panels.
- Fasteners must penetrate a minimum of 1 ¼" into the structural framing.
 Structural sheathing is a minimum of 7/16" OSB or ½" plywood.

- Don't counter sink or angle the fastener.
 PVC cladding must be hung and be allowed to expand and contract freely.
- Don't use galvanized screws.
- Don't use soffit staples, D-head nails, finishing nails or glue to install exterior.
- Don't fasten panel into the bottom of trims.
- Don't exceed recommended spacing between fasteners.

- Stainless fasteners or corrosion resistant are recommended.
- Use 17 Self tapping Round Washer Lo-Root #8 1 ½" corrosion resistant screws to install ChamClad® cladding (self-tapping for steel studs or furring strips). #8 Modified Truss Head 1 ¼" are recommended for soffit, trims, and interior applications.
- Always leave a 1/32" gap (width of a dime) between the fastener head and nailing slot.

Additional Tips

- Use ChamClad® touch-up pens to cover any exposed PVC substrate due to cutting or a surface scratch.
- Use backing on all trims
- Fasten panels 16-24" OC
- Fasten trims 8-12" OC
- Fasten Soffit at 12-16" OC
- Use centre of nail slots.
- Cut panels shorter to allow for expansion/contraction clearance. See expansion guide on page 10 & 11
- Use non marking Rubber mallet or hand pressure to install system Vgroove and 2pc trims.
- Break vertical installation at every floor level using ChamClad H-Trim or flashing detail (supplied by others).

10. Screws

- Must use corrosion resistant or stainless steel, low profile (low root).
 See page 8 for recommended fasteners.
- It is recommended to only use stainless steel screws in high salt air regions.

 DO NOT install infrared heaters into a soffit or ceiling application!



Sustainable wood solutions for today's world.

Revised: April 5, 2022