LUX
ARCHITECTURAL PRODUCTS

CUSTOM CUT V-GROOVE

INSTALLATION GUIDE

Introduction

The following LUX Architectural Products Custom Cut V-Groove Installation Guide has been prepared and intended for persons with experience in the field of siding and soffit installation and who have a fundamental knowledge of basic building practices. Warranty may be void if proper application and installation practices are not followed.

LUX is designed to be efficient and simple to install. Still, precision and attention to detail are required for a successful install, and it is highly recommended that an experienced professional install the product.

The information provided in this document is offered in good faith and believed to be reliable but is made without warranty, express or implied, as to merchantability or fitness for a particular purpose. Readers should review this document in conjunction with their design professional's advice, construction drawings, manufacturer's technical literature, building code, and fire code. LUX Architectural Products does not assume any responsibility for the reader's compliance with applicable laws and regulations.

Getting Started

When beginning the installation of your LUX Architectural Products order, always check for any potential issues with your product such as damage that might have occurred during shipping, post-manufacturing defects, or deformity from improper unpacking.

Also, check to make sure that your colour and product match your order. This is imperative because once installation has begun, any outstanding issues become the responsibility of the installer. If you find an issue, contact LUX immediately before starting the installation.

It is crucial that you ensure you have enough product to complete your installation. Although LUX Custom Cut V-Groove's finish is generally very consistent, all pre-painted metals are batch-sensitive. This means it is paramount you have enough product to complete your installation from one order as the product is not guaranteed against paint batch inconsistency.

LUX Custom Cut V-Groove is designed to be tailored to the requirements of your project. This means the LUX installation begins before the material is ordered in the way of pre-planning your install. A planned install yields the most efficient installation and pleasing aesthetic, making sure all material ordered is utilized correctly.

After ensuring you have received your order free of issue, it is time to begin installing LUX. Below lists the methods for installing each particular LUX trim for different starting and termination points.

LUX Architectural Products Features & Properties

All LUX Architectural Products are made from 24 gauge ASTM A792 55% Al-Zn Alloy Coated Steel prepainted in a KYNAR 500® (PVDF) high endurance paint. LUX has A ratings in fire tests, can withstand extreme weather changes and winds, is impervious to insects, requires virtually no maintenance and is warrantied for a 40-year paint finish. Unlike wood, it will never rot or support mould or mildew and is easy to clean and maintain. LUX is also proud to hold an official Canadian Construction Materials Centre (CCMC) certification number 14137-L.

Custom Cut V-Groove Profiles

LUX Custom Cut V-Groove is available in a 4" (101.6mm) and 6" (152.4mm) panel as well as 4" (101.6mm) and 6" (152.4mm) V-groove smooth and vented soffit. Panels are cut to custom lengths from 4' to 24' (1.22 Meters to 7.32 Meters).

SMOOTH
4" V-GROOVE

A

VENTED
4" V-GROOVE

C

SMOOTH
6" V-GROOVE

B

VENTED
6" V-GROOVE

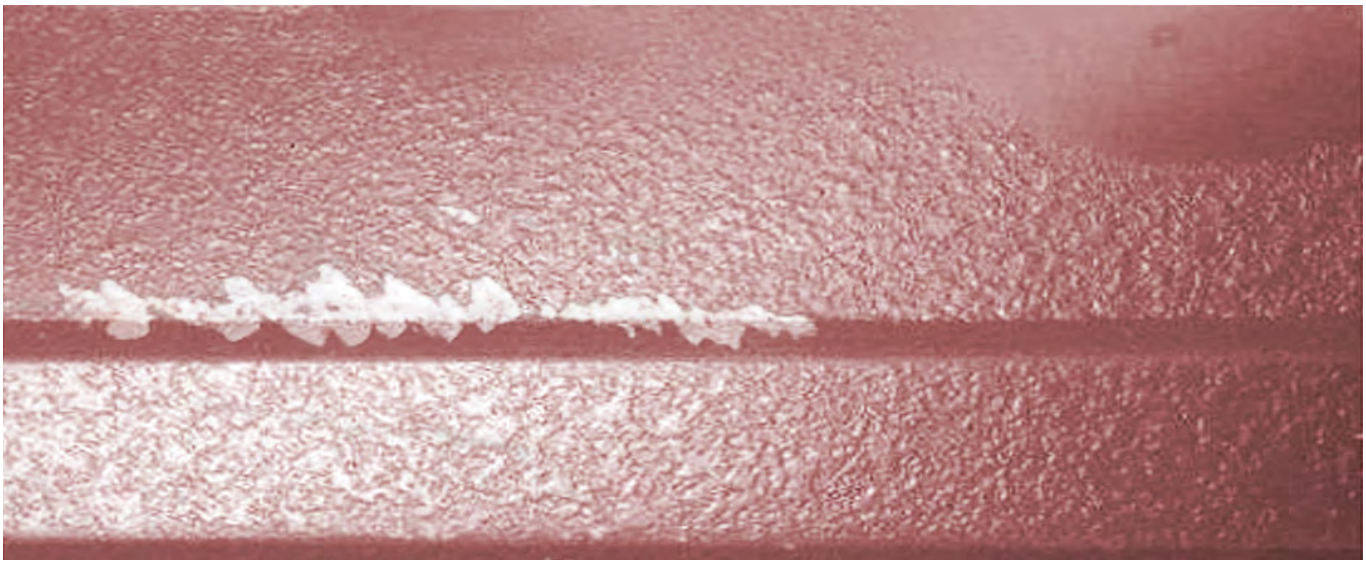
D

Safety Considerations

Always wear and use appropriate Personal Protective Equipment (PPE), taking all precautions to protect eyes during installation and cutting. Gloves are recommended as there can be sharp corners and edges on the LUX Custom Cut V-Groove. When cutting or being exposed to airborne particles, always wear an appropriate dust mask. Refer to the OHS Code (OSHA in the U.S.A.) for further requirements and safety measures for Jobsite siding installations.

Storage Considerations

Pre-painted metal siding is subject to premature corrosion if they are not handled and stored correctly at the jobsite prior to installation. Excessive storage periods or poor storage conditions often result in water intrusion into panel bundles. Prolonged exposure of bundled panels to wet conditions can cause paint blistering and substrate corrosion. Wet Stack Corrosion can occur within two weeks if the storage conditions are poor or improper storage practices are not followed.



Close-up image of severe "Wet Stack Corrosion." Note smooth, normal surface in upper right corner.
Note when scratched, the primer has been compromised as well as the presence of Zinc Oxide (white rust).

Environmental & Service Conditions

If proper precautions are not taken during transport, water may be present between the panels upon delivery at the job site. When water or water vapour collects along the sides of a panel bundle, it may travel between the panels by capillary action. Humidity and temperature cycles can also promote water intrusion into stored panel bundles through condensation. Finally, rain and snow are other potential sources of water that can cause storage corrosion of pre-painted panels.

Besides water, two other most important factors contributing to the corrosion of stored pre-painted panels are exposure time. Corrosion will accelerate with increased temperature.

Storage Considerations

Given enough time, panel bundles will eventually become wet, and storage corrosion may occur under most job site conditions. Storage corrosion can be prevented by:

- Reducing site storage time
- Decreasing water contact
- Moderating temperature extremes

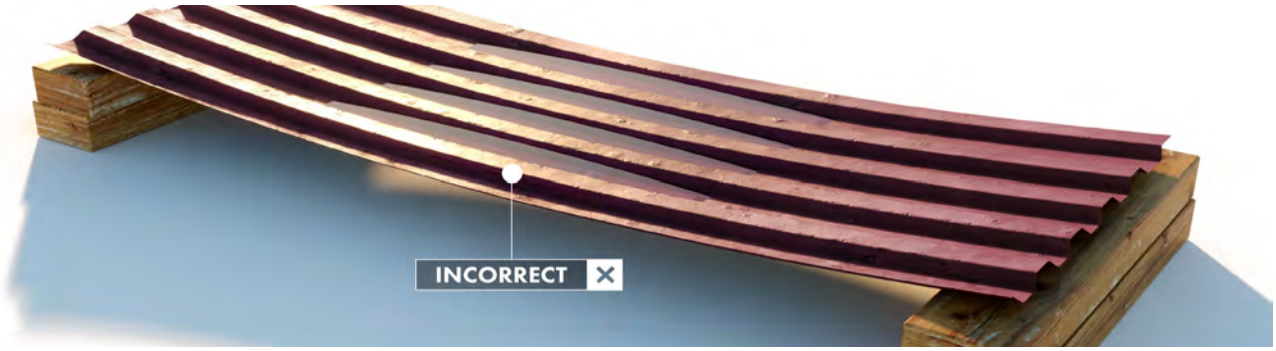
Special case factors not considered here are the presence of aggressive soluble chemicals, such as sulphur and chlorine compounds, that might be present in polluted atmospheres, road salt contaminants, or marine environments. It is reasonable to assume that these soluble species would accelerate storage corrosion.

Job Site Storage

Prolonged storage will always increase the likelihood of storage corrosion. Therefore, the best prevention is to minimize storage time. Proper storage limits the collection of water from rain, snow and condensation on the panel surfaces. Storage under a roof is highly recommended. If panel bundles have to be stored outdoors, several precautions must be taken to prevent storage corrosion. The panel bundles should be stored in a level area out of the way of other construction activities to minimize the number of bundle movements required at the job site. If the bundles are stored on the ground, a plastic ground cover must be put down under the bundle to minimize condensation of water from the ground onto the panels. The bundles must then be raised off the plastic ground cover to avoid contact with water puddles and allow for air circulation around the bundle to promote drying of condensed water.

Wet, uncured or pretreated lumber should not come in contact with the panel bundles. The panels must be stored at an angle to promote drainage of water off the bundle. Sufficient support must be provided to the raised and angled bundles to avoid excessive bowing, which may result in low spots that could hold water.

The bundle must be sheltered entirely with a loose-fitting waterproof tarp to protect the bundle during rain or snow events but allow for air circulation and drying of condensed water. A loose-fitting tarp also shades the bundle from direct sunlight and should act to moderate extreme temperature fluctuations.

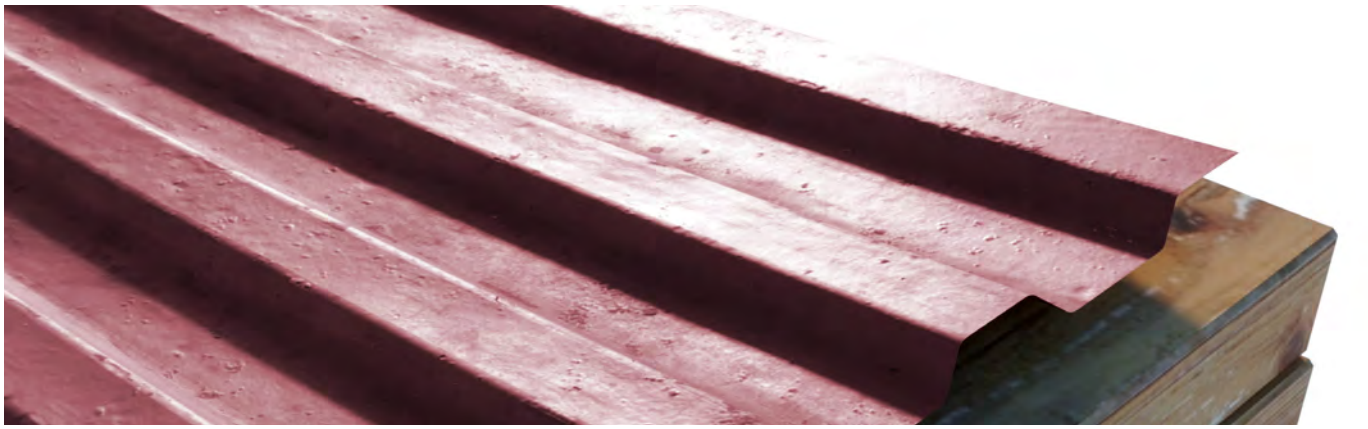


Insufficient support in the center of long panels allow "Bowing" or "Sagging" that traps water in the center of the panel length.

It is crucial NOT to snugly cover panels with a tarp when on the ground. By covering pre-painted panels in this manner, airflow is prevented, and moisture in the ground is trapped under the tarp and. The effect is worse than just letting the bundles of pre-painted panels sit uncovered in the rain. This is because a "humidity chamber" has been created, and sunlight will heat the tarp and accelerate corrosion by means of increased humidity pulled from the ground below.

Storage Considerations

Job Site Storage



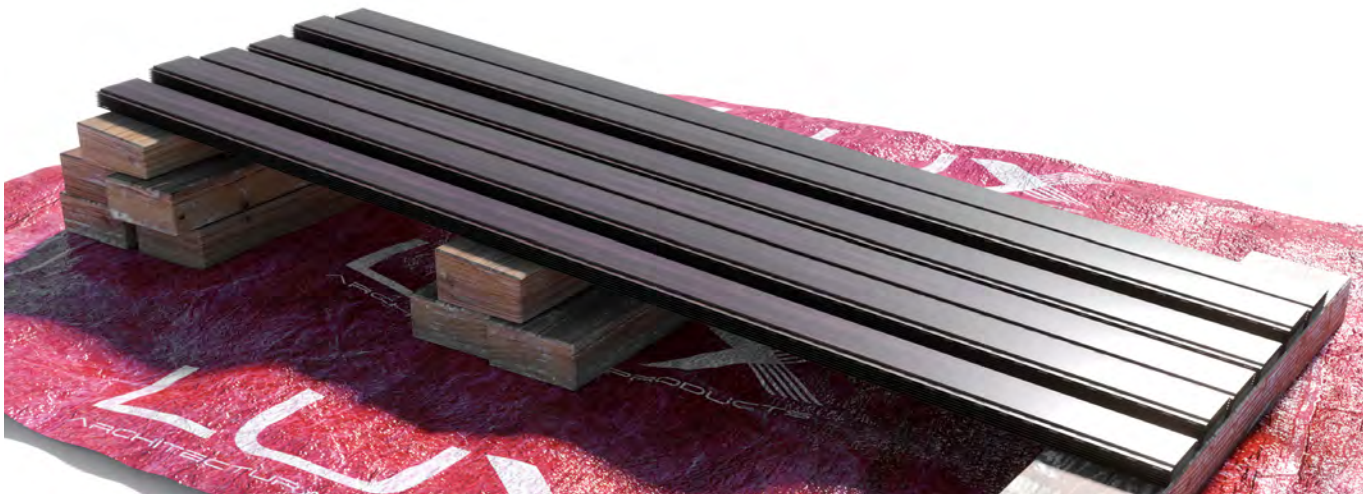
After just 3 months covered in the manner above, the panel bundle is opened to reveal that moisture has made its way into the layers of sheets.

Proper storage of bundled pre-painted panels is essential and, to some, considered "time-consuming and costly" to do. However, failure of your panels is an even more costly idea when you have to reorder and wait for delivery. Other costs associated with delays in Jobsite completion as well as material replacement are things to consider when debating the use of proper storage methods.

NCCA Storage Methods

The National Coil Coaters Association (NCCA) has developed a time tested storage method for pre-painted, bundled panels. This section will lay out the steps for proper storage that will assure your panels remain dry and defect free when it comes time to install them on your structure.

STEP 01

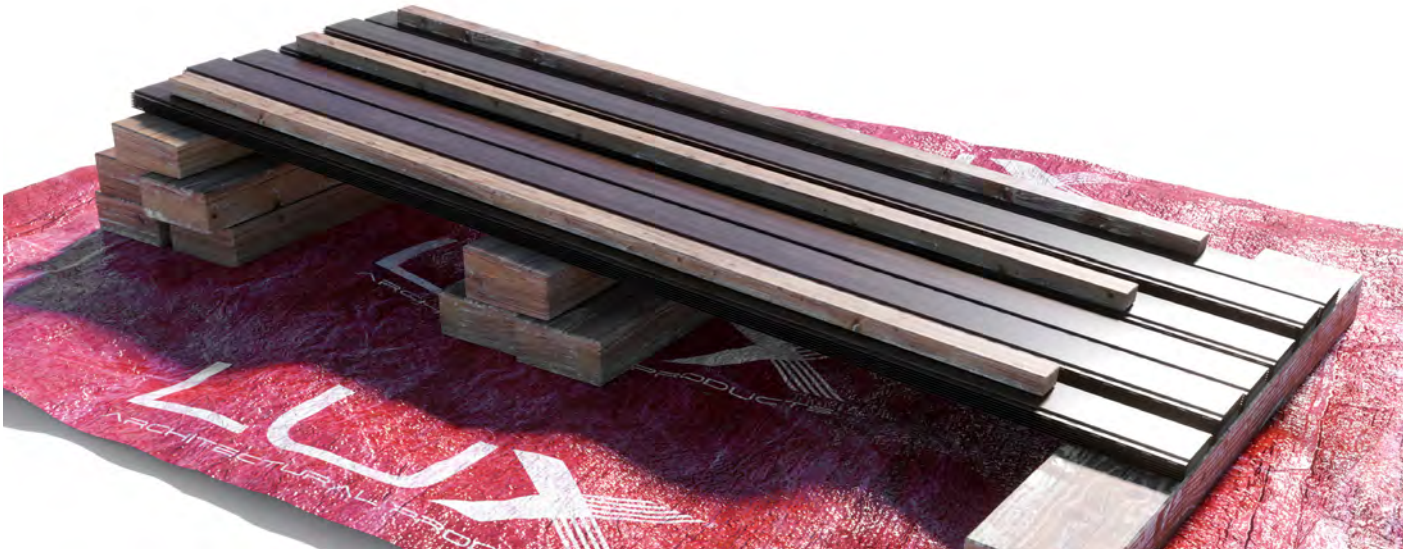


Your pre-painted bundle should be placed on a tarp to prevent ground moisture from being a factor. The bundle should then be placed on top in a sloping position. This allows any moisture that may already be present to gravitate out.

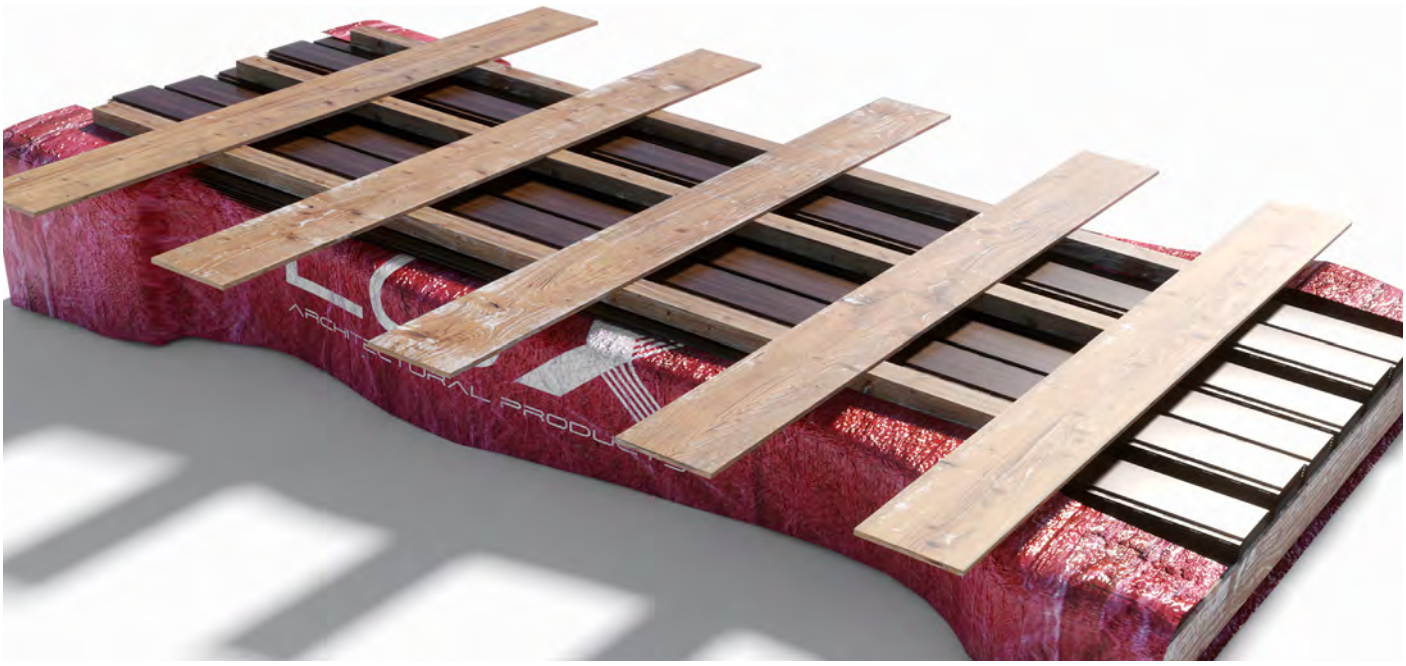
Storage Considerations

NCCA Storage Methods

STEP 02



Place scraps of dimensional lumber on the bundles "Cover Sheet." This is to keep the top tarp from resting directly on the panels to increase airflow, which will allow moisture to escape.



If you roll the edges of the bottom tarp up as seen above, cutting a hole in the lowest area of the bottom tarp will allow water to escape.

Storage Considerations

NCCA Storage Methods

STEP 03

Roll your top tarp over the stack allowing enough tarp to stretch out at least 12 inches from any edge of the panel stack.

STEP 04

When completed, this method will increase the storage life of your panels. Unused portions of open bundles must be recovered. The condition of the tarps and paper wrapping of stored bundles should be inspected daily for damage, puddles and snow accumulation. Damage to packaging or tarps must be repaired, and snow accumulation or puddles should be removed. If water is present in the panel bundles, the panels must be separated and wiped dry with a clean, soft cloth and stacked with a space between each panel so that air circulation can complete the drying process.

There is currently no test method to determine the storage corrosion resistance of pre-painted sheet products that has been correlated with actual storage performance; however, there are a number of test methods that have been utilized by the building products industry.

Unwrapped Products

Unwrapped or inadequately stored metal siding bundles can often result in water intrusion into panel bundles, causing potential damage such as component degradation, mold, paint degradation, rust, or the weakening of building materials. Pre-painted building panels are also subject to premature substrate corrosion and paint blistering if proper wrapping and storage considerations are not followed. It is the responsibility of the user to ensure proper storage and wrapping to prevent these issues. Failure to properly follow the wrapping, handling, and storage procedures outlined in this guide, or failure to protect your materials from moisture, will void any warranties. We assume no liability for damages resulting from inadequate wrapping, storage or protection methods.

Warranty

Your warranty may be void if proper application practices are not followed. That includes the practices outlined in this guide as well as the LUX V-Groove Custom Cut installation guide. Additionally, your warranty may be void if you do not follow local building codes.

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Code Compliance

The applicable Building Codes and Fire Codes are determined based on the project site location. There can be various code changes per province, city, state, county and region.LUX Architectural Panel cannot address all the various codes in this guide. Project Designers, Builders, Architects, and Engineers must understand the applicable codes and install exterior cladding products within the guidelines of these codes. The requirements of the Local Building Codes must be observed as a minimum requirement of the installation of LUX LUX V-Groove Custom Cut . LUX Products adhere to the CGSB-93.4-92 as per standards Council of Canada, National Research Council Canada, National Building Code of Canada. In the United States, compliance with ASTM E330 or equivalent standards, as well as the International Building Code (IBC), may be required."

Care & Maintenance

While factory-applied finishes for metal building panels will last many years longer than ordinary paints, it is recommended to clean them thoroughly on a routine basis, especially when the finish is not washed by rain. Cleaning will generally restore the appearance of these products and render repainting unnecessary. An occasional light cleaning will also help maintain an aesthetically pleasing appearance.

Examples of applications requiring maintenance cleaning and inspection include roof cladding, soffits, wall cladding under eaves, garage doors, and the underside of eave gutters. Washing should be completed at least every six months. Cleaning may be required more frequently if your building is located in coastal areas, areas where marine salt spray is prevalent, or in areas where high levels of industrial fallout occur. Mild solutions of detergents or household ammonia will be sufficient for the removal of most dirt. The following cleaning solutions are recommended:

- One cup of detergent (ex. Tide®), containing less than 0.5% phosphate, dissolved into five gallons of warm water. (NOTE: The use of detergents containing greater than 0.5% phosphate is NOT recommended for use in general cleaning of building panels. NEVER BLEND CLEANSERS AND BLEACH.)
- One cup of household ammonia dissolved into five gallons of water (at room temperature)for the removal of most dirt.

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- One cup of household ammonia dissolved into five gallons of water (at room temperature).

Care & Maintenance

To clean the surfaces, use either solution and work from the top to the bottom of panels with a well-soaked cloth, sponge, brush (with very soft bristles), or low-pressure spray washer. The application of the cleaning solution should be gentle to prevent shiny spots. Refrain from using scouring powders or industrial solvents, since these agents may damage the paint film. Cleaners that contain solvents, such as Fantastik®, are very effective and can be used without concern. If mildew or other fungal growth is a problem and cannot be removed as outlined above, household bleach mixed at a concentration of one gallon of bleach to five gallons of water together with one cup of mild soap (ex. Ivory®) is recommended. The surface should be thoroughly rinsed with clean water after cleaning to remove traces of detergent.

All exposed metal areas, such as scratches in the finish, are susceptible to rust and should be spot-painted with touch-up paint. Also, accumulated debris such as metal particles, leaves, branches, trash, dirt, pollution fallout, etc., should be removed. Removing debris and the regular cleaning of surfaces by hosing will help prevent the settling of localized areas where accelerated corrosion can occur. Accumulations of salt deposits in coastal locations can have a particularly aggressive effect on metal products. These deposits are easily removed by a gentle hosing with clean water.

Temperature Considerations

While the expansion and contraction coefficient of LUX Metal is extremely low, it is recommended that you follow the instructions regarding spacing against trims. Also, avoid over-tightening screws in order to allow the panel some room to float. When installing the LUX Custom Cut V-Groove into J-Trims at least 1/8" should be left for expansion and contraction as well as to ensure J-inserts are seated well. Other Joiner and Starter Trims are designed to allow expansion and contraction without any special measures. LUX will float over minor wall imperfections if installed correctly.

Transportation and Handling

In order to maintain the integrity of LUX Custom Cut V-Groove, precautions must be taken when loading and unloading the product.

When transporting LUX Custom Cut V-Groove, ensure that it is not stacked too high or it could result in damage to the product below. Be aware of tiedown tension as overtightening can damage the product, and never stack other materials on top of the panels. When the products arrive, immediately check for any damage caused during shipping. Do not install damaged products.

Best Practices for Working with Custom Cut V-Groove

Never use a grinder to cut LUX Products. The warranty will be void as it may damage the integrity of the finish and the Galvalume Metal.

- Screws or stainless steel rivets should never be spaced farther than 24" apart.
- Never screw in V-Groove panels too tight, as it will cause distortion and warping of the panel, potentially resulting in Oil Canning.
- Install panels with care; take precautions not to scratch the panel while installing on the wall or resting on the ground.
- Always leave room for expansion and contraction when terminating into your J-Trims, as it will cause distortion and warping of the panel, potentially resulting in Oil Canning.
- Always use a rubber mallet or other non-marring object to tap Top J Inserts into place.
- Installers must ALWAYS follow local building code as it applies to the installation of cladding, including all rainscreen requirements.
- LUX V-Groove should be installed using a #8 truss head screw for attaching into wood and a #8 self-tapping pan-head screw for attaching into steel studs. Either application requires a 1" bite.
- LUX products are supplied with a protective film, which must be removed immediately following installation.

Cutting LUX V-Groove Custom Cut and Trims

There are many ways that LUX Custom Cut V-Groove can be cut and modified. Create clean cuts of the panels and trims by using a



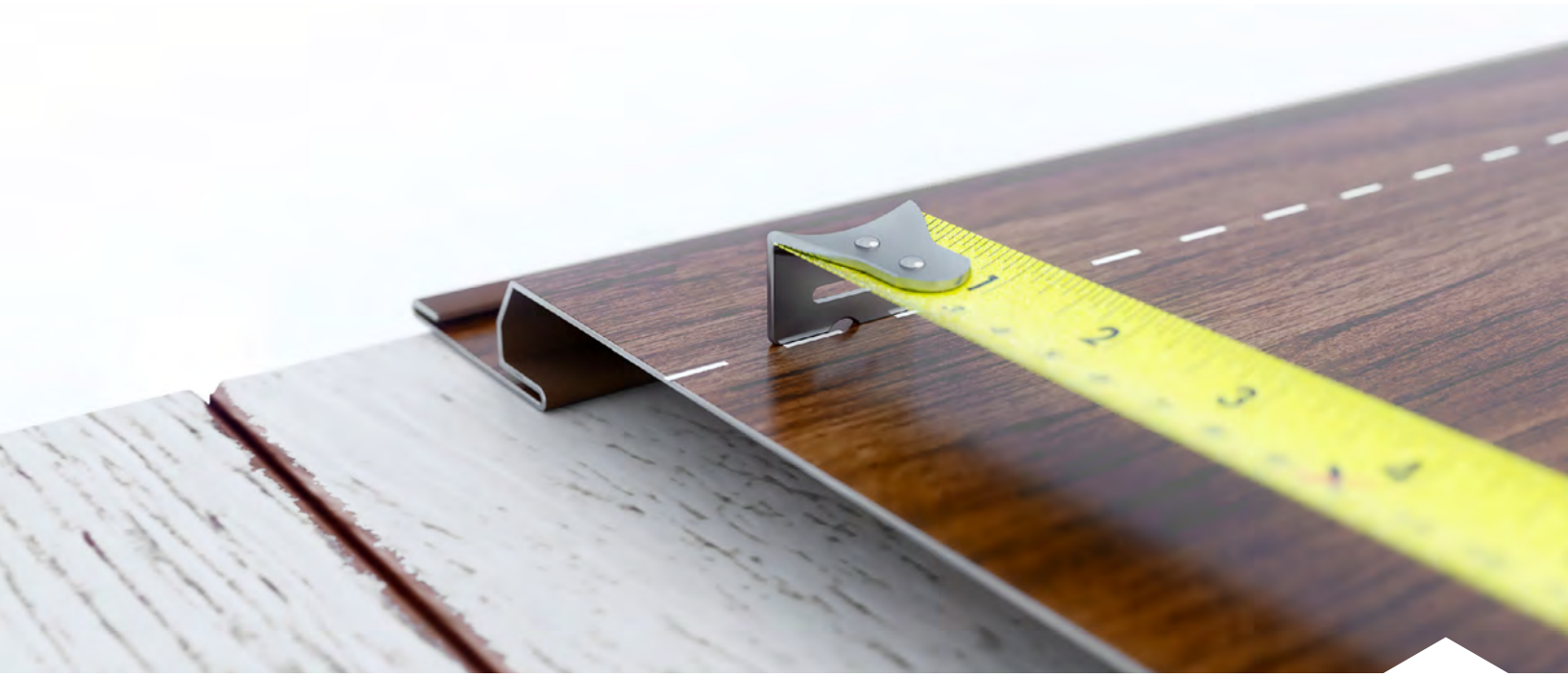
quality ferrous blade, a skill saw, a mitre saw, or a radial arm saw. Use nibblers or snips to clean up cuts or to cut lengthwise down the center of a panel. Always wear proper protective equipment when cutting LUX and ensure that the panel and saw are on a level plane.

LUX Custom Cut V-Groove can be cut using metalworking snips, metalworking nibblers, or various power saws. A metal cutting blade such as Freud Diablo Steel Demon 48 tooth TCG Ferrous Metal Cutting Blade is recommended.

***Using a grinder will void the warranty as it damages the integrity of the finish and the Galvalume Metal.**

If you are using a sliding compound mitre saw, the cut will be improved if the saw is pulled across the panel toward the operator and not down onto the panel.

Cutting LUX V-Groove Custom Cut and Trims



- Always accurately measure and mark your cut paths.

01

- Trim and detail cuts such as mitres can be done with shears or snips.

02

Cutting LUX V-Groove Custom Cut and Trims

03

- Long cuts can be done with power saws, nibblers, or shears.

04

- Offcuts can be done with shears or snips.

CUSTOM CUT V-GROOVE

PANEL INSTALLATION

01

- When attaching Custom Cut V-Groove, it is essential to place the screws centred in the designated screw hole (Fig. 01). The screw pattern for the soffit that runs parallel with the building should be fastened at a maximum of 24", and siding applications (vertical or horizontal) should have a maximum spacing of 24" on center.

02

- The Custom Cut V-Groove should be fastened on the wall using recommended screws and should not be nailed. Securing the panel this way will allow for expansion and contraction and will enable the panel to float over minor waves and imperfections in the wall. Do not overtighten the fastener as the panel should be able to float on the wall (Fig. 02). This image demonstrates the necessary 1/16" - 1/8" gap between wall and panel.

03

- Never overtighten screws while installing Custom Cut V-Groove as this can and will cause damage to the panel. An overtight screw prevents the panel from floating on the wall, which allows for expansion & contraction, building movement and general settling of the installation. Overtight screws lead to buckling and unsightly damage. LUX takes no responsibility for improperly installed products, and an installation with overly tight screws or nails will automatically void the warranty (Fig. 03).

04

- During the manufacturing process, the ends of custom-cut panels can be slightly compressed (Fig. 04). The edge of the Custom Cut V-Groove tongue can be trimmed at an angle. It will then fit snugly into the receiving groove of another Custom Cut V-Groove Panel.

05

- Another method to adjust a compressed Custom Cut V-Groove is to place a flat screwdriver in the compressed end and twist gently to open (Fig. 05).

V-GROOVE SOFFIT

INSTALLATION

01

- Install panels either at a right angle away from the wall (Fig. 01), or parallel with the wall attaching the panels at a minimum of 24''. Trims are installed similarly in both applications as viewable in (Fig. 01 & 02).

02

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CUSTOM CUT V-GROOVE

HORIZONTAL INSTALLATION

01

- Install Starter Strip by predrilling 24" on centre. Then level and attach the starter strip with the appropriate fasteners (Fig.01).

*All walls must be prepared with a proper rain screen and vapour barrier that meet local building codes before installing LUX Products.

02

- Slide your first panel into the starter strip with the screw flange up. Depending on the installation, you will likely also slide the panel into a finish trim such as a Two-Piece J-Channel. Ensure the panel is snug and level in the starter strip (Fig.02).

03

- Attach Custom Cut V-Groove with appropriate fasteners through screw flange. Continue the installation by inserting the next panel's bottom tongue snugly into the previous panel's groove, ensuring that it is fully seated. Continue until you reach the last piece, which may be trimmed to fit if necessary (See finishing a V-Groove Section). Do not overtighten the fastener as the panel should be able to float on the wall.

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VERTICAL INSTALLATION

01

- Begin at either end of the wall surface to be covered. Start by placing your chosen trim in place and fasten it. Then put the Custom Cut V-Groove tongue into the starter or trim piece, attach the panel to the wall with the appropriate fastener in the screw flange. Do not overtighten the fastener as the Custom Cut V-Groove should be able to float on the wall.

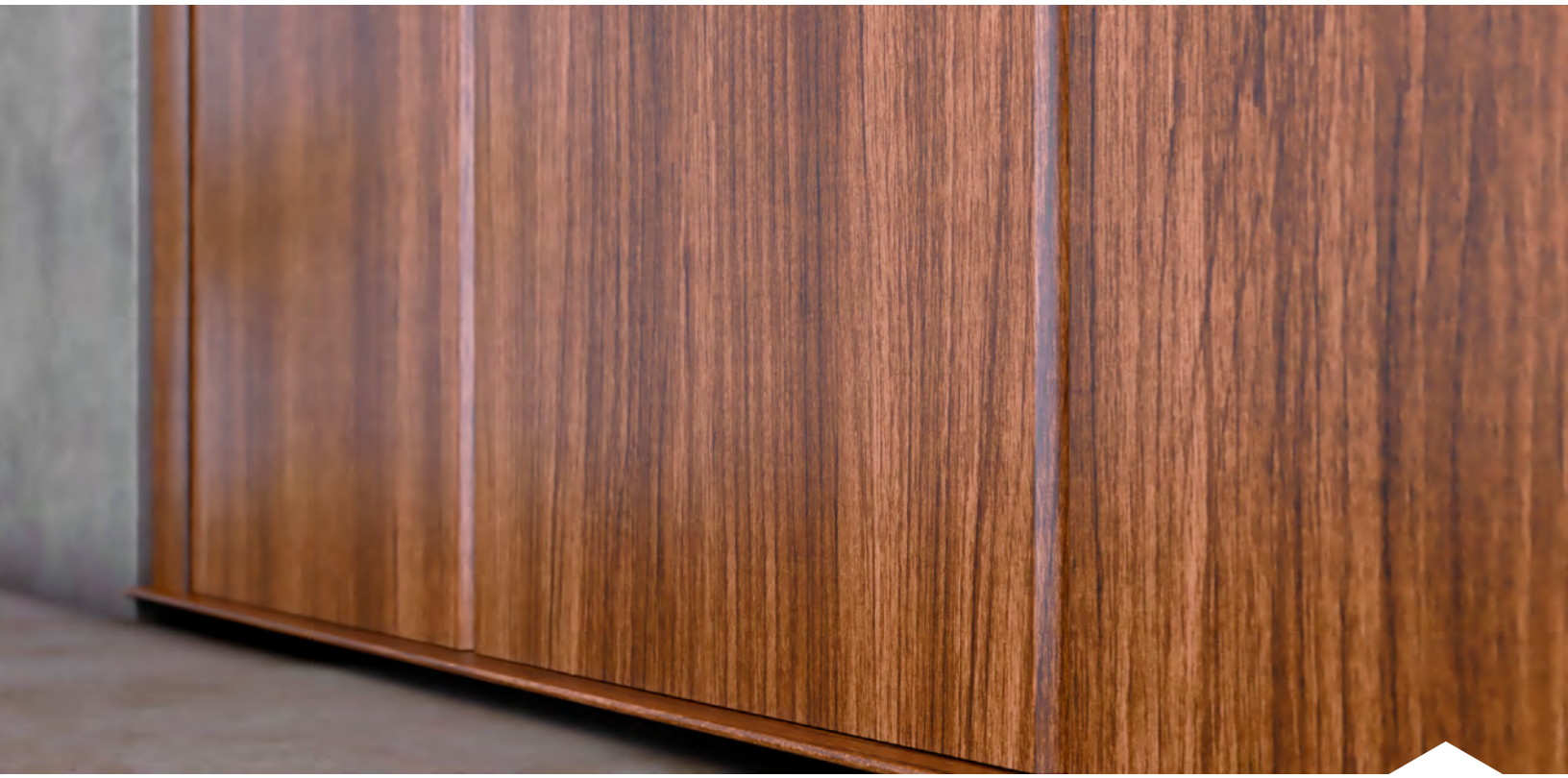
02

- Custom Cut V-Groove should be allowed to float on the wall.

03

- Custom Cut V-Groove can be installed snug to the base or placed into the J channel that is installed over the base flashing (Fig.03).

*If installed into a J-Channel that will catch moisture, weep holes must be drilled.



04

- Continue the installation by inserting the next panel's tongue snugly into the previous panel's groove, ensuring that it is fully seated. Continue until you reach the last piece, which may be trimmed to fit if necessary. (Refer to Finishing a Custom Cut V-Groove Panel Run).

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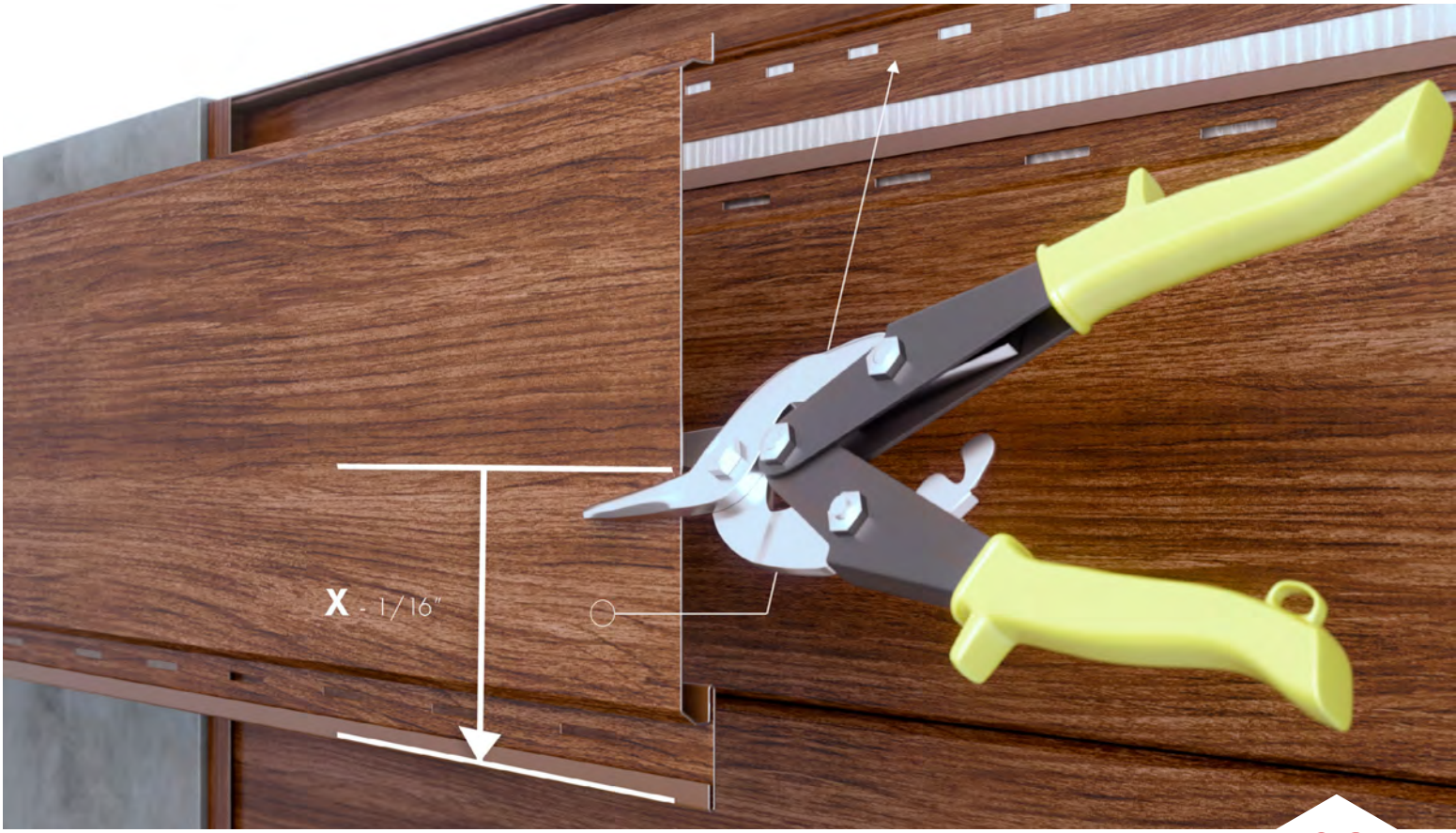
CUSTOM CUT V-GROOVE

FINISHING PANEL A RUN

01

- Measure from the last panel to the inside edge of the finishing trim, subtract 1/16'' from measurement.

*Horizontal Installation is demonstrated and vertical installation is similar.



02

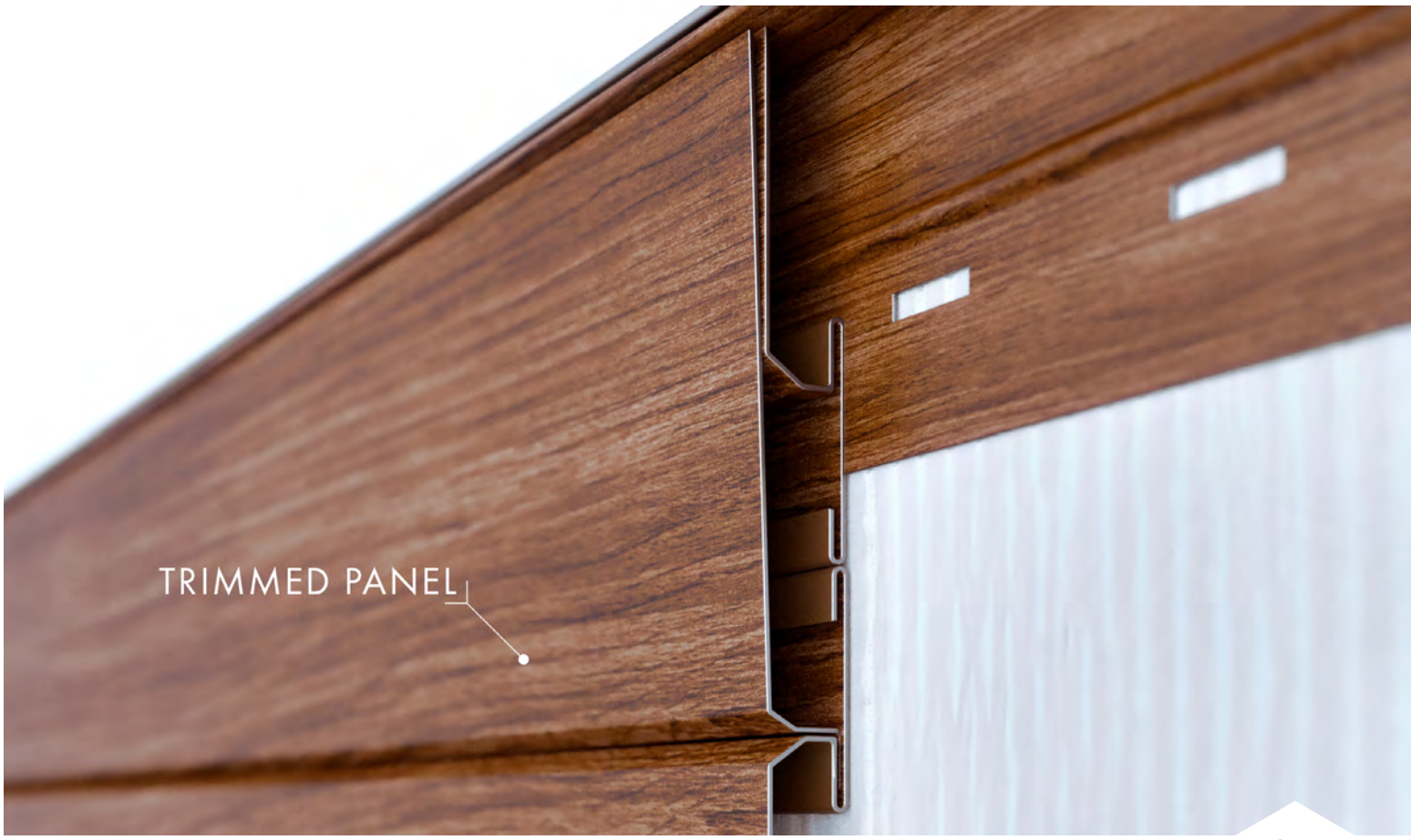
- Then use measurement to cut panel through its full length

03

- After cutting the Custom Cut V-Groove Panel, you will have the finished cut piece and the surplus off-cut

04

- Use the off-cut as an inside support for the trimmed Custom Cut V-Groove Panel



05

- If not using the locking Roll-Formed two-piece J-Channel, add a small amount of silicone sealant between the finished panel and the underside off-cut support panel.

06

- Install the off-cut piece into trim with the cut portion against the trim piece's inside edge.

07

- Using a rubber mallet, insert the two-piece J into place.

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CUSTOM CUT V-GROOVE

TRIMMING PANELS

01

- 2 Piece J Channel - The top and bottom J-channel are designed to go together to finish panel sections where it is necessary to add the trim after the panels have been installed (Fig. 04). Install the two-piece J base section as required on one side or bottom of the wall

02

- Set standard panels in place and fasten

03

- Finish the installation by installing the top cover of the two-piece J-Channel using a rubber mallet.

04

05

- Two-Piece Joiner J - The two-piece Joiner J-channel and closure are designed to go together to finish panel sections where it is necessary to add the trim after the panels have been installed.

06

- Insert joiner and secure with rubber mallet.

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CUSTOM CUT V-GROOVE

FULL CORNERS

01

- Install corners before the installation of LUX panels as demonstrated. Install on inside and outside corners as required. When installing Custom Cut V-Groove in a vertical application, start at the inside or outside corner and work towards the open trim. When installing panels on a closed wall with two corners, install inside corner or outside corner on one end, then install panels and trim on other end over the top such as an open corner.

02

- Set the standard panels in place and fasten.

03

- Similar to the inside corner, set the Outside Corner in place and fasten.

04

- Set the standard panels in place and fasten.

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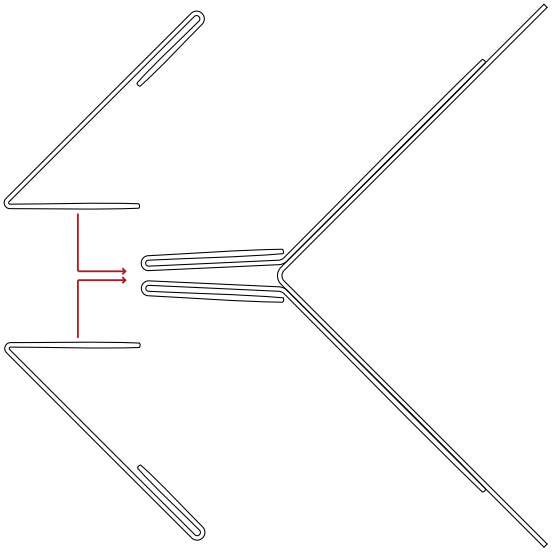
CUSTOM CUT V-GROOVE

MULTI-PIECE EFFIECENCY SERIES OUTSIDE CORNERS



01

- The exclusive LUX Efficiency Outside Corner gives a unique narrow-angle to an outside finished corner.

02

- Figure 01 demonstrates the unique profile of the outside corner and its innovative design. Figure 02 also reflects the aesthetic of the finished LUX Efficiency outside Corner and the clean lines of the finished product.

03

- Pre-drill installation holes at a minimum of 24 inches apart.

04

- Variations in the substrate will have to be accommodated for when installing the corner. Shimming may be required to adjust for substrate variances and to guarantee that the ends are flush with each other and are aligned for the installation.

05

- Install the standard panels and fasten.

06

- Place one end of the insert for multi-piece corner in the channel and apply pressure to snap into place. Then place the other insert into the slot in the channel in the middle of the corner and apply pressure until snug.

CUSTOM CUT V-GROOVE

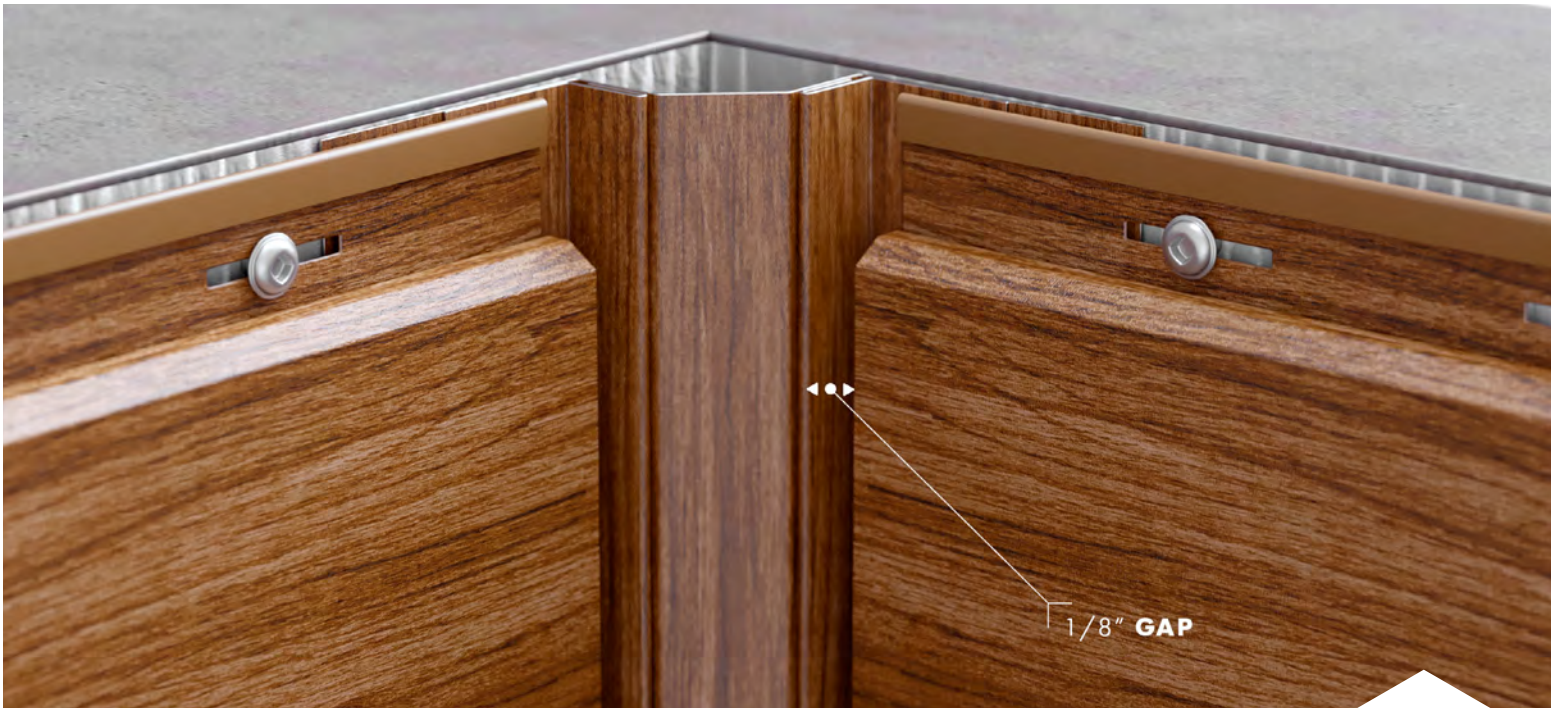
MULTI-PIECE EFFIECENCY SERIES INSIDE CORNERS

01

- Inside Multi-Piece Efficiency Series Corner - The exclusive LUX Efficiency Series Inside Corner gives a unique narrow-angle to an inside finished corner. Figure 01 demonstrates the unique profile of the inside corner and its innovative design. Figure 01 also illustrates the finished LUX Efficiency Series Inside Corner's aesthetic and the clean lines of the finished product.

02

- Pre-drill installation holes at a minimum of 24 inches apart. Ensure that the back of the LUX inside corner is square with the substrate of the wall, then fasten with a specified screw.



- Install Custom Cut V-Groove, leaving a 1/8" space between the panel and the inside of the trim for expansion and contraction.

03

- Place one end of the three-piece inside corner in channel and gently into place tap with rubber mallet.

04

05

- Place the other end of the three-piece corner in channel and gently into place tap with rubber mallet.

06

- Ensure that the corner pieces are snug and correctly aligned for your application.

THIS COMPLETES YOUR **CUSTOM CUT V-GROOVE** INSTALLATION

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