



LUXLAP V-GROOVE

INSTALLATION GUIDE



Introduction

The following LUX Architectural Products LUXLAP 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.

LUXLAP 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.

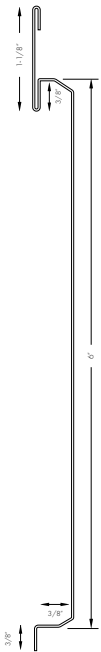
LUX Architectural Products Features & Properties

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.

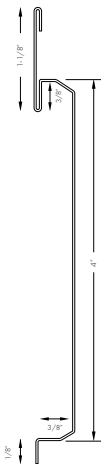
The LUXLAP Panels

LUXLAP is available in a 4" (101.6mm) and 6" (152.4mm) panel. LUXLAP is sold in boxes of 12' (3.66 meter) lap panels. The LUXLAP 6" box contains 8 panels per box and covers 48 SQF. LUXLAP 4" box contains 10 panels per box and covers 40 SQF.

LUXLAP
6" V-GROOVE



LUXLAP
4" V-GROOVE



Safety Considerations

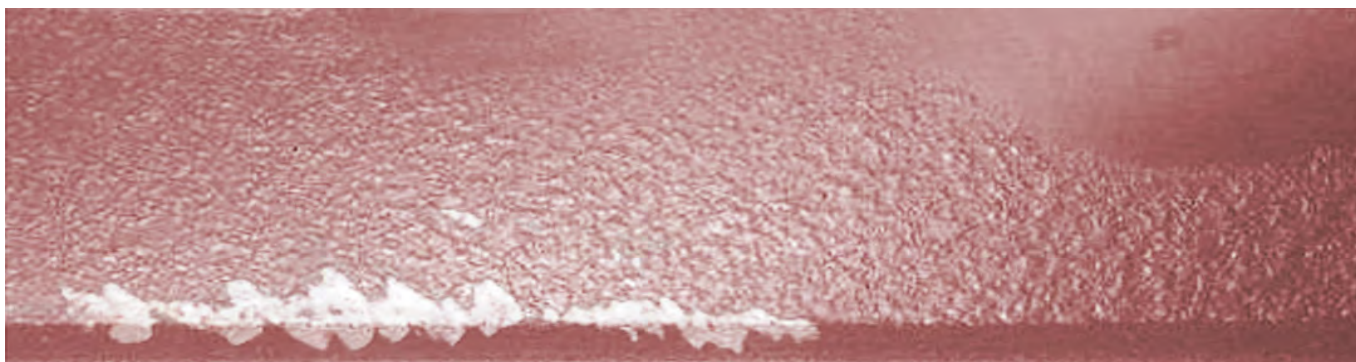
Always wear and use appropriate Personal Protective Equipment (PPE), taking all precautions to protect eyes during installation and cutting. Gloves are recommended as there can be sharp corners and edges on the LUXLAP Panels. When cutting or being exposed to airborne particles, always wear an appropriate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

Transportation

LUX Architectural Products securely packages and crates each LUXLAP order. To maintain the integrity of the product, precautions must be used when loading and unloading the product. The product should be moved by forklift from the center of the crate, taking extra care not to hit the crate with the forks or allow the crate to twist. All LUXLAP shipments are photo-documented on the truck when they leave and must be 100% manufacturer condition. When the products arrive, immediately check for any crate or product damage. Do not install damaged products.

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

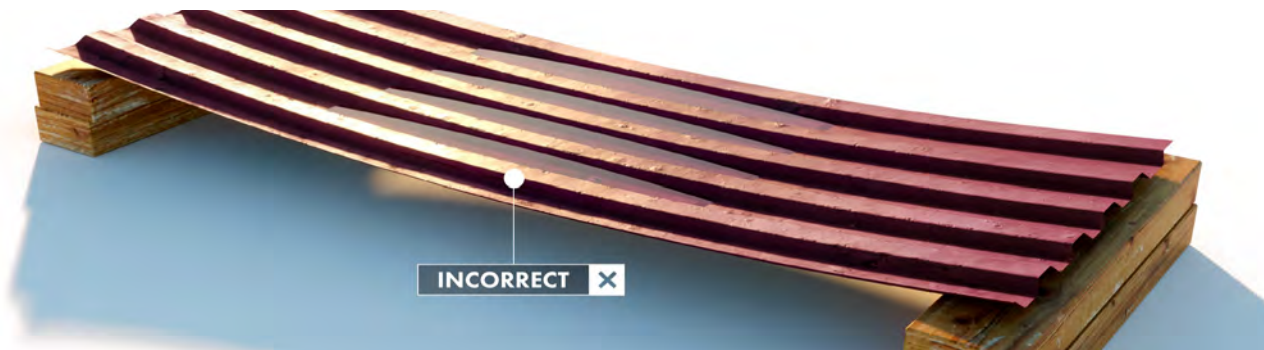
Special case factors not considered here are the presence of aggressive soluble chemicals, such as sulphur and chlorine compounds, that might be present in polluted atmospheres, road salt contaminants, or marine environments. It is reasonable to assume that these soluble species would accelerate storage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

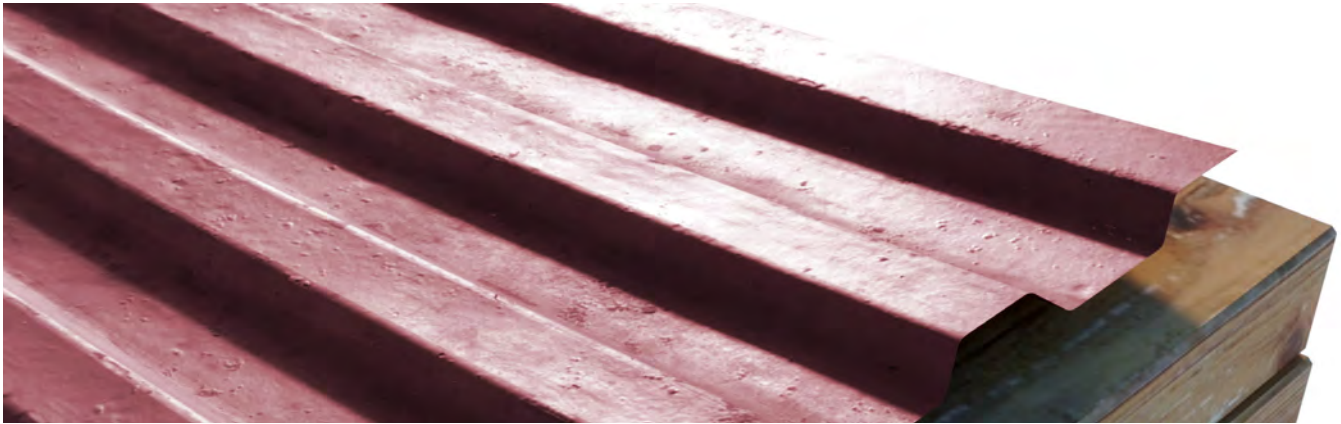


Insufficient support in the center of long panels allow "Bowing" or "Sagging" that traps water in the center of the panel length.

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 LUXLAP V-Groove installation guide. Additionally, your warranty may be void if you do not follow local building codes. The information provided in this document is reliable and offered in good faith but is made without warranty, expressed 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 Panel does not assume any responsibility for the reader's compliance with applicable laws and regulations.

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 LUXLAP V-Groove. 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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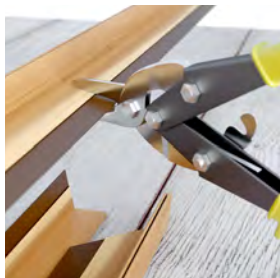
Best Practices for Working with LUXLAP



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 LUXLAP and Trims



There are many ways that LUXLAP 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.

LUXLAP 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.



- Always accurately measure and mark your cut paths.

01



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

02



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

03



- Offcuts can be done with shears or snips.

04



LUXLAP V-GROOVE

PANEL INSTALLATION





- When attaching LUXLAP Panel, 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.

01

- The LUXLAP panel should be hung on the wall using recommended screws and should not be nailed. Hanging the panel this way will allow for expansion and contraction of the panel 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 also demonstrates the necessary 1/16" - 1/8" gap between wall and panel.

02



- Never overtighten screws while installing LUXLAP 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).

03

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

04



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

05



V-GROOVE SOFFIT

INSTALLATION





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

01**02**



LUXLAP V-GROOVE

HORIZONTAL INSTALLATION





- LUXLAP has a tongue and groove design that allows you to fit one panel into the back of another panel snugly. The insert end is only available on the panel's right side, which must be considered when installing.

01



- Pre-drill and install starter strip. Trim the right side of the wall as desired - in this instance, we are using a J-Trim.

02



- Fasten panel with appropriate screws ensuring not to overtighten.

*Installation of LUXLAP is easier to install starting from the right.

03



- If completing a horizontal installation less than 12' measure panel against the already installed panel, remembering to give 1/8" space from trim and 1/8" spacing between lap panels.

04

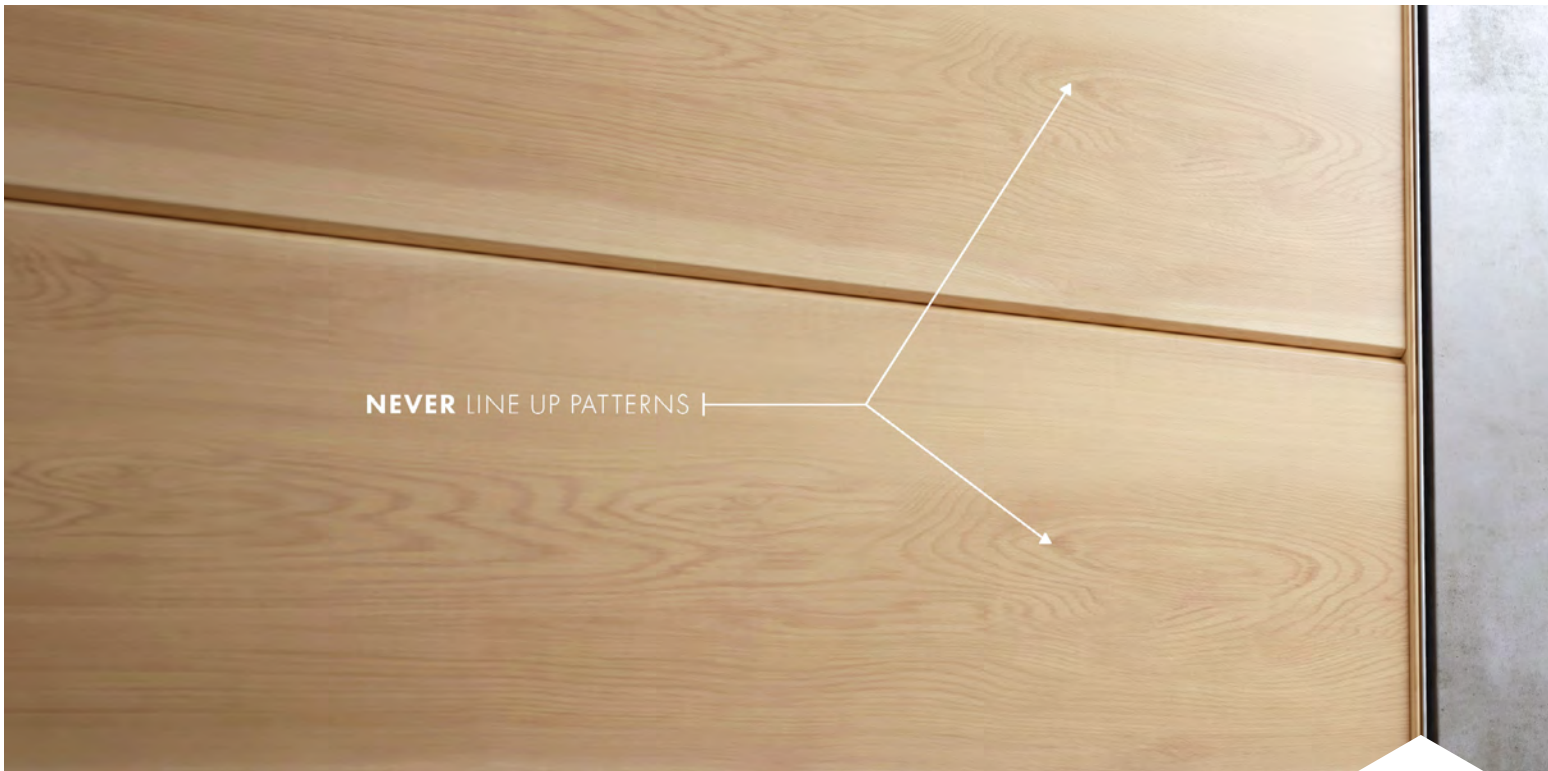


- Slide trimmed lap panel gently along starter strip and place the tongue into the end of the previously installed panel. Ensure the panel is cleanly seated in the in the back of the previous panel. Then using appropriate fasteners, secure the panel to the substrate. Leave 1/8" in between panels for expansion and contraction.

05

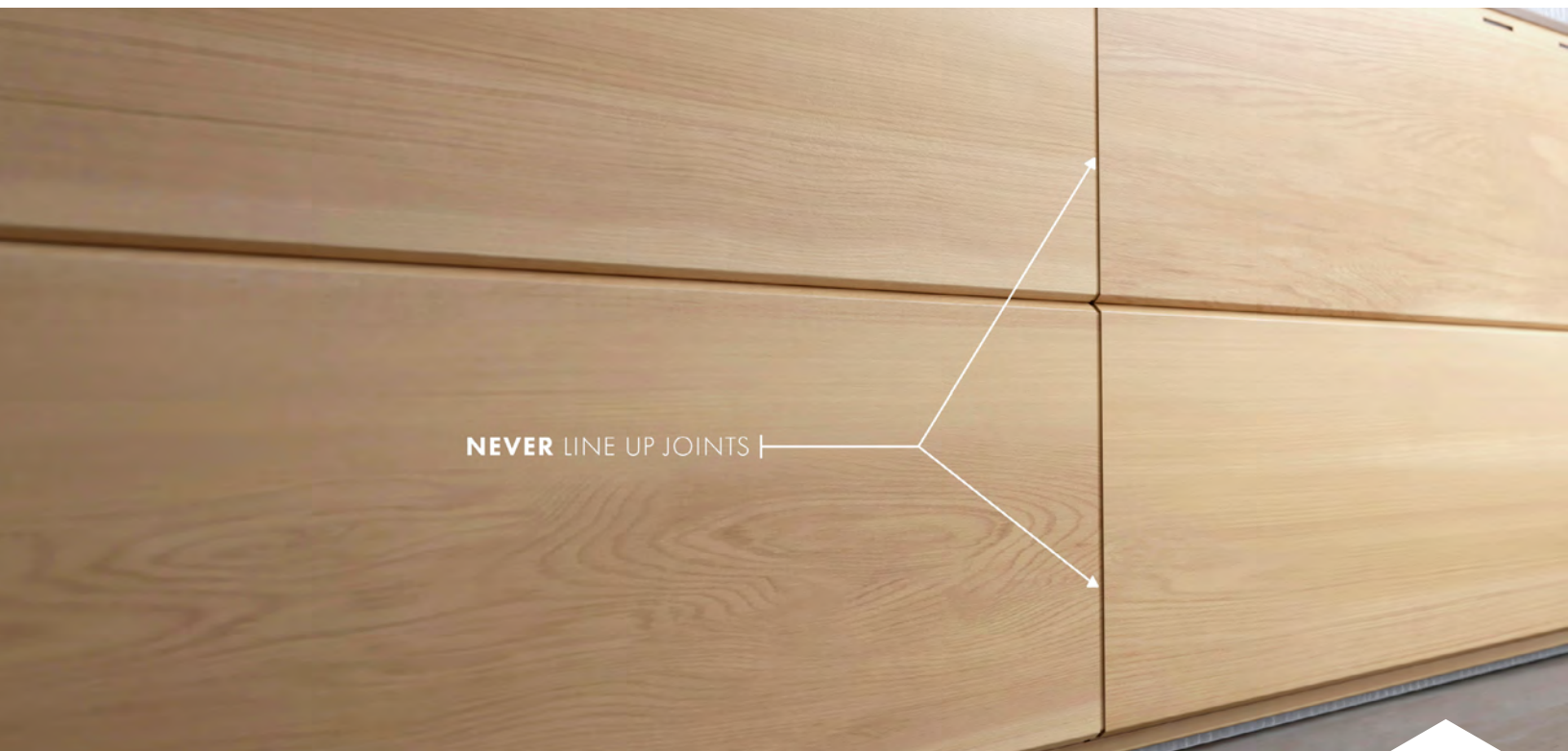
- Continue installing the LUXLAP until you reach your final panel. Finish the last panel in the same way as the regular V-Groove panels.

06



- Ensure that each run of lap panels' installation does not repeat colour or pattern in an unrealistic way (Fig.07). Figure 07 shows two panels with the exact same knot pattern installed on top of each other. This should always be avoided.

07



- Never line up the Lap Joint lines as this is unsightly and detracts from the wood grain's overall realism while also generating an awkward visual line.

08



LUXLAP V-GROOVE

FINISHING A PANEL RUN

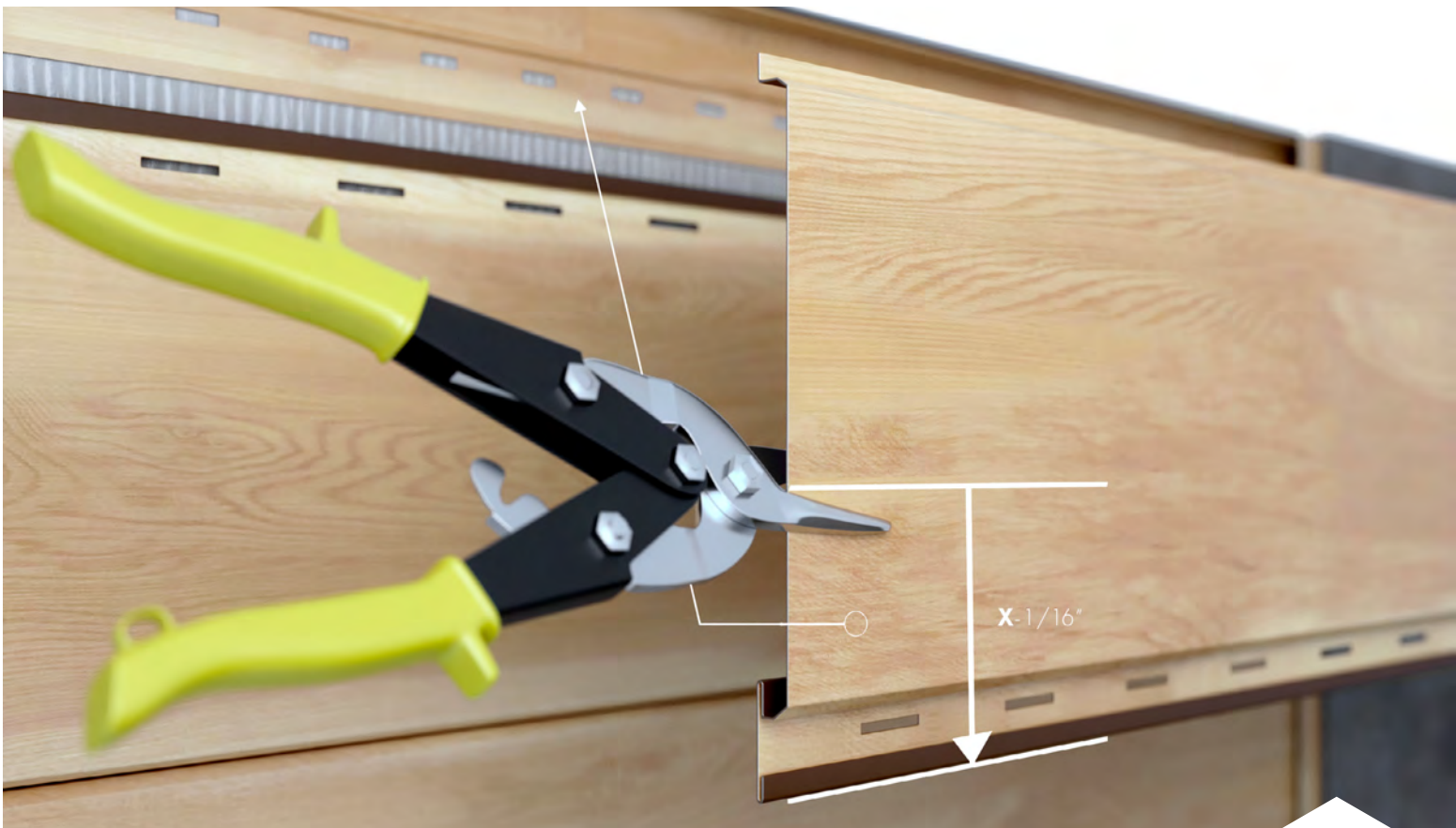




- Measure from the last panel to the inside edge of the finishing trim, subtract $1/16''$ from measurement

*Horizontal Installation is demonstrated and vertical installation is similar.

01



- Then use measurement to cut panel through its full length

02



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

03



- Use the off-cut as an inside support for the trimmed LUXLAP V-Groove Panel.

04



- 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 pane

05



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

06



- Snap insert of the two-piece J into place by applying pressure or tapping with a rubber mallet.

07



LUXLAP V-GROOVE

VERTICAL INSTALLATION





- Start by placing your chosen trim in place and fasten it. Then put the LUXLAP 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 V-Groove should be allowed to float on the wall

01



- LUXLAP should be allowed to float on the wall.

02



- LUXLAP can be installed snug to the base flashing 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.

03



- 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.

04



LUXLAP 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



- Finish the installation by installing the top cover of the two-piece.

03



LUXLAP V-GROOVE

FULL CORNERS





- Install corners before the installation of LUX panels as demonstrated in the following diagrams. Install on inside and outside corners as required. When installing LUXLAP 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.

01

- Set the standard panels in place and fasten.

02



- Set the inside corner in place and fasten.

03



- Set the standard panels in place and fasten.

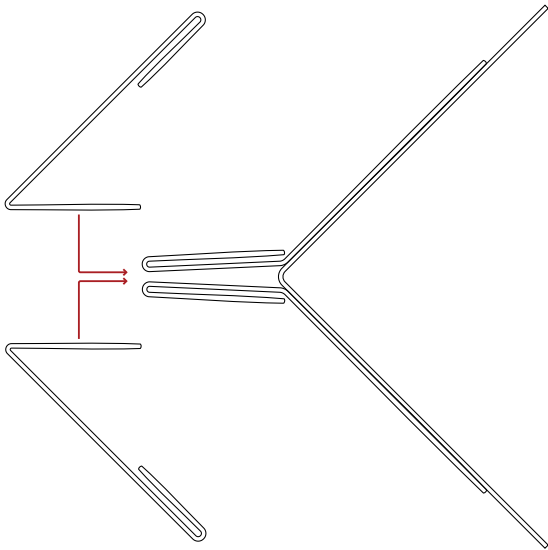
04



MULTI-PIECE

EFFIECENCY SERIES CORNERS





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

01



- Figure 58 demonstrates the unique profile of the outside corner and its innovative design. Figure 59 also reflects the aesthetic of the finished LUX Efficiency outside Corner and the clean lines of the finished product.

02



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

03



- Because the LUX three-piece corner stays truly straight and accurate, 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.

04



- Install the standard panels and fasten.

05



- 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.

06



07

- Inside Multi-Piece Efficiency Series Corner - The exclusive LUX Efficiency Series Inside Corner gives a unique narrow-angle to an inside finished corner. Figure 07 demonstrates the unique profile of the inside corner and its innovative design. Figure 07 also illustrates the finished LUX Efficiency Series Inside Corner's aesthetic and the clean lines of the finished product.



08

- 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 LUXLAP V-Grooves, leaving a 1/8" space between the panel and the inside of the trim for expansion and contraction.

09



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

10



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

11



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

12

THIS COMPLETES YOUR **LUXLAP V-GROOVE** INSTALLATION

