Ply Gem® SIDING

PERFORMANCE
COLLECTION

Installation Guide

Accessing Our Training Videos

- Throughout this manual, you will see QR codes that will allow you to view training videos on a variety of installation subjects. .
- You can access the videos from any computer, tablet or smartphone 24/7.
- Simply use your smartphone or tablet camera app to scan the QR codes throughout this manual.

Note: You can also access the video by clicking on the link or by visiting the website listed next to each QR code..

Test using the QR code below:

Or view the video at:
https://deephow.ai/p/KgDb2aJ3zsU1r1DZ1FtY

Navigating This Manual

For ease of navigation, each Table of Contents contains shortcuts that let you go directly to your desired section by clicking on the subject.

Comments, ideas, suggestions?

Contact us at (937) 726-6268 or david.verbofsky@cornerstone-bb.com

deephow

*The way individuals learn has changed dramatically. Understanding the common challenges with learning and development are imperative in understanding how to reshape training strategies to create a better experience. Through an AI-powered learning platform based on interactive how-to videos, **DeepHow-via-StanleyX** allows organizations to create connected relevant material that is aligned with needs of learners, bridging the skills gap in manufacturing, and service and repair.

Installation of Siding and Accessories

Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

General Siding Installation

Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

Introduction

Known for its outstanding performance qualities, vinyl siding is increasingly the material of choice for homeowners, remodeling contractors, architects, and builders. Compared to other siding products, vinyl is attractive, durable, easy to maintain, and cost effective. Siding is available in a variety of textures, ranging from matte surfaces to deeply embossed wood grain surfaces, which simulate wood clapboard siding.

For best results, vinyl siding should meet the requirements of the Vinyl Siding Institute Sponsored Certification Program. Visit www.vinylsiding.org for a current list of certified products.

VINYL SIDING INSTITUTE™

This manual includes basic guidelines for vinyl siding installation. The instructions are based, in part, on ASTM Specification D4756, the standard method for installation of vinyl siding and soffit. Updated information has been added as necessary. Installers should also review applicable building codes for variations that may apply to specific products or geographic areas.

Applying vinyl siding and soffit is essentially the same for new construction and re-siding structures. However, where required, special instructions for new construction and re-siding structures are included. In all applications, care should be exercised to properly prepare the structure.

This manual is not intended to provide specific advice, legal or otherwise, on particular products or processes. Installers should consult with their own legal and technical advisors, building material suppliers, and other appropriate sources (including but not limited to product or package labels, technical bulletins or sales literature) about known and reasonably foreseeable health and safety risks of their proprietary products and processes. As manufacturer of vinyl siding, we do not assume any responsibility for users' compliance with applicable laws and regulations, nor for any persons relying on the information contained in this manual.

Important Notes

The manufacturer has provided these suggested instructions as installation guidelines. The manufacturer, however, neither installs the panels nor has any control over the installation. It is the responsibility of the contractor and/or the installer to ensure panels are installed in accordance with these instructions and applicable building codes. The manufacturer assumes no liability for improper installation or personal injury resulting from improper use or installation.

Things to Consider

SAFETY

Building Codes

Vinyl siding installations must always conform to local building codes. The local code may also require that the installation conform to the siding manufacturer's instructions.

Local codes are based on the national model building codes. Model codes do not have the force of law until they are adopted by a state or local jurisdiction.

Most model codes, and local codes based on them, recognize that the product manufacturer knows how its product should be installed to provide best performance. Any specific requirement in local code will usually override the manufacturer's instructions, especially if the local requirement is more restrictive.

Weather-Resistive Barrier

To achieve designed performance and comply with recent International Residential Code, vinyl siding must be installed over a weather-resistive barrier. Check local building code for requirements in your geographic area.

Vinyl siding is an exterior cladding, not a weather-resistive barrier, and is designed to allow the material underneath to breathe. Siding can reduce the amount of water that reaches an underlying weather-resistive barrier.

Fire Safety Information

Home and building owners

Vinyl siding is made from organic materials and will melt or burn when exposed to a significant source of flame or heat. Building owners, occupants, and outside maintenance personnel should always take precautions to keep sources of fire, such as grills and combustible materials, (such as dry leaves, mulch and trash), away from vinyl siding.

Building trades, specifiers, professionals, and to do-it-yourself installers

When vinyl siding is exposed to significant heat or flame, the vinyl will soften, sag, melt, or burn. Thereby exposing materials underneath. Care must be exercised when selecting underlayment materials because many underlayment materials are made from organic materials that are combustible. It is important to determine the fire properties of underlayment materials prior to installation. All building materials should be installed in accordance with local, state, and federal building code and fire regulations.

Re-siding Over Asbestos Siding

Asbestos siding is a regulated material. The appropriate environmental agency should be contacted before re-siding over asbestos.

Things to Consider

CARE AND HANDLING

Storage and Transportation

When transporting vinyl siding and accessories to the job site, make certain to keep cartons flat and supported along their entire length. At the job site, take the following precautions when storing panels:

- Store cartons on a flat surface and support the entire length of the cartons.
- Keep cartons dry.
- Store cartons away from areas where falling objects or other construction activity may cause damage.
- Do not store cartons in stacks more than six cartons high.
- Do not store cartons where temperatures may exceed 130°F (e.g., on blacktop pavement or under tarps or plastic wraps without air circulation).

Vinyl building materials require little maintenance. Nevertheless, builders and suppliers of vinyl products must store, handle, and install vinyl materials in a manner that avoids damage to the product and/or the structure.

Historic Restoration

When using vinyl siding for historic restoration, we recommend the following:

- If a building is in a historic area, local Historic District or has been designated as a historic building, make sure approval for use of vinyl siding has been obtained from the local historic society or local Historic District Commission. This also applies to building additions.
- Before a historic building is re-sided, it should be examined for moisture, insect infestation, structural defects, and other problems. Issues should be addressed and the building pronounced "sound" before re-siding with any material.
- Do not damage or remove the original siding. If at all possible, do not alter the original structure, so that the application of vinyl siding is reversible (i.e., the original siding would remain intact, so that if desired in the future, the vinyl siding could be removed).
- Exercise every care to retain architectural details wherever possible. Do not remove, cover, or add details without the building owner's written approval. Determine that the owner has consulted the local historic society for approval.
- Use siding that closely approximates the appearance of the original siding in color, size and style. In historic districts, the goal is to match the product as closely as possible and retain the original trim.

Things to Consider

DISPOSAL, RECYCLING AND SUSTAINABILITY

Disposal/Recycling

Dispose of all scrap or excess material in a manner that is consistent with local and state rules and regulations. PVC is a thermoplastic material that can be recycled. For more information, contact the siding distributor about the availability of recycling programs.

Resources

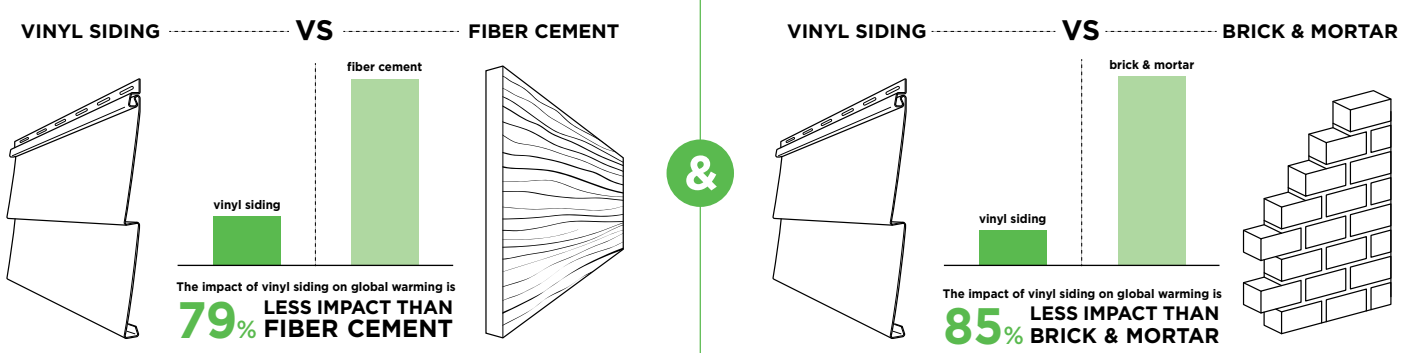
www.plygem.com/blog/green-benefits-of-vinyl-siding/

www.homesphere.com/blog/2013/10/03/green-building/

www.vinylsiding.org/why-vinyl/sustainability/

Sustainability

COMPARE VINYL SIDING WITH OTHER TYPES OF CLADDING



Based on analysis using Building for Environmental and Economic Sustainability (BEES)® Online software.

Cleaning and Maintenance

The beauty of vinyl siding is maintained with little effort. Although vinyl siding will get dirty, like anything exposed to the atmosphere, a heavy rain will do wonders to clean it. It's also possible to wash down with an ordinary garden hose. If neither rain nor hosing does a satisfactory job, follow these simple instructions:

- Use a long-handled car washing brush. This brush has soft bristles and the handle fastens onto the end of the hose. It allows the siding to be washed like a car. Avoid using stiff bristle brushes or abrasive cleaners which may change the gloss of the cleaned area and cause the siding to look splotchy.
- To remove soot and grime found in industrial areas, wipe down the siding with a solution made up of the following:
  - 1/3 cup powder detergent (e.g., Fab®, Tide®, or equivalent powder detergent)*.
  - 2/3 cup powder household cleaner (e.g., Soilax®, Spic & Span®, or equivalent)*.
  - 1 gallon water.
- If mildew is a problem, use the solution previously mentioned but add 1 quart liquid laundry bleach.
- When washing down the entire house, start at the bottom and work up to the top in order to prevent streaking.

For stubborn stains, refer to the following chart:

Stain	Cleaners
Bubble Gum	Fantastic®, Murphy's Oil Soap®, or solution of vinegar (30 percent) and water (70 percent)
Crayon	Lestoil®
DAP (Oil-based caulk)	Fantastik® or water-based cleaners
Grass	Fantastik®, Lysol®, Murphy's Oil Soap®, or Windex®
Lipstick	Fantastik® or Murphy's Oil Soap®
Lithium Grease	Fantastik®, Lestoil®, Murphy's Oil Soap®, or Windex®
Mold and Mildew	Fantastik® or solution of vinegar (30 percent) and water (70 percent)
Motor Oil	Fantastik®, Lysol®, Murphy's Oil Soap®, or Windex®
Oil	Soft Scrub®
Paint	Brillo® Pad or Soft Scrub®
Pencil	Soft Scrub®
Rust	Fantastik®, Murphy's Oil Soap®, of Windex®
Tar	Soft Scrub®
Top Soil	Fantastik®, Lestoil®, or Murphy's Oil Soap®

**Cleaning materials are listed in alphabetical order.*

We do not endorse proprietary products or processes and make no warranties for the products referenced herein. Reference to proprietary names is for illustrative purposes only and is not intended to imply that there are not equally effective alternatives.

Follow the precautionary labeling instructions on the cleaning agent container.

Protect shrubs from direct contact with cleaning agents.

Terms to Know

Backerboard/Underlayment: a flat material used on the face of the house, between the studs and the siding, to provide a flat surface for the siding.

Bottom Lock: the bottom edge of a siding or soffit panel, or accessory piece, opposite the nailing slots, which locks onto the preceding panel.

Channel: the pocket of accessory trim or corner post where siding or soffit panels are inserted. Channel also refer to the trim itself and are named for the letters of the alphabet they resemble (e.g., J-Channel, F-Channel, etc.).

Course: a row of panels, one panel wide, running the length of the house. Or, in the case of vertical siding, from top to bottom.

Face: the side of the panel that is exposed once the panel has been installed.

Fascia Board (sometimes referred to as a sub fascia): board attached to the ends of the rafters between the roofing material and the soffit overhang.

Fascia Cap/Cover: the covering installed on the fascia board.

Flashing: a thin, flat material, usually aluminum, positioned under or behind accessories to prevent draining water from penetrating the structure.

Furring/Furring Strip: a wooden framing material, usually l" x 3", used to provide an even nailing base. To "fur" a surface means to apply these strips.

Head Flashing (Drip Cap): an accessory installed to channel water away from siding panels and sub-wall. Often used on the tops of windows/doors and when transitioning from horizontal to vertical siding.

Housewrap: a term often used for weather-resistive barrier.

Lap: to overlap the ends of two siding panels or accessory pieces to allow for expansion and contraction of the vinyl product.

Lug/Crimp: the raised "ears" or tabs on a siding panel, created by a snaplock punch, used to lock a siding panel into utility trim when the nail hem has been removed.

Miter: to make a diagonal cut at a specific angle (usually 45°).

Mounting Block: accessory used to easily and attractively mount light fixtures, water faucets, receptacles, etc.

Nail Hem: the section of siding or accessories where the nailing slots are located.

Plumb: a position or measurement that is truly and exactly vertical.

Terms to Know

Scoring: running a utility knife blade across a soffit or siding panel face without cutting through the panel. This weakens the vinyl and allows the panel to be bent and broken off cleanly.

Sheathing: the board or panel material used in wall and roof assemblies to form a surface which other materials can be applied.

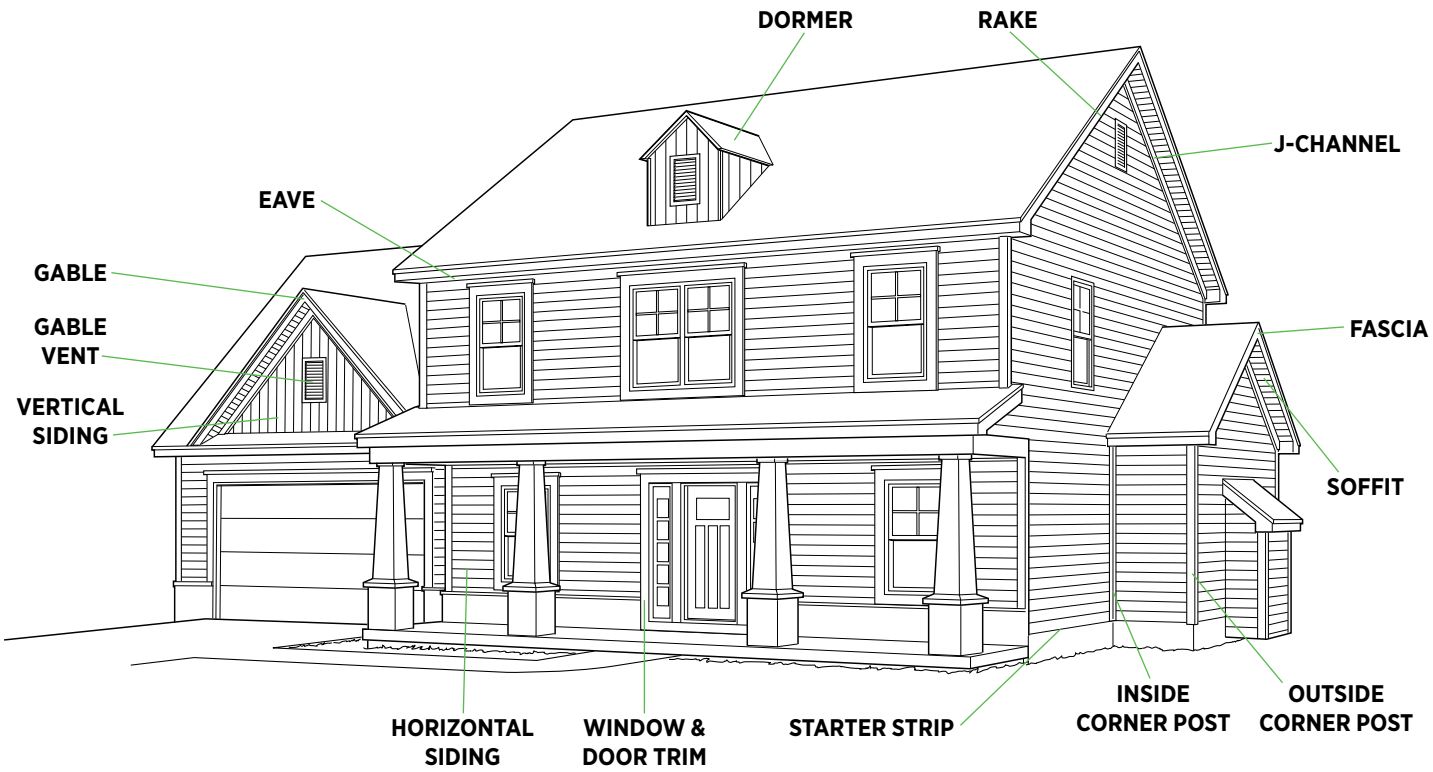
Soffit: material used to enclose the horizontal underside of an eave, gable, cornice or overhang.

Starter Strip: an accessory typically used at the bottom of walls to lock the first course of siding.

Utility Trim (Undersill Trim): a piece of trim used to secure a siding panel when the top lock has been removed from the siding.

Weather-Resistive Barrier: material applied between the sheathing and the siding that is intended to resist water that penetrates through the siding.

Weep Holes: openings cut into siding or accessories to allow for water drainage.



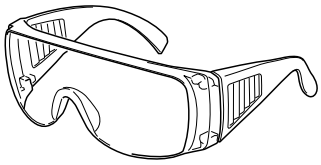
Basic Installation Rules

Before getting started, it is important to review several rules of thumb for vinyl siding application. The following rules, which are repeated in this manual, are critical for proper vinyl siding installation:

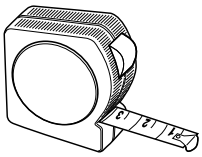
- Installed panels and accessories must move freely from side to side.
- When installing a siding panel, push up from the bottom until the lock is fully engaged with the piece below it. Fasten it into place without stretching the panel.
- Fasten nails or other fasteners in the center of the nailing slots, except when specifically instructed otherwise. This allows the panels to shift, expand and contract based on the temperature.
- Do not force the panels up or down when fastening in position.
- Do not drive the head of the fastener tightly against the siding nail hem. Allow approximately 1/32″ (about the thickness of a dime) clearance between the fastener head and the siding panel. Make sure the panels can move freely back and forth. Drive fasteners straight and level to prevent distortion and buckling of the panel.
- Leave a minimum of 1/4″ clearance at all openings and stops to allow for normal expansion and contraction. When installing in temperatures below 40°F, increase minimum clearance to 3/8″.
- Do not caulk panels where they meet the receiver of inside corners, outside corners, or trim. Do not caulk overlap joints.
- Do not face-nail or staple through siding, except in very limited applications. Vinyl siding expands and contracts with outside temperature changes. Face-nailing can cause ripples in the siding.
- If re-siding, furring or removal of uneven original siding is necessary, take appropriate actions to ensure a smooth and continuous surface.

Materials, Tools and Accessories

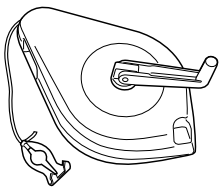
BASIC INSTALLATION TOOLS AND EQUIPMENT



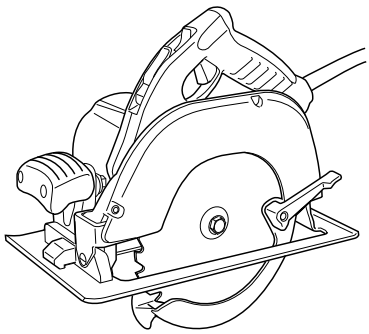
SAFETY GLASSES



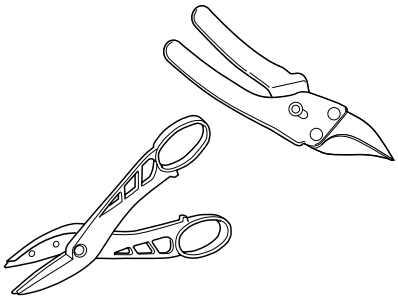
TAPE MEASURE



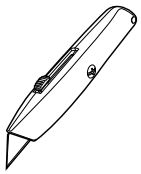
CHALKLINE



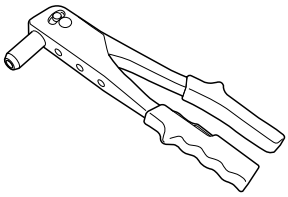
CIRCULAR SAW



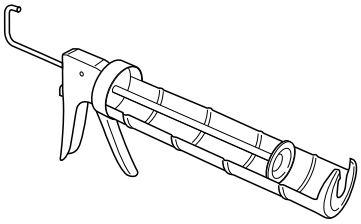
TIN SNIPS (AVIATION OR SCISSORS ACTION)



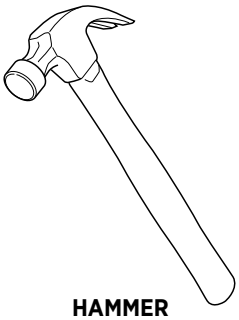
UTILITY KNIFE



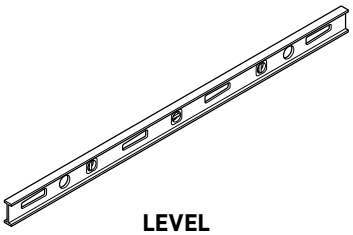
POP RIVET GUN



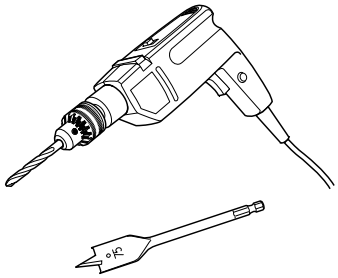
CAULKING GUN



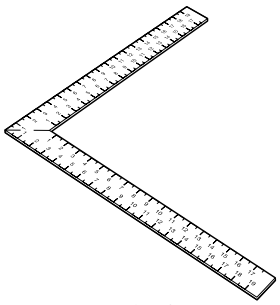
HAMMER



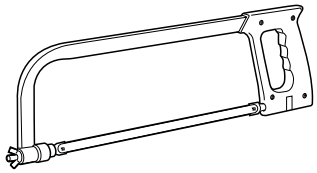
LEVEL



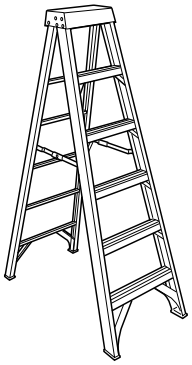
POWER DRILL (1/8" DRILL BIT)
3/4" BORING BIT



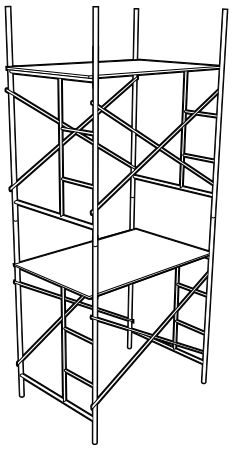
FRAMING SQUARE



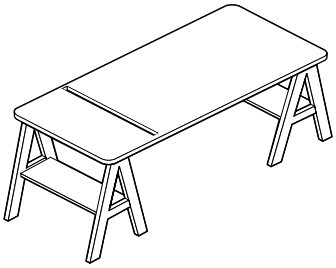
FINE TOOTH SAW



LADDERS



SCAFFOLDING



CUTTING TABLE

Materials, Tools and Accessories

SPECIAL TOOLS

*How to use vinyl siding specialty tools**

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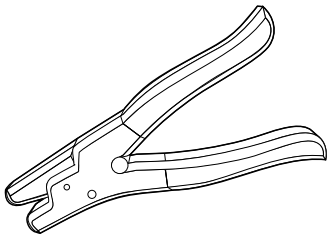
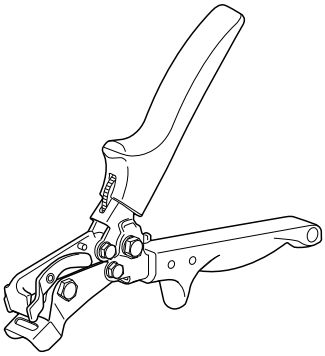


SNAPLOCK PUNCH

Snaplock Punch

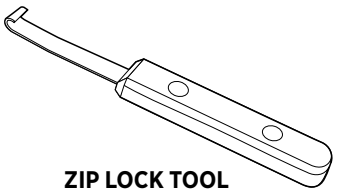
Used to create tabs in a cut edge of siding, such as the top of a finishing course or below windows where the nail hem has been removed.



NAIL HOLE SLOT PUNCH

Nail Hole Slot Punch

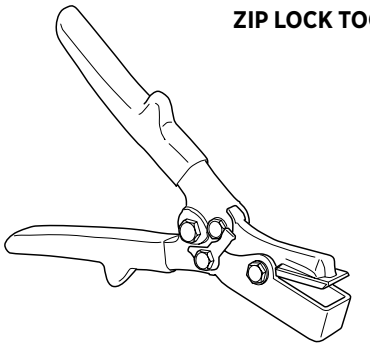
Used to create a nail slot in the panel face, or extend the opening of an existing nail slot.



ZIP LOCK TOOL

Zip Lock (Unlocking) Tool

Used to remove or replace a damaged panel. Insert the curved end of the tool under the end of the panel and hook onto the back lip of the bottom lock. To disengage the lock, pull down and slide the tool along the length of the panel.



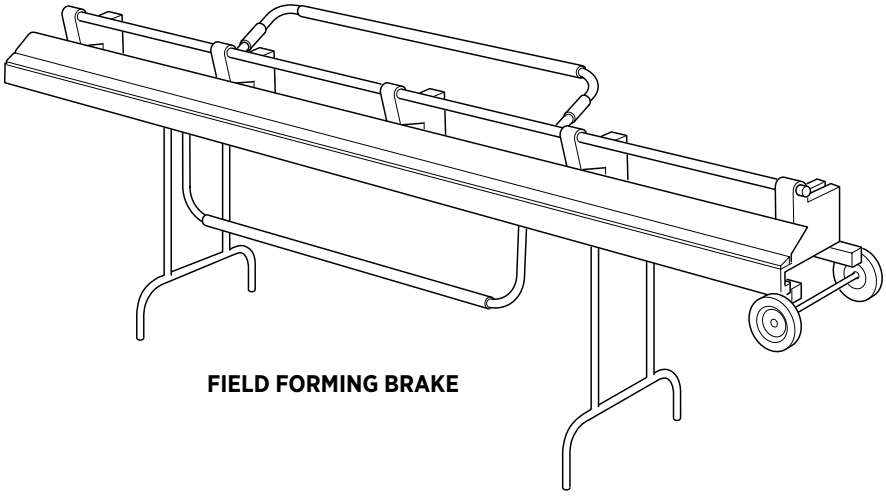
J-CHANNEL CUTTER

J-Channel Cutter

Makes drain tabs, notches, cutouts and trim cuts in vinyl J-Channel.

Field Forming Brake

Used to form aluminum trim sheet.

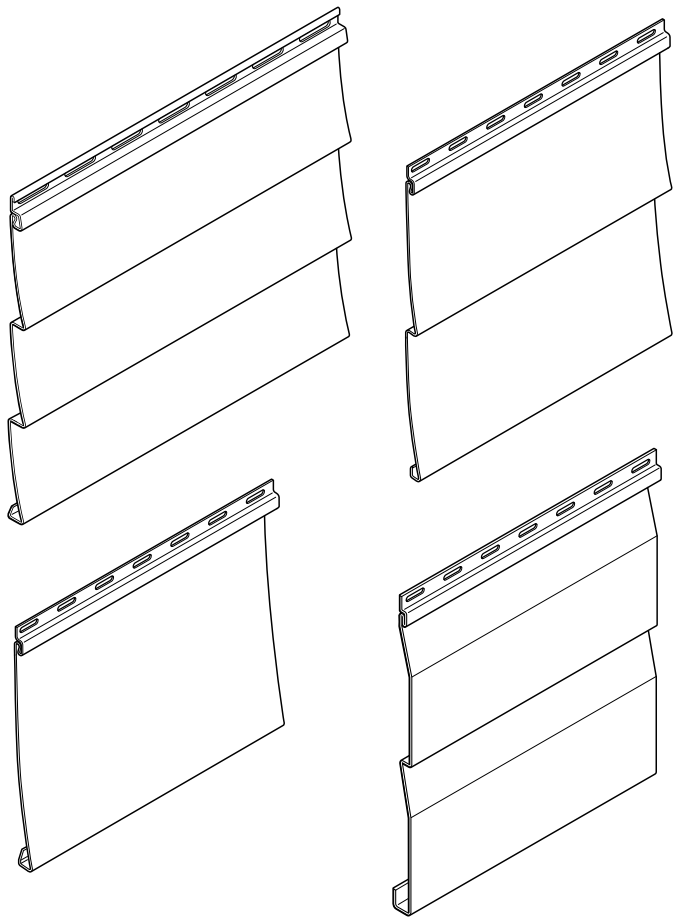


FIELD FORMING BRAKE

Materials, Tools and Accessories

SIDING PANELS AND ACCESSORIES — PANEL PROFILES

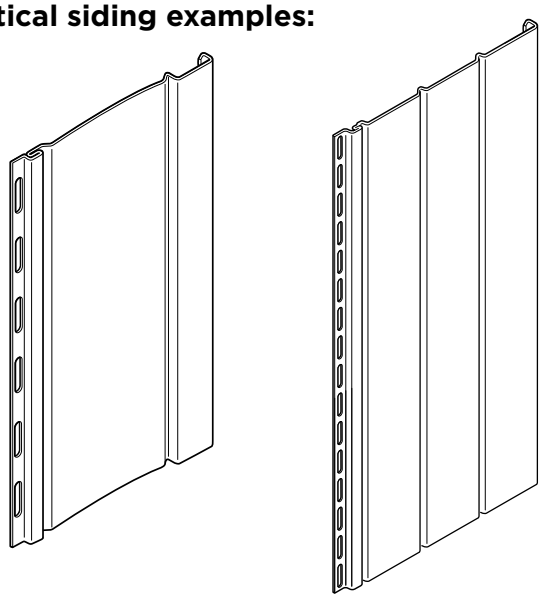
Horizontal siding examples:



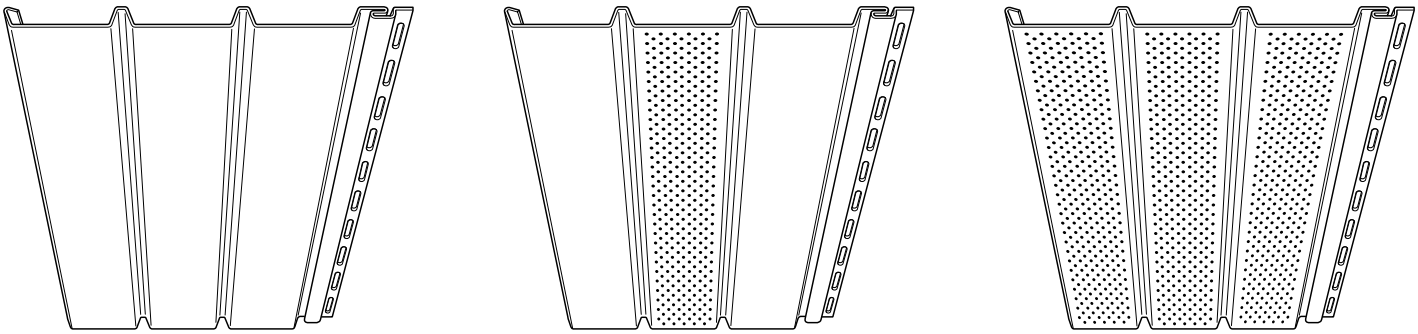
Vinyl siding comes in many shapes, textures, and colors, creating a wide array of looks. It comes in panels that can be installed horizontally or vertically.

There are also various types of vinyl soffit (the material used to enclose the underside of the gables and eaves). Soffit can be vented to maximize airflow, preventing moisture accumulation and heat buildup in the roofing attic area.

Vertical siding examples:

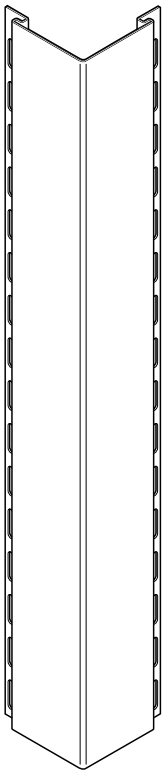


Soffit examples:

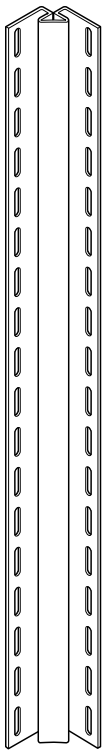


Materials, Tools and Accessories

ACCESSORY EXAMPLES



OUTSIDE CORNER POST



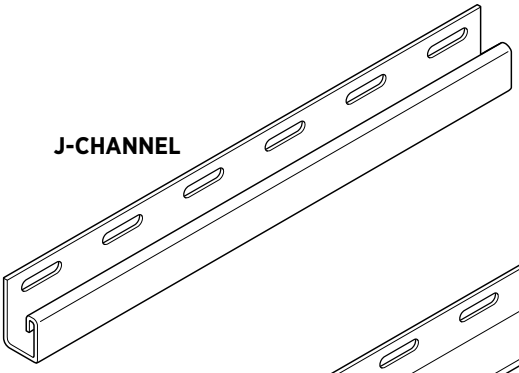
INSIDE CORNER POST

Outside and Inside Corner Posts

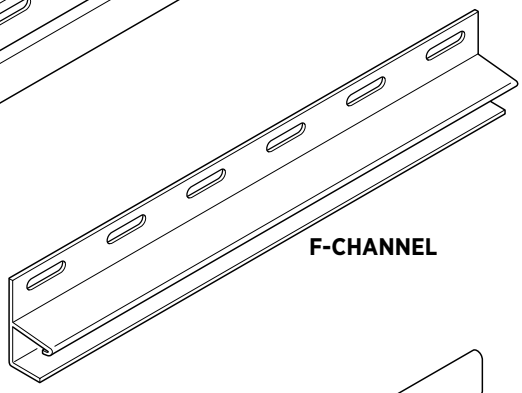
Corner posts are used to provide a finished edge at an inside or outside corner. The siding from adjoining walls fits neatly into the corner post channels. J-Channel can also be used as an option for inside corners.

Trim and Molding

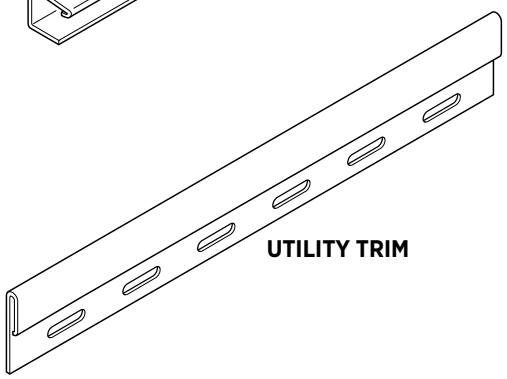
A complete line of accessories is available to give every installation a professional appearance. Accessories include J-Channel, F-Channel, starter strip, head flashing, utility trim, and double utility trim.



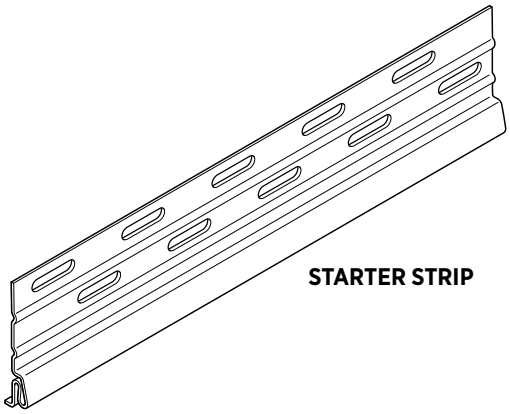
J-CHANNEL



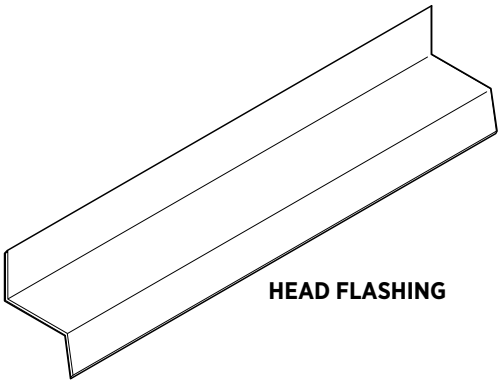
F-CHANNEL



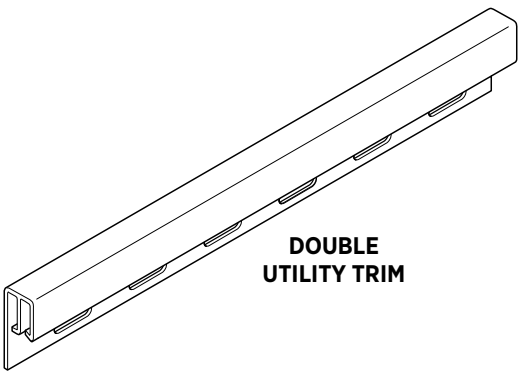
UTILITY TRIM



STARTER STRIP



HEAD FLASHING



DOUBLE UTILITY TRIM

How to Measure a Project

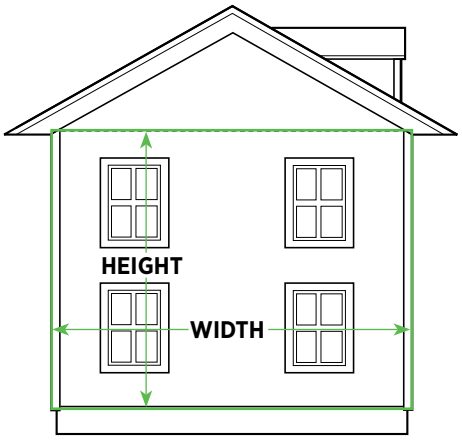
ESTIMATING REQUIRED MATERIALS

*Estimating a project**
https://deephow.ai/p/dliQxzWikUTVtFyc075j

- Most houses can be broken down into shapes of rectangles or triangles, or a combination of both.
- The area to be sided can be determined by measuring the height and width of the house, including windows.
- Total all of the measurements for the areas to be sided. Do not deduct windows and doors — including them will provide an allowance factor for waste. If the windows and doors are extremely large (such as a garage or sliding glass doors), some vinyl deductions can be made.
- To estimate the amount of starter strip required, measure the linear feet around the entire base of the house.
- To estimate the total pounds of fasteners required, multiply the total square feet of siding by 0.0005 for aluminum nails and 0.01 for roofing nails, staples, and screws.

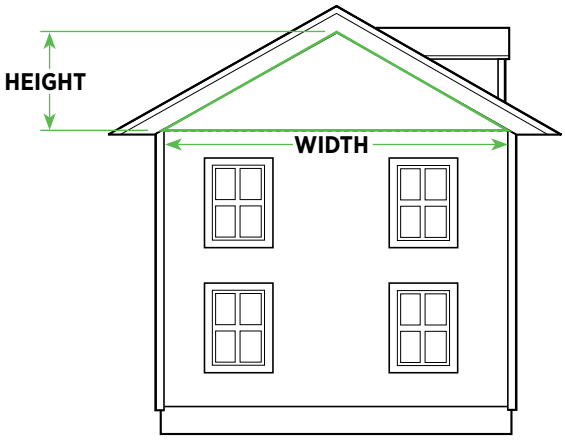
Note: Every 100 square feet is called a "square" for ordering purposes.

HEIGHT _____ FEET (METERS) x WIDTH _____ FEET (METERS) =
_____ SQUARE FEET (SQUARE METERS)



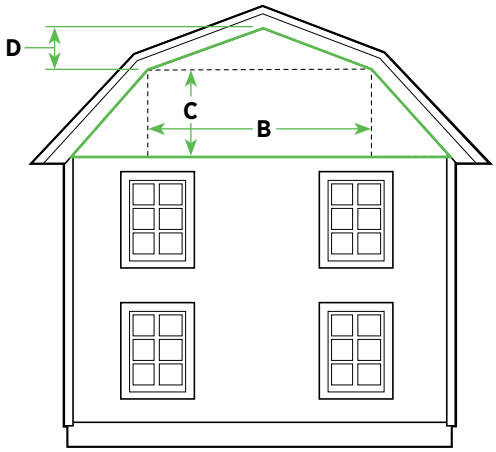
WALL AREAS

1/2 HEIGHT x WIDTH =
_____ AREA OF GABLE (SQUARE FEET/METERS)



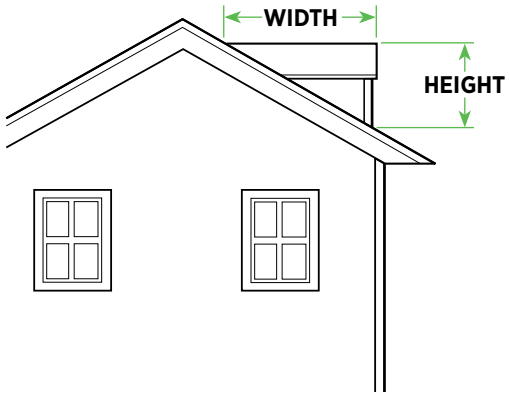
GABLE AREAS

1/2(B x D) + (B x C) + (A x C) =
_____ TOTAL AREA OF GABLE (SQUARE FEET/METERS)



GRAMBREL ROOF HOUSE

1/2 HEIGHT x WIDTH =
_____ AREA OF DORMER (SQUARE FEET/METERS)



DORMER AREA

How to Measure a Project

ESTIMATING WORKSHEET

Use this worksheet to estimate the required materials*

Siding	square feet
Walls	
Gable ends	
Dormer sides	
Upper gambrel walls	
Total wall surface area (A)	
Large areas not to be covered:	
(garage doors/sliding doors)	
x 0.50	
Uncovered area (B)	
Subtract B from A for	
Total net surface area	

	square feet
Soffit	
Porch ceiling	

Accessories	linear feet
Starter strip	
Utility trim	

notes:

Receiving channel	linear feet
J-Channel	
Designer J-Channel	
Flexible J-Channel	
F-Channel	
3-1/2" / 5" lineals	

Outside corners	
Outside corner post	
Designer corner trim	

Inside corners	
Inside corner post	
J-Channel	

Other	
Soffit cover trim	
Soffit double channel lineal	
Light blocks	

Width of accessory recess opening:

(circle one) 1/2" 5/8" 3/4" 1-1/4"

Nails	
Pounds required	
Length (1 1/2" minimum)	

Tools needed

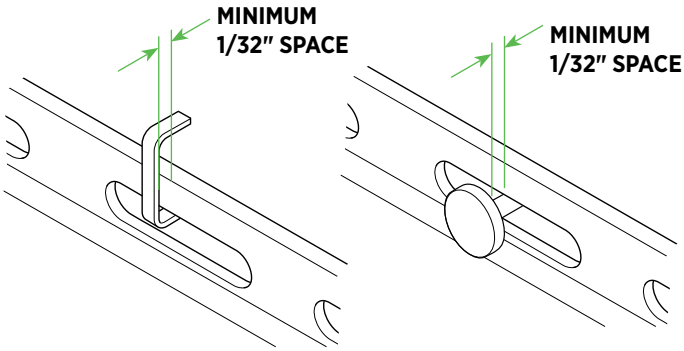
- hammer
- tape measure
- utility knife
- framing square
- power saw
- snaplock punch
- fine-tooth saw blade
- tin snips
- chalkline
- level
- hacksaw
- nail hole slot punch
- zip lock tool

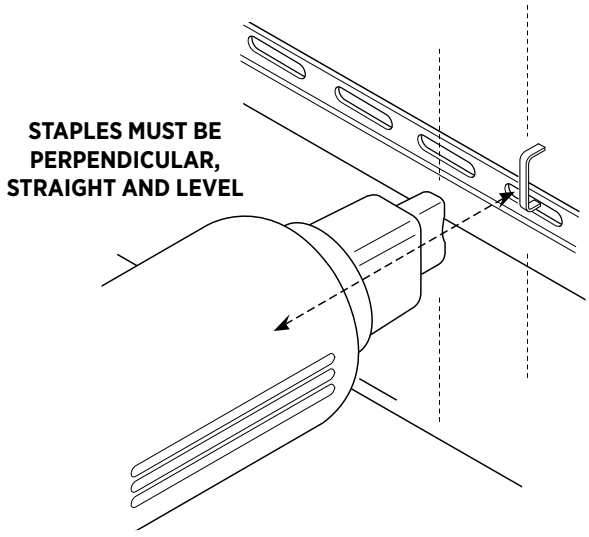
**Add 10% to all material estimates to allow for waste.*

Fastener Choices and Procedures

NAILS/SCREWS/STAPLES

Use aluminum, galvanized steel, or other corrosion-resistant nails, staples, or screws when installing vinyl siding. Aluminum trim pieces require aluminum or stainless steel painted trim nails.





Fastener Requirements

Fasteners into framing and wood sheathing must have 1-1/4" penetration.

Fasteners into solid wood sheathing (OSB or plywood minimum nominal 1/2" thick) must be of sufficient length to penetrate **past the back of the wood sheathing by a minimum of 3/4". When possible, fasteners should hit studs.**

Nails

Nail heads should be 5/16" minimum in diameter. Shank should be 1/8" in diameter.

Staples

If staples are being used instead of nails or screws, they must meet the following requirements:

- Not less than 16-gauge, semi-flattened to an elliptical cross-section.
- Wide enough in the crown to allow movement of the siding.
- Leave 1/32" clearance between staple crown and nail hem of the siding panel. Be sure to adjust staple gap to allow for 1/32" clearance.

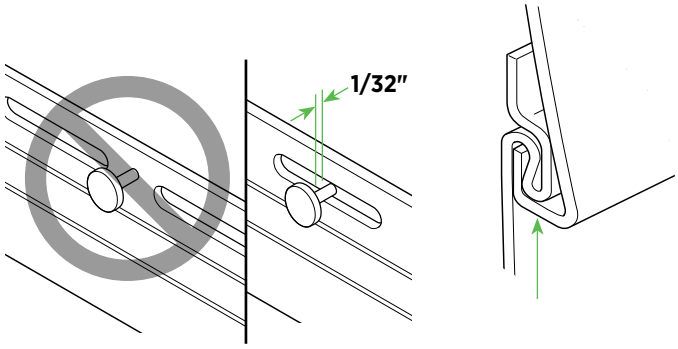
Screw Fasteners

Screw fasteners can be used if the screws do not restrict the normal expansion and contraction movement of the vinyl siding panel on the wall. Screws must be centered in the slot with a minimum 1/32" space between the screw head and the vinyl. Screws should be:

- Size #8, truss head or pan head. Screw head must be minimum 5/16" and a maximum of 1/8" diameter (including treads) shank.
- Corrosion-resistant, self-tapping sheet metal screws should be used with metal substrates.

Fastener Choices and Procedures

FASTENING PROCEDURE

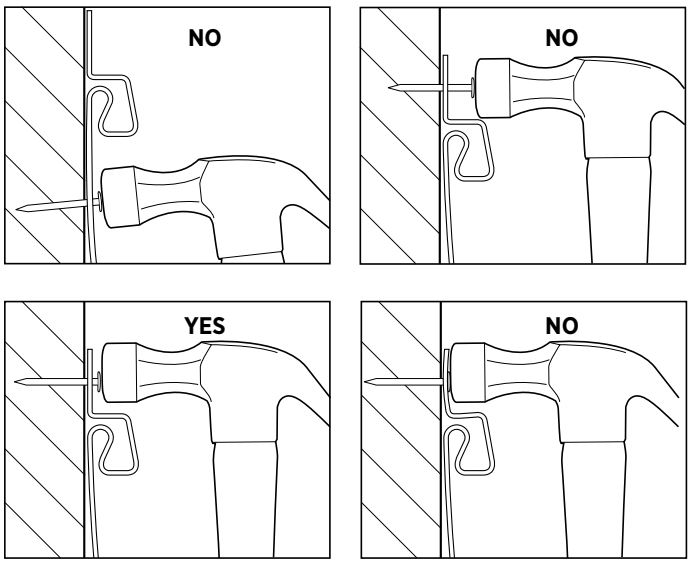


NAIL THROUGH CENTER OF NAIL SLOT. LEAVE 1/32" BETWEEN HEAD OF FASTENER AND NAIL HEM.

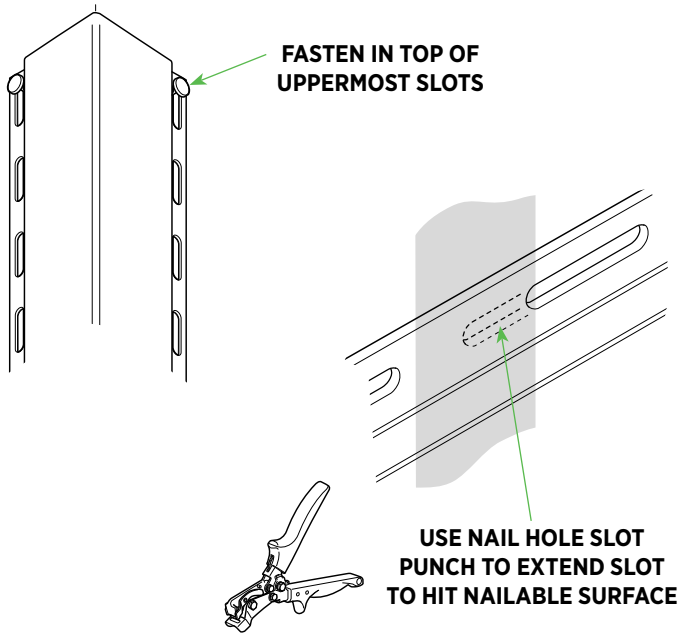
Vinyl siding can expand and contract 1/2" or more over a 12'6" length during normal, year-round changes in temperature. Whether using a nail, screw, or staple to fasten the siding, the following basic rules must be followed:

- Make sure the panels are fully locked along the length of the panel.

WARNING! Do not force or stretch the panel by pulling it from the top when fastening.



- Do not drive the head of the fastener tightly against the siding nail hem. Allow approximately 1/32" clearance (the thickness of a dime) between the fastener head and the vinyl. Tight fastening will cause vinyl siding to buckle with changes in temperature.
- After locking the panel, start fastening the center of the panel and work toward the ends.
- Center the fasteners in the slots to permit expansion and contraction of the siding.
- Drive fasteners straight and level to prevent distortion and buckling of the panel.
- Space the fasteners a maximum of 16" apart for horizontal siding panels, 12" apart for vertical siding and accessories.
- Start fastening vertical siding and all vertical accessories in the top of the uppermost slots to hold them in position. Place all other fasteners in the center of the slots.
- If a nail slot does not allow centering/securing into a nailable surface, use a nail hole slot punch to extend the slot and allow centering of the fastener. Do not face nail through the siding material.



Cutting Vinyl Siding and Accessories

*How to cut vinyl siding**
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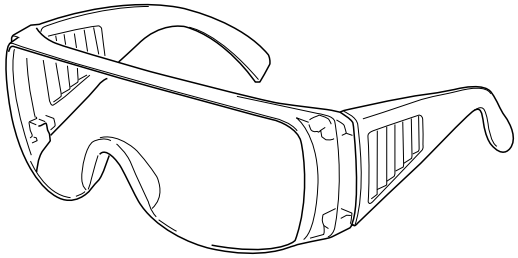
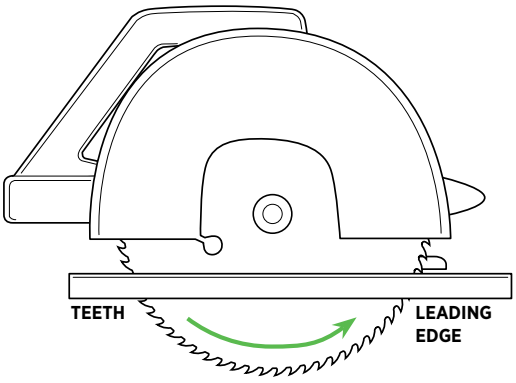


WARNING! The use of protective eyewear is recommended for cutting and nailing operations. Use proper safety equipment and follow safe construction practices.

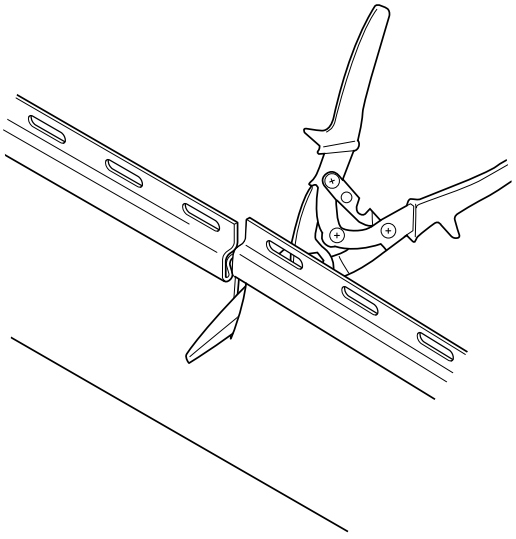
- When using a circular saw, install the fine-tooth (plywood) blade backwards on the saw for a smoother, cleaner cut. Cut slowly (especially in cold weather).

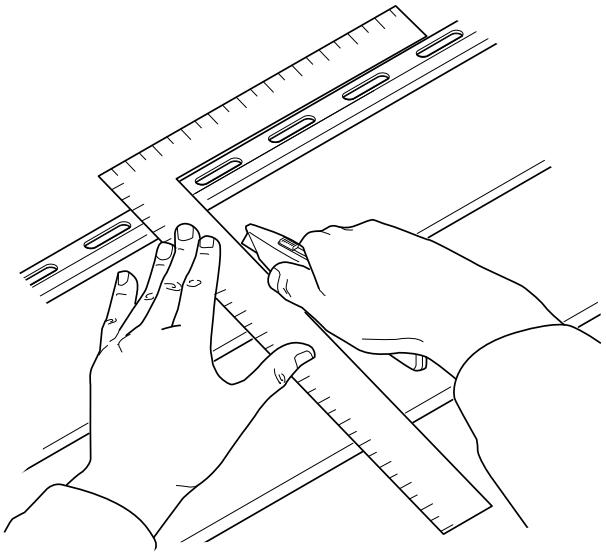


INSTALL BLADE BACKWARDS

WARNING! Do not attempt to cut materials other than vinyl with a reversed direction saw blade. Use of a backwards blade on any other materials could be unsafe.

- When using tin snips, avoid closing the blades completely at the end of a stroke for a neater, cleaner cut.
- When using a utility knife or scoring tool, score the vinyl face up with medium pressure and snap it in half. It is not necessary to cut all the way through the vinyl.





Preparing the Walls

SHEATHING/FLASHING/NEW CONSTRUCTION

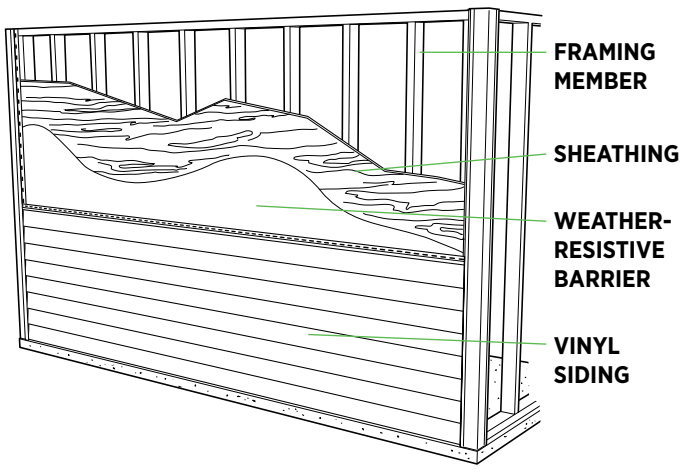
Sheathing/Backerboard

Vinyl siding should be applied over a sheathing that provides a smooth, flat, stable surface. Consult local building codes for sheathing requirements. Vinyl siding should never be applied directly to studs without sheathing.

All sheathing materials must have weather-resistive barrier installed before vinyl accessories and siding are installed.

Flashing

Flashing, such as aluminum coil or roofing felt, should be applied around windows, doors, other openings, and the intersection of walls and roofing to prevent water infiltration.



New Construction

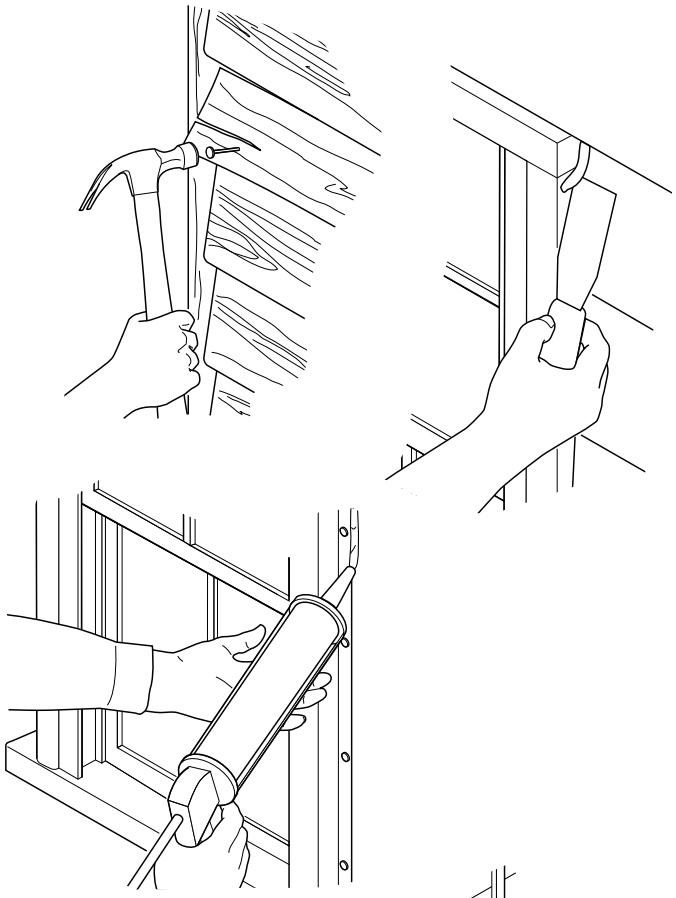
- Make sure all studs are straight and true to avoid bulges or dips in the finished wall. Correct any bowed studs at this time.
- Make sure all sheathing is properly fastened to the framing according to building code requirements and/or the sheathing manufacturer's recommendations.
- Make sure subwall assembly is weather tight before applying siding. Vinyl siding and vinyl siding accessories alone do not constitute a waterproof installation. The combination of proper sub wall preparation and siding installation result in the desired protection of the structure.
- A weather-resistive barrier should be properly fastened according to the manufacturer's instructions, and be smooth and even. Flashing and caulking should be added as needed in areas such as windows, doors, and other openings to control moisture and to protect the subwall assembly.

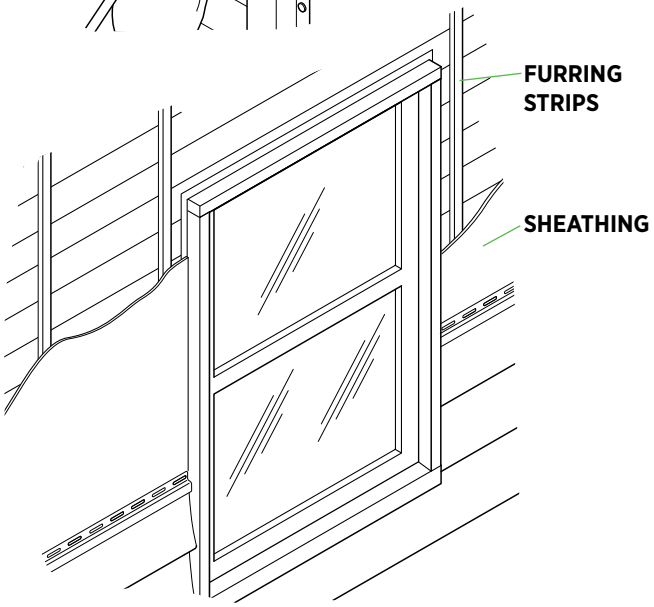
Tip: In multi-story new construction projects, place the drywall and roofing materials in the house, on the floor of the room where it is going to be applied (or on the roof) prior to the installation of the siding when possible. This will help load the floor system and the floor band prior to applying siding. This can help reduce panel bulging in the floor band areas where compression and shrinkage typically occur.

Re-siding Existing Structures

Note: a weather-resistive barrier is required before vinyl siding is installed.

Review "**Sheathing/Backerboard**" and "**Flashing**" at the beginning of this section.





- Nail down loose boards of existing siding and replace any rotten boards.
- Vinyl can be installed over existing siding if a flattening board is installed over the existing siding. Alternatively, remove all existing siding and install new vinyl over a properly prepared substrate.

CAUTION: Do not install vinyl siding over rotting wood.

- Scrape off loose caulk and any other buildup that might interfere with siding installation.
- Re-caulk around windows, doors, and other areas to protect against moisture penetration.
- Remove all items such as gutters, downspouts, and light fixtures, as needed.
- Check all walls for evenness and install shims where necessary. Install rigid sheathing to provide a smooth, flat, and stable surface for the installation of the vinyl siding.

CAUTION: Do not install vinyl siding directly to furring strips without sheathing.

- Window and door casings may need additional preparation. A window/door casing generally needs to extend out from the finished sub wall sufficiently to allow J-Channel or similar molding to butt to it. In some situations, building out the casing, or using special purpose moldings such as window and door surround, may be necessary. In most cases you can cover these wood casings with aluminum trim coil to avoid future maintenance.

Installing Standard Accessories

FLASHING EXISTING WINDOWS

*Flash an existing window with vinyl**

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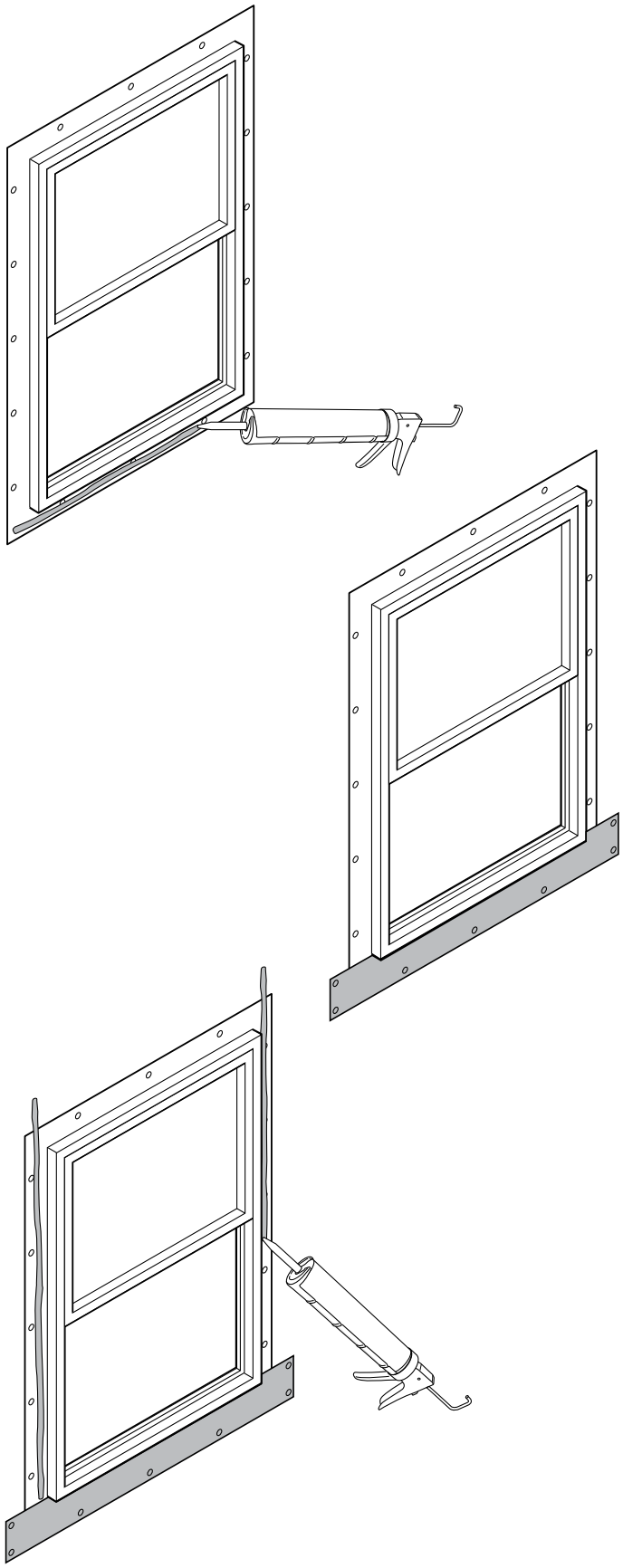


Before installing J-Channel, you must install flashing around windows.

Flashing New Window Installations

If flashing a new window installation, follow ASTM E2112, Standard Practice for Installation of Exterior Windows, Doors, and Skylights for the proper flashing installation method for the window type and wall configuration.

Flashing Previously Installed Nail Fin Windows

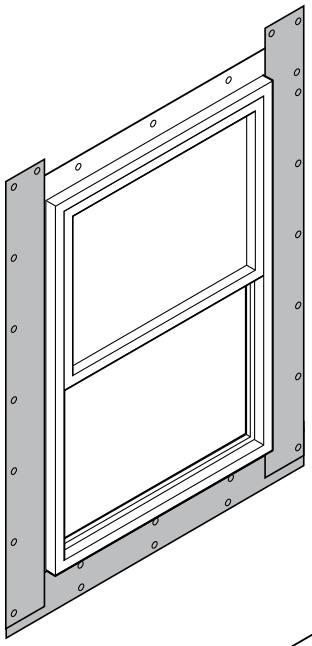
Note: Sealant should be compatible with window, flashing, and weather-resistive barrier materials. Window flashing can be aluminum coil or roofing felt. The use of self-adhering flashing is acceptable.

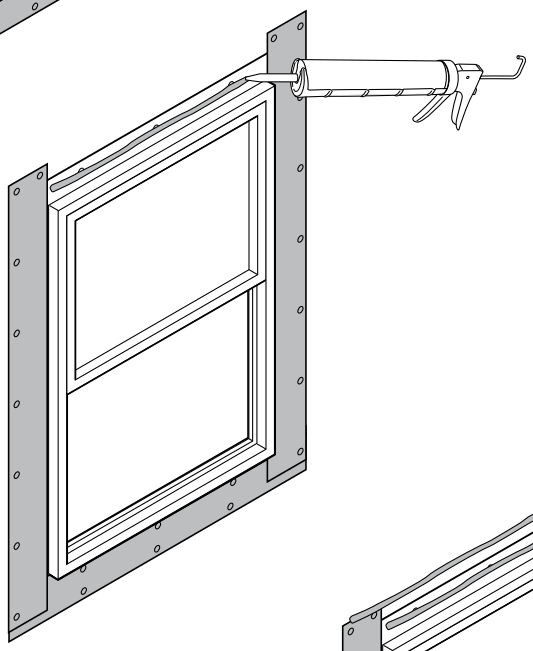
If a nail fin (new construction) window has been previously installed without flashing, the following instructions should be followed:

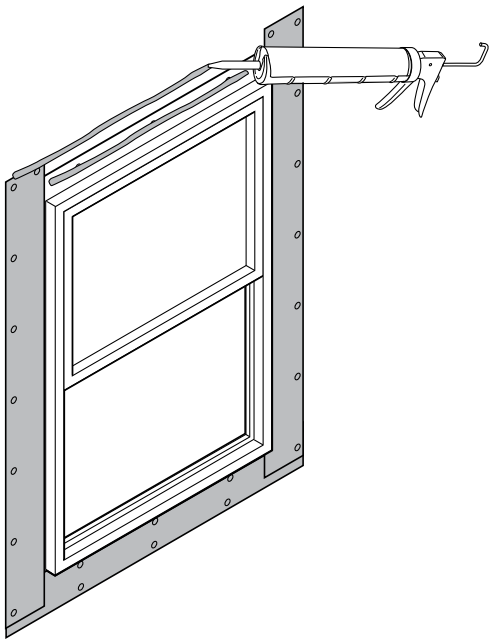
- Apply a continuous bead of sealant to the nail hem of the sill so sealant covers the nails and nail slots. Apply a minimum of 9″ wide horizontal sill flashing level with the bottom edge of the existing window by pressing the flashing into the sealant bead at its top edge. Cut the sill flashing long enough to extend a minimum of 9″ beyond each jamb. Fasten the sill flashing at the bottom and side edges.
- Apply a continuous bead of sealant to the nail hem of the jambs so that sealant covers the nails and nail slots. Continue the bead of sealant at the jambs vertically a minimum of 8-1/2″ above the head of the window. Install the jamb flashing by pressing the flashing into the sealant beads at the window jambs.

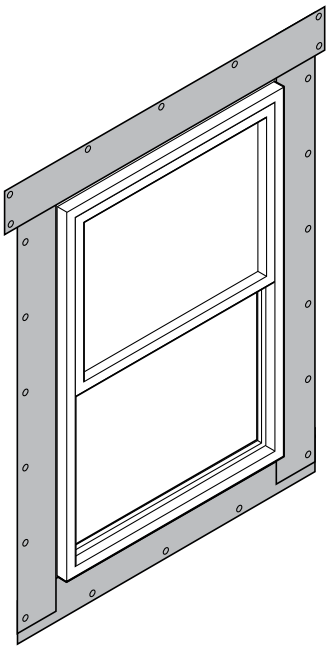
Installing Standard Accessories

FLASHING EXISTING WINDOWS







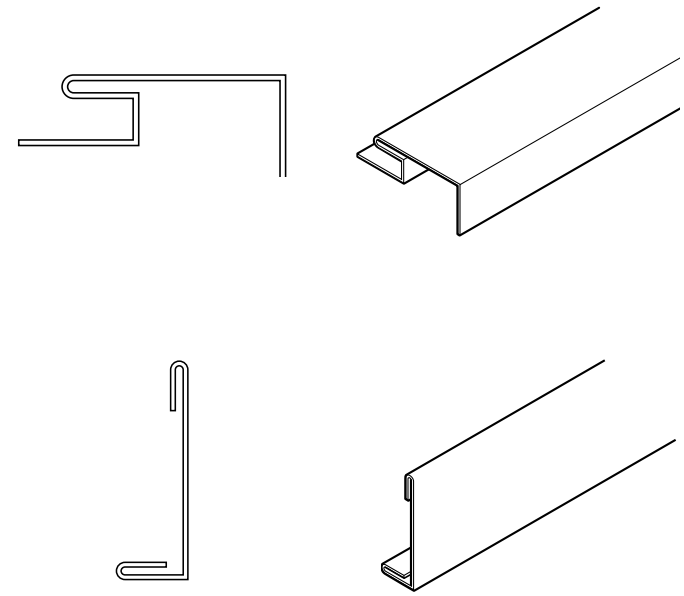


- Extend the bottom edge of the jamb flashing approximately 1/2″ short of the sill flashing edge, and extend the top edge approximately 8 1/2″ beyond the head of the window. Fasten the jamb flashing along the edges away from the window.
- Apply a continuous bead of sealant to the nail hem at the head so that the sealant covers the nails and nail slots. Add an additional bead of sealant horizontally, in line with the top of the head flashing. Install the head flashing by pressing the bottom edge of the flashing into the sealant bead across the mounting flange. Extend the ends of the head flashing approximately 1″ beyond the jamb flashing at each end. Fasten the head flashing into place along the top edge.

Installing Standard Accessories

FIELD BENDING ALUMINUM COIL

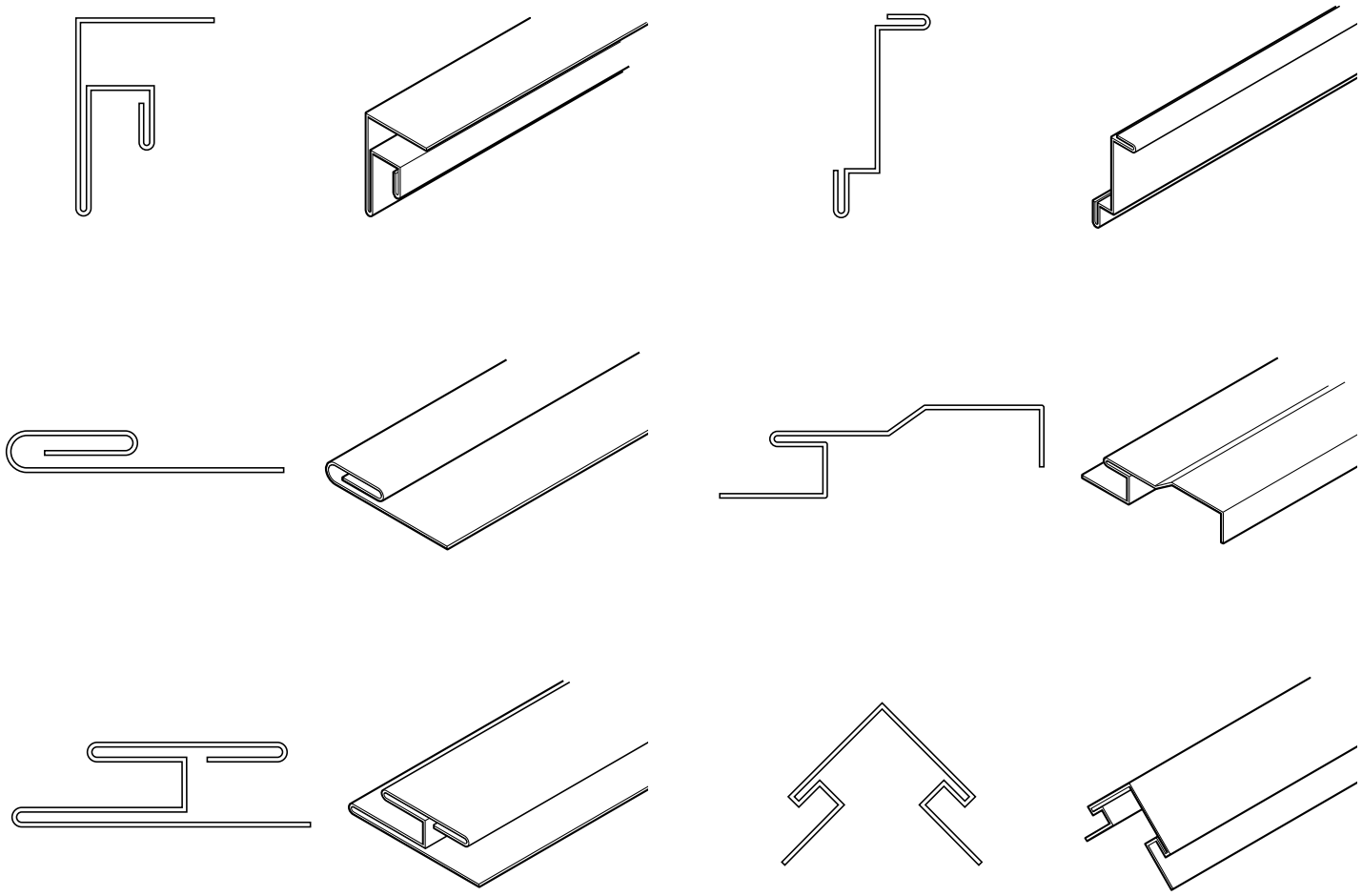
Examples of shapes to bend



Capping Existing Wood Opening Casings

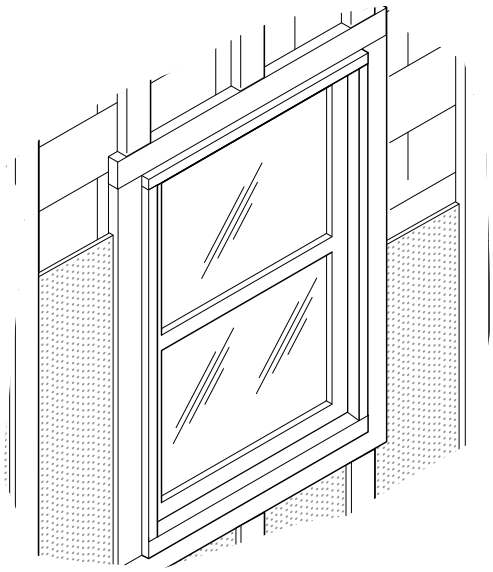
- Ensure exterior casing is sealed to the exterior sheathing or weather-resistive barrier with a good quality sealant.
- Cover casing with aluminum trim coil. This can be accomplished by using a portable field brake and bending instructions from the brake manufacturer. The trim sheet should be installed in weatherboard fashion. The bottom piece should be installed first, and each piece should overlap the piece below.

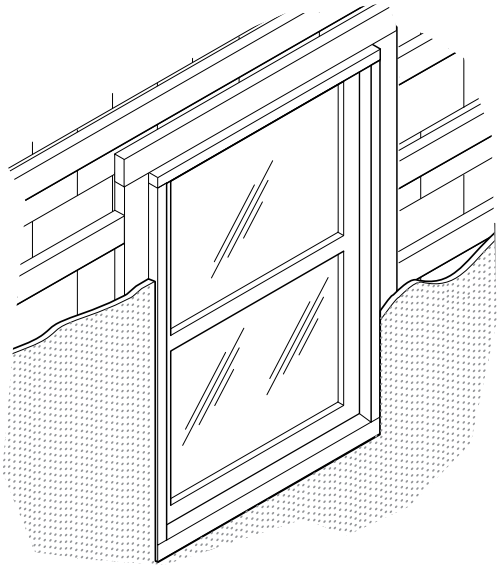
Note: It is critical that aluminum trim be attached with a painted aluminum or stainless steel trim nail. It is suggested that all nail holes be pre-drilled with a 1/8″ drill bit.



Preparing the Walls

SIDING OVER MASONRY SUB-SURFACE





Over Masonry Subsurface

Masonry walls, such as block and stucco, will require furring strips (laid flat). A minimum 2″ x 4″ wood strips are installed with masonry nails over the masonry area to be sided. For increased decay resistance, use pressure-treated furring strips.

- For horizontal siding, strips should be installed vertically 16″ on center (maximum). They should be installed completely around doors, windows and other openings, at all corners, and at the top and bottom of the area to be sided.
- For vertical siding, apply the furring strips horizontally. Strips should be nailed horizontally 12″ centers.

Note: Furring strips should be covered with foam-insulated or wood sheathing or the spaces between the furring strips should be filled in with insulated sheathing equal in thickness to the furring strips. This will provide an even wall surface for the siding and help avoid any waviness.

Installing Standard Accessories

STARTER STRIP

*Starter strip**
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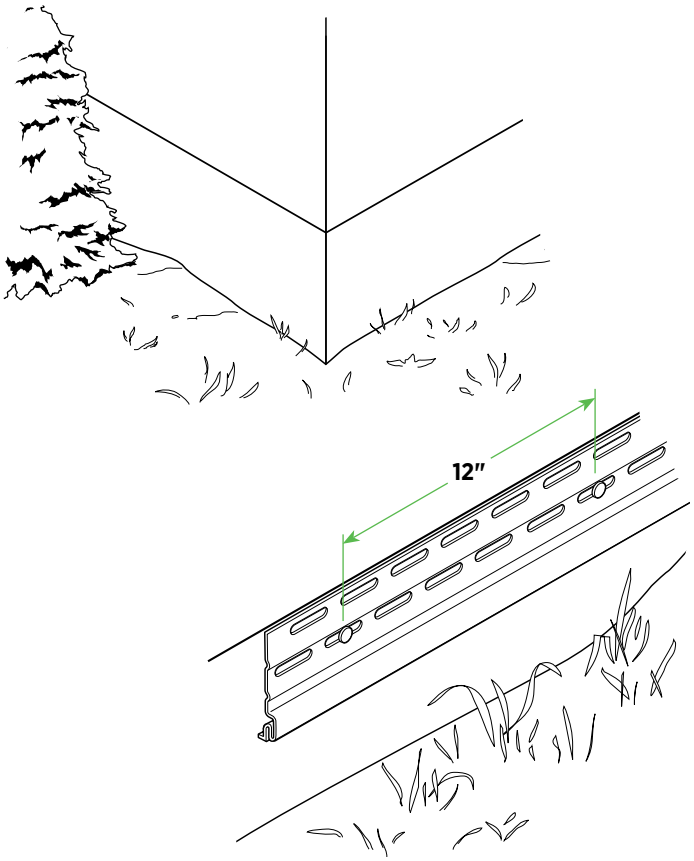
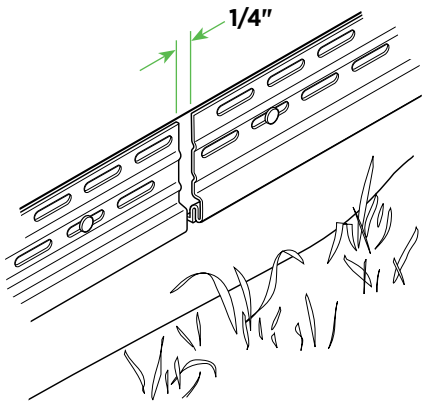
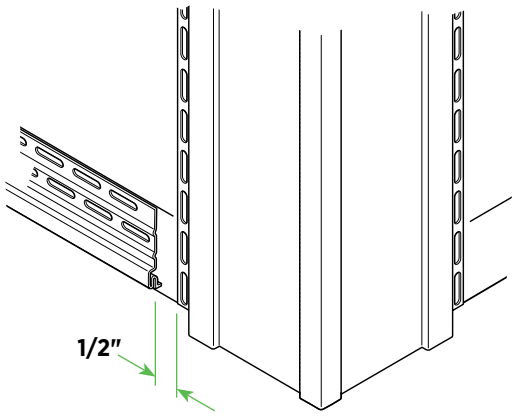






A chalkline must be developed on all the walls that will represent the top of the starter strip. Depending on the application, the chalkline can be developed with a level (new construction) or it can be developed by measuring from the soffit location to assure a uniform course at the top of the walls (remodeling).

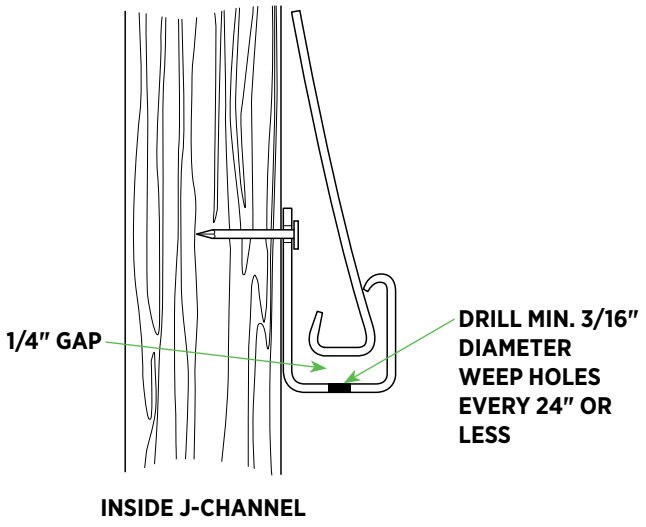
- Using the chalkline as a guide, install top edge of the starter strip along the chalkline, nailing every 12" (maximum) in center of nail slot. Allow space for the corner posts, J-Channel, etc.
- Keep the ends of the starter strips approximately 1/4" apart to allow for expansion.

Note: Starter strip fasteners should be driven flush in the center of the slots to take out starter looseness, but should not be overdriven to where they indent the starter.

Note: If starter strip is being installed before outside and inside corners, leave a minimum of 1/2" gap.

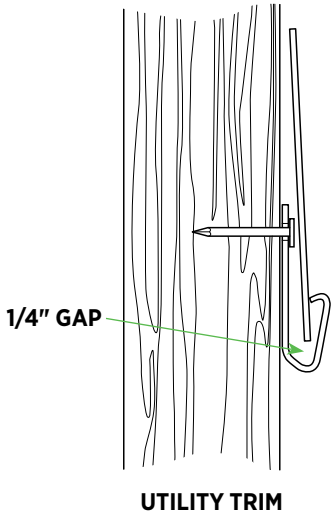
Installing Standard Accessories

OPTIONAL STARTER STRIP APPLICATIONS



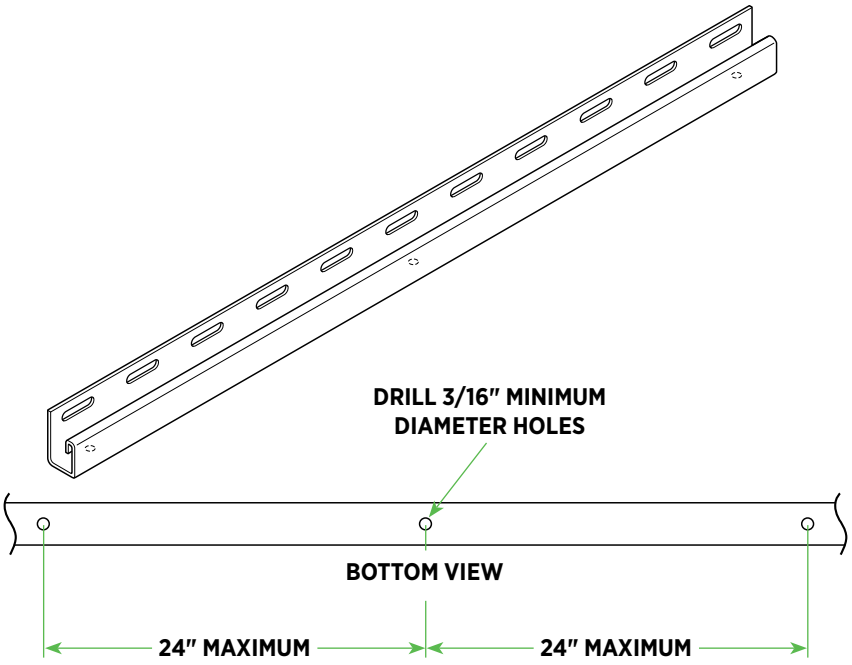
In most situations starter strip is used to start the first course of siding. Special circumstances (panel application around decking, special roof lines and other unique applications) may require other techniques to secure the first panel locking leg. This can be J-Channel or utility trim. In these applications, make sure to leave a 1/4" gap into the J-Channel or utility trim.

Note: The starter strip for vertical siding must be J-Channel.



Drilling Weep Holes in J-Channel

When J-Channel is used as horizontal starter, 3/16" minimum weep holes must be drilled in the center of the bottom surface of the J-Channel at least every 24", to allow for water drainage.



Installing Standard Accessories

CORNER POSTS

*Corner post options**
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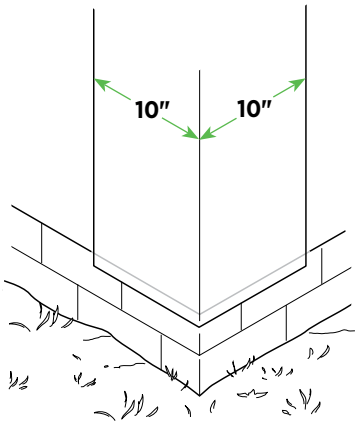
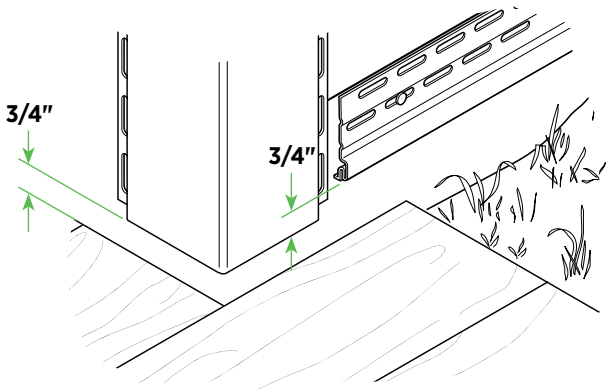
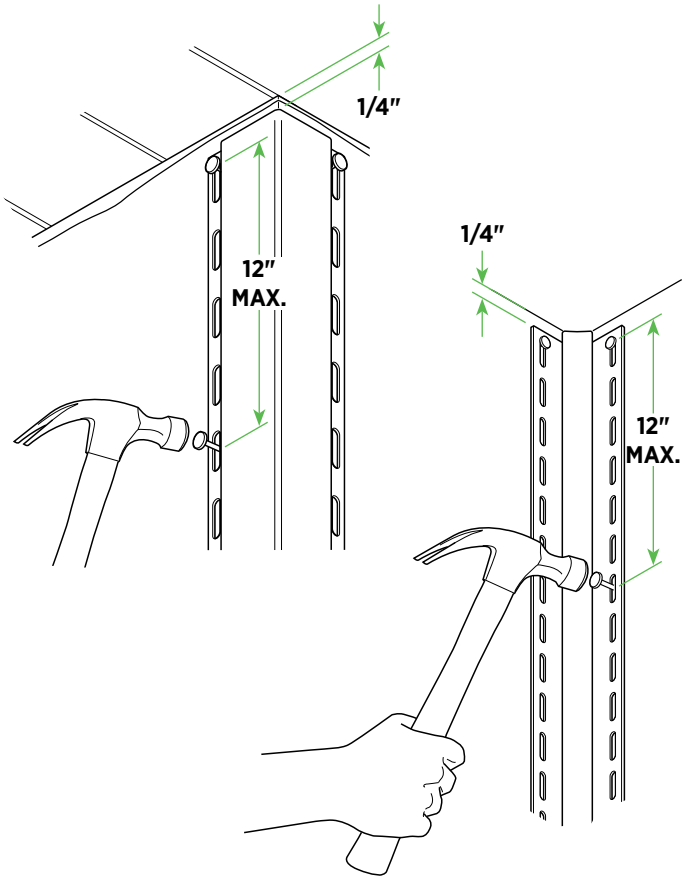
*Flashing and installing corner posts**
https://deephow.ai/p/zhpYMFboUVg8qFOmMjfl







Flashing Under Corner Posts

- If continuous weather-resistive barrier is being utilized, there is no need to flash corner areas before the siding is installed. However, if foam sheathing is being used as a weather-resistive barrier, use aluminum trim coil or roofing felt (minimum 10" on each side) before installation of the corner posts.

Note: If vinyl or aluminum soffit will be installed, either install prior to corner post installation or allow for soffit and accessory thickness when positioning the height of the corner.

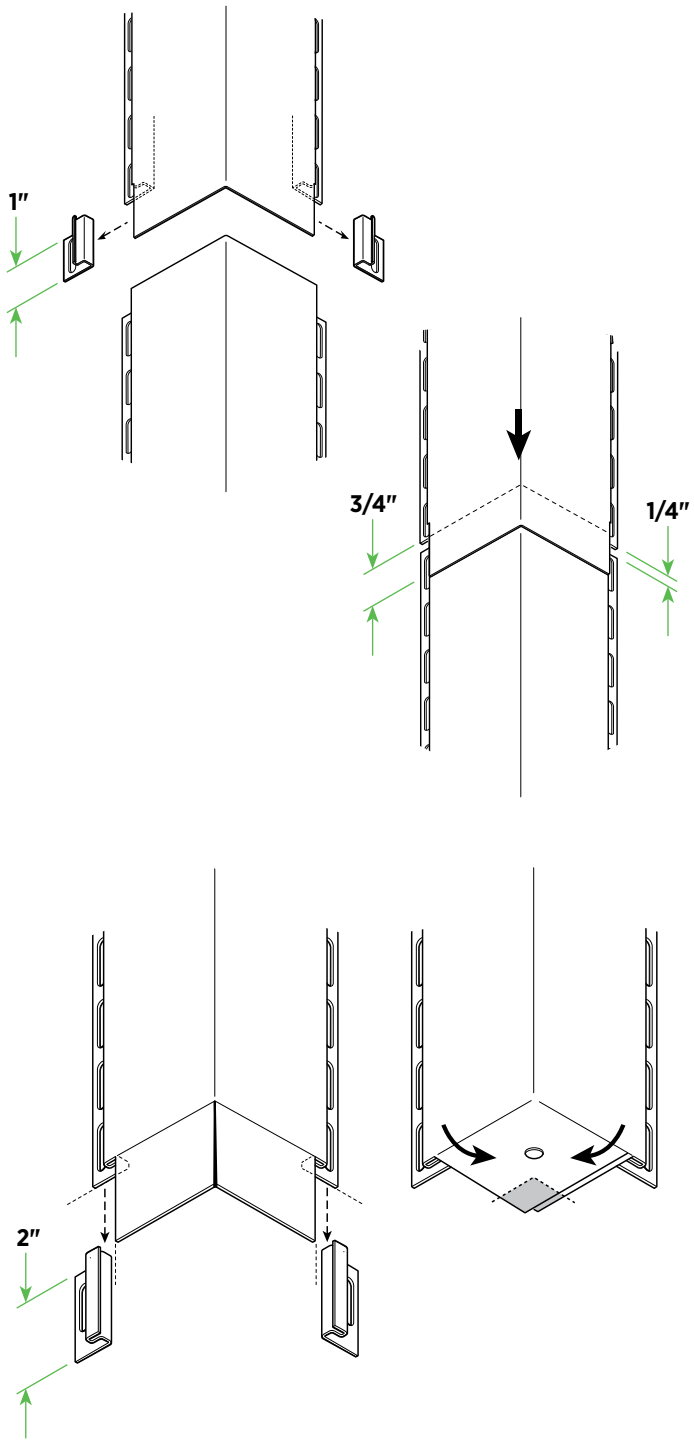
When measuring the length of the posts (inside and outside), allow 1/4" gap to the soffit receiving channel. Also allow for 3/4" extension below the bottom of the starter strip.

- Do not nail tight. The corner post should move. When installing over a deck or a concrete surface, allow 3/4" between the bottom of the corner post and the surface.
- Nail at the top of the upper slot on both sides of the corner post, leaving a gap of approximately 1/32" between the nail heads and the corner posts. The corner post hangs from these nails.
- Nail post maximum every 12" on center in the center of slots, leaving 1/32" between nail head and the corner post. This allows for expansion and contraction to occur. Make sure posts are square to the wall.

Do not nail corner post tight.

Installing Standard Accessories

OVERLAPPING AND CAPPING CORNER POSTS



Overlapping Corner Posts

- If more than one length of corner post is required, cut away 1" of the nail hem and receiving channel on the bottom end of the top piece.
- Overlap 3/4" of the upper post over the lower post, allowing 1/4" for expansion and contraction.

  This method will produce a visible joint between the two posts, but will allow water to flow over the joint, reducing the chance of water infiltration.

Capping Corner Posts

- Corner posts on homes with a second-story overhang need to be capped. Allow approximately 2" extra length when measuring corner.
- Trim away everything except the 2 faces.
- Cut at the corner and fold the flaps over.
- Drill a 1/8" hole in the center, through both layers of vinyl, and install a pop rivet to hold them in place.
- Cut a notch in both layers to allow clearance for the corner.

*Overlapping and closing off outside corners**

https://deephow.ai/p/MtDdf7PXl8aznag0rbJP

Decorative 3-Piece Corner System

*Designer accents**
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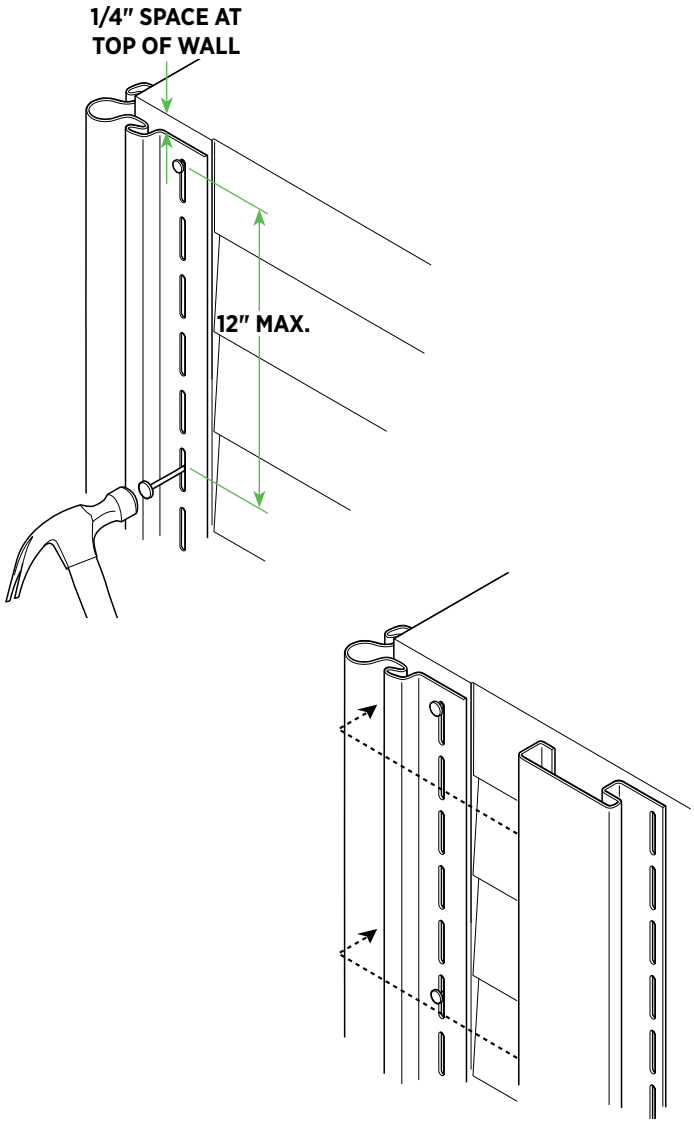

- Use water-resistive material to flash the inside and outside wall corners a minimum of 10" on each side before installation of the 3-piece corner system.
- Measure decorative corner starter for the outside wall corner, allowing a 1/4" gap between the top of the post and the eave or soffit, and extending 3/4" below the siding starter strip and cut to length.
- Nail at the top of the upper full slots on both sides of the decorative corner starter, leaving 1/32" gap between the nail heads and the corner post nail hem. The decorative corner starter hangs from these nails. Nail balance of starter in center of slots, 12" maximum apart, leaving 1/32" between the nail heads and the nail hem. This allows for proper expansion and contraction clearance. Make sure the starter is installed vertically straight and true.
- For typical installations, cut two 3-1/2" or 5" window & door surround lineals to the same length as the decorative corner starter. Snap the locking side of window & door surround into one side of the receiving lock section of the decorative corner starter. Repeat this procedure for installing the other window and door surround.
- Make sure that all three parts are fully locked and line up evenly at the top and bottom. Fasten the window & door surround lineals to the wall. Nail in the top of the upper slot, and then every 12" maximum in the center of slots. Do not nail tight. Leave 1/32" between nail head and nail hem of window and door surround.

Field Form Aluminum to Cap Existing Wood Casings

*Field forming trim sheet**
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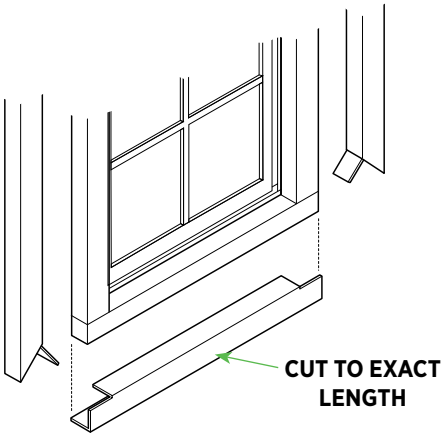
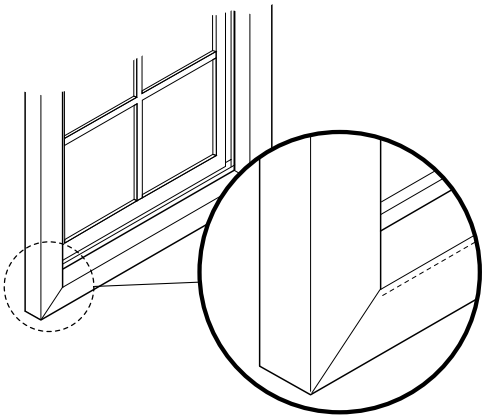
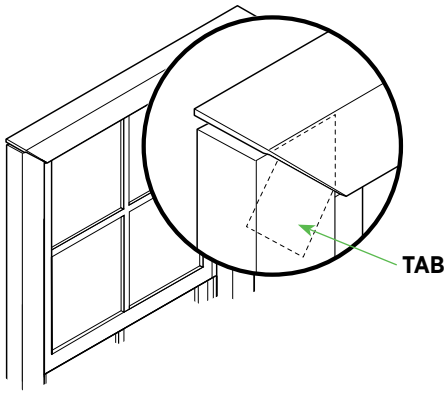






Window Trim Capping

- Measure the required dimensions to cover window trim.
- Cut trim sheet to the measurements and form each sheet on a bending brake.
- Trim sheets should be installed in the following order: bottom, sides, top.
- Create tabs into the trim sheet (bottom of the ends of the side pieces and the ends of the top pieces) so that it covers the edge areas.
- Miter the bottom of the side pieces and both ends of the top piece.
- Nail into place using painted aluminum or stainless steel trim nails. Pre-drill nail holes slightly bigger than the nail shank but smaller than nail head and do not nail tight. The top piece should be the last section to be nailed into place.

Note: You can refer to the field formed brake manufacturers for details and suggestions on how to form various shapes.

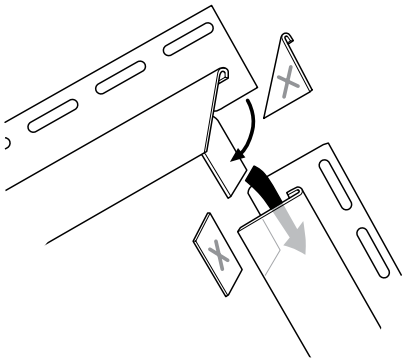
IMPORTANT: Dissimilar Materials

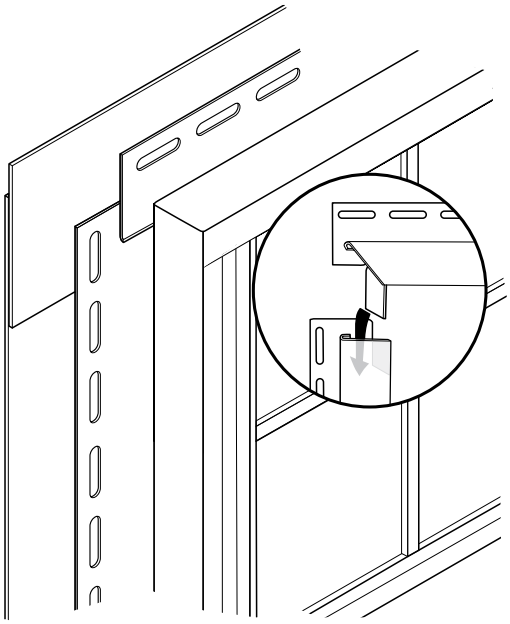
Direct contact of aluminum products with certain dissimilar materials, or contact with water runoff from dissimilar materials, is likely to result in corrosion. Accordingly, care should be taken during installation to avoid such contact of aluminum with dissimilar materials including dissimilar metals (e.g. copper, zinc, steel, etc.), concrete, stucco, asbestos siding, pressure treated/pre-treated lumber, masonry, roofing materials or roofing systems containing metallic granules or strips, or corrosive non-metallic materials.

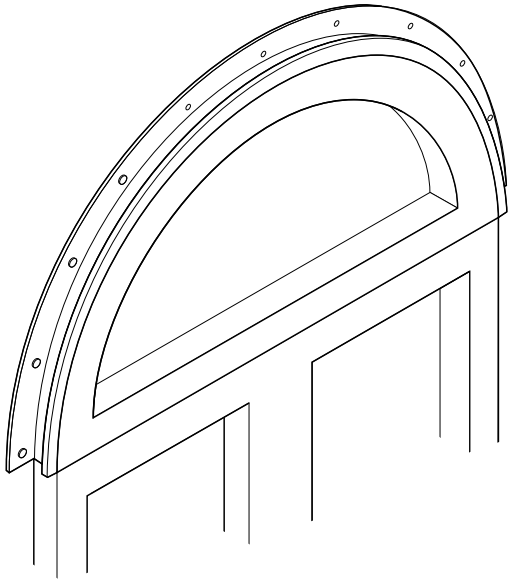
A barrier must be used to separate trim from any pre-treated lumber. Optional barriers include: plastic, roofing felt, foam, or a high quality primer or paint.

Installing Standard Accessories

INSTALLING J-CHANNEL AROUND OPENINGS







J-Channel is designed to receive the siding and must be installed around all windows, doors, other openings and in the gables and eaves where built-in J-Channel is not present.

Install J-Channel in this order: bottom, sides then top.

Water runoff is controlled by making a series of notches, tabs and miters in the J-Channel.

- Miter J-Channel at corners to prevent gaps and allow for proper water drainage.
- Fold the bottom end of the side piece of J-Channel inward at the bottom of the window, to fit over the bottom J-Channel to prevent water from entering under the sill.
- The J-Channel should fit snug to the window. Nail all J-Channel no more than 12" maximum.

Flex-J

Flexible J-Channel is available for curved surfaces, such as arched windows.

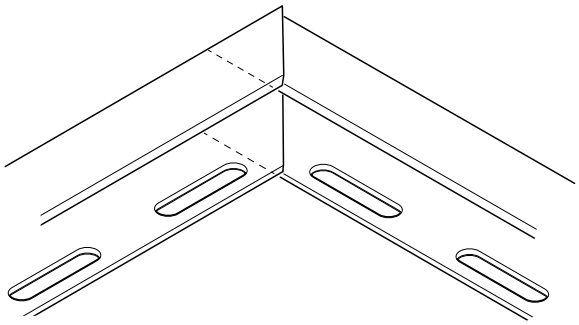
- Begin nailing at one end of the arch 1/2" from the end of the channel. Nail every 6". Never begin at the crown or middle of the arch.

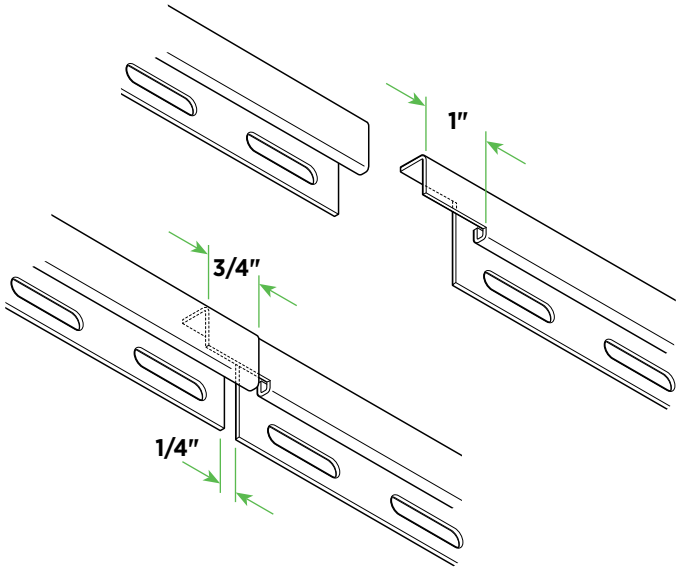
*J-Channel options**
https://deephow.ai/p/U6F7QFKtQErl6OL9BsE6

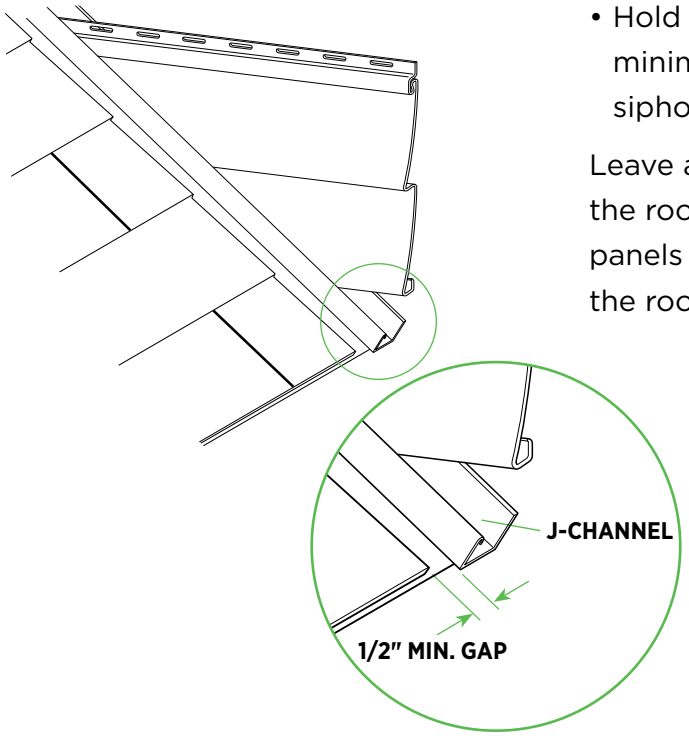
*Designer accents**
https://deephow.ai/p/2Z0df6qqhWW0XHZ7f74G

Installing Standard Accessories

SPECIAL J-CHANNEL APPLICATIONS







Installing J-Channel at Gables and Eaves

J-Channel must be installed before applying siding to gables and eaves.

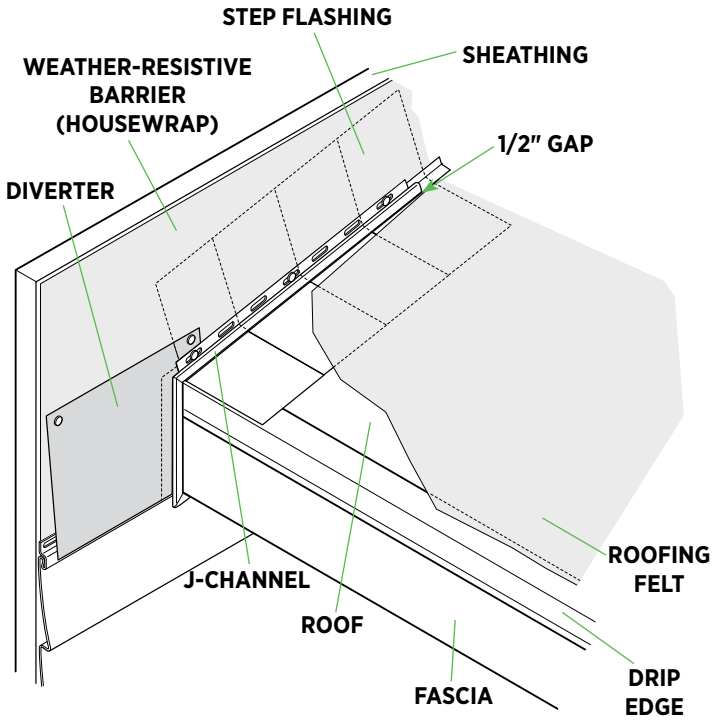
- Where the left and right sections meet at the gable peak, let one of the sections butt into the peak with the other section overlapping.
- A miter cut should be made on the face flange of this piece for better appearance.
- Fasten the J-Channel every 12".

  If more than one piece of J-Channel is required to span a wall surface, overlap the channels by cutting away 1" of the back leg and front lip of one piece and lap it only 3/4". This will allow a 1/4" gap for movement.
- Vinyl J-Channel should not be in direct contact with roofing shingles. The shingles may transfer enough heat to the vinyl J-Channel to cause distortion.
- Hold the J-Channel off roof shingles a minimum of 1/2" to avoid intense heat or siphoning of water.

Leave a minimum 1/2" from the J-Channel to the roof line. Apply siding fasteners on these panels so that the panels expand away from the roof line.

Installing Standard Accessories

INSTALLING FLASHING AT ROOF/WALL AREAS



J-Channel at Roof/Wall Intersections

Sidewall step flashing must installed before J-Channel to prevent water infiltration along the intersection of a roof and wall.

- Cut a diverter from aluminum trim sheet, making sure it sits on the nail hem of the last full course. Be sure the diverter is placed inside the receiving pocket of the vertical J-Channel following the roof line for best drainage.
- Install the diverter behind the J-Channel and integrate it into the weather-resistive barrier.

*Install water/wall diverters**

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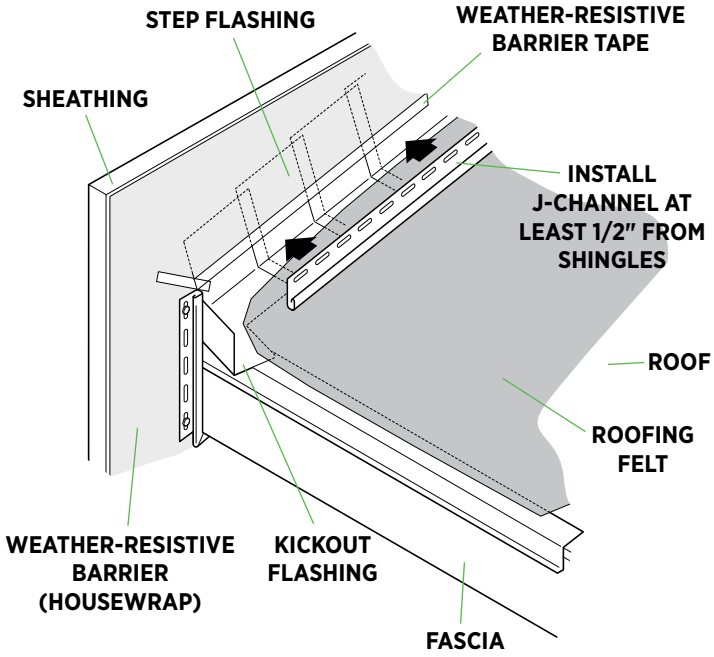

- As an alternative to the diverter, create a "kickout" from metal flashing.

Note: "Kickout flashing" is an additional flashing strip that extends beyond the edge of the fascia that is required in some cold-climate localities.

Installing Standard Accessories

MOUNTING BLOCKS

*Install mounting blocks and fixture vents**

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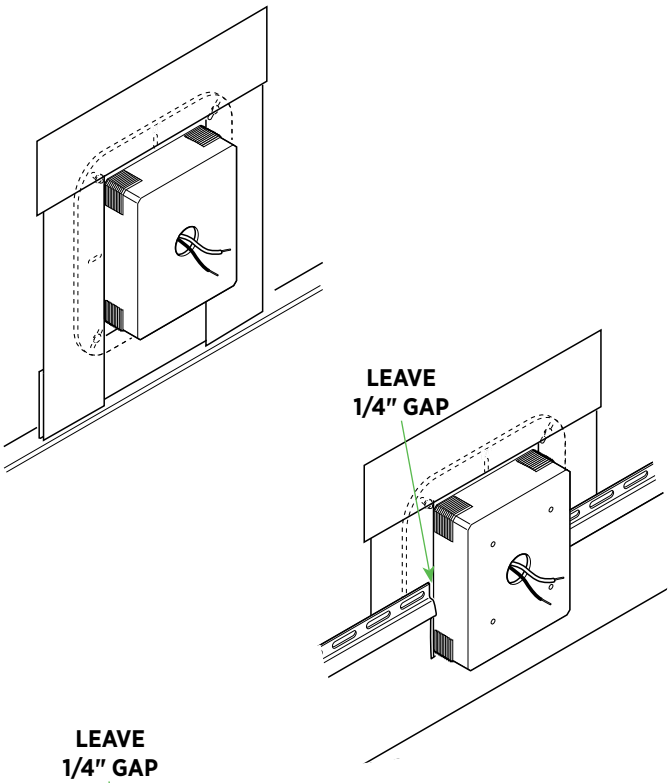
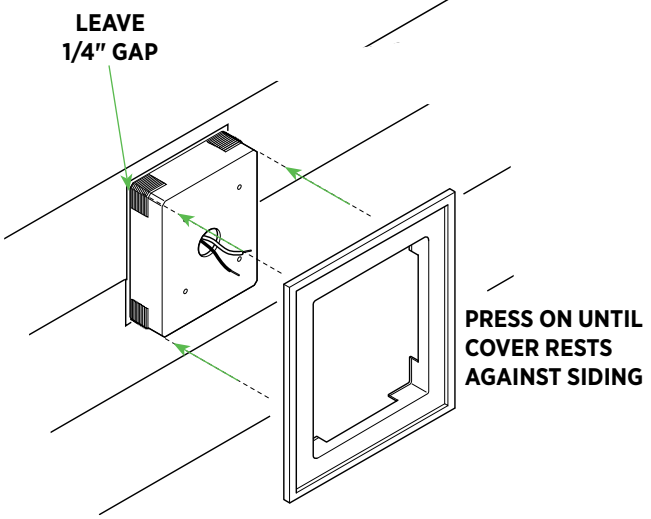
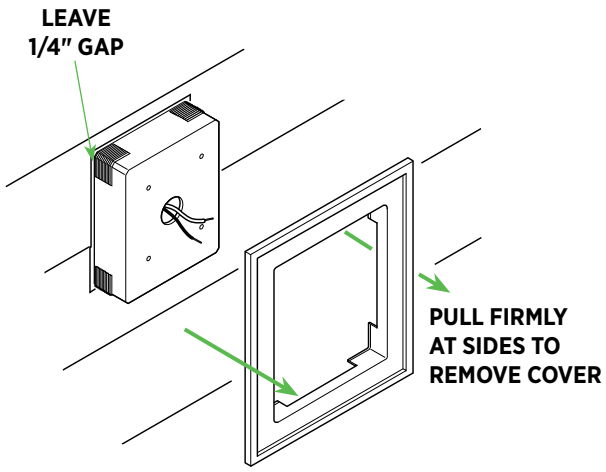






Mounting Blocks

Mounting blocks and vents are 2-piece systems that come in various sizes and have covers that are adjustable for siding from 3/4" to 1-1/4" deep.

- House wrap should first be installed to cover all walls before blocks and vents are installed.
- Attach base to wall with corrosion resistant nails, screws or staples. Do not fasten tight.

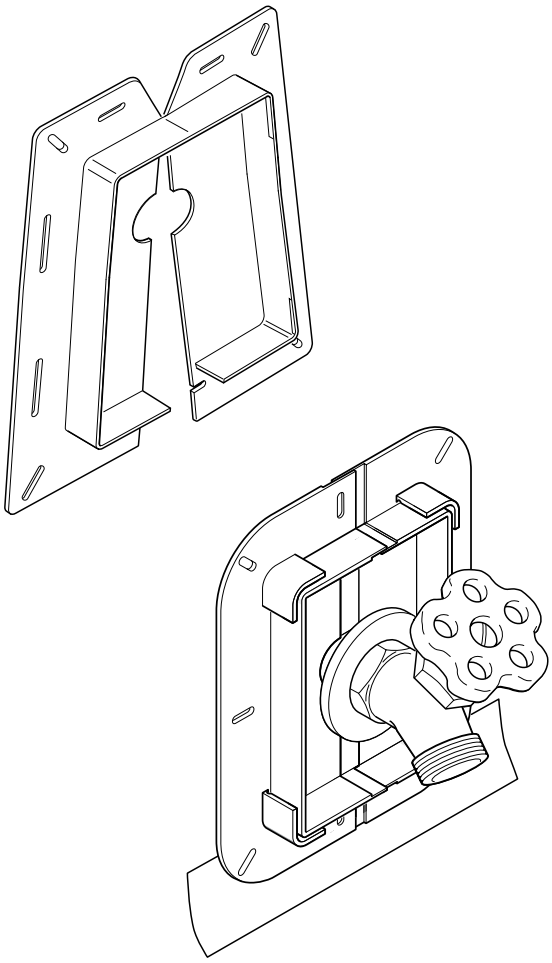
Note: Fasteners must be long enough to penetrate past the sheathing or into a framing member by 3/4".

Attach in all four corners of the base. If base is larger than 8" in any dimension, fasten at no greater than 8" on center.

- Cover the four sides of the base with flashing that is a minimum of 4" wide. Install flashing in the following order: bottom, sides, and then top. The flashing should sit on all four sides of the base of the block. On top of the vinyl base and on the wall. The bottom flashing can be cut to sit on the nail hem of the last full piece of siding.
- If screws are available from existing light fixture, drill holes in the base of mounting block to attach light fixture base.
- When installing siding around the mount base, leave 1/4" space on all four sides to allow for expansion and contraction.
- After siding is installed, snap the mount cover or vent onto the base so the cover rests against the siding.
- Reinstall light fixtures after installing mount cover.
- If it is necessary to remove the face cover, firmly pull the face from the base.

Installing Standard Accessories

SPLIT BLOCK MOUNTS FOR NON-REMOVABLE FIXTURES

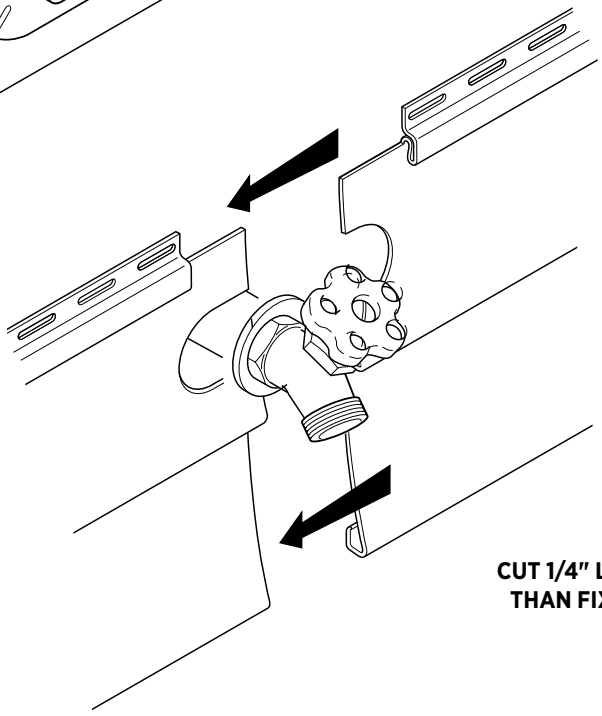


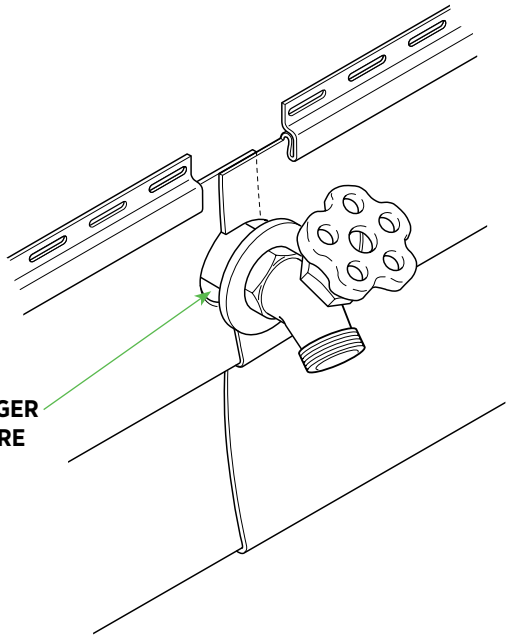
Use a split block mount to fit siding around non-removable fixtures, such as pipes and hose bibs.

Note: When installing a split block at a hose bib area, Install the base with the hole in the lower position. This will allow for easier access to the hose bib handle.

If you are installing siding around a non-removable protrusion and you do not have access to a split mount:

- Force the siding overlap to intersect the pipe. Cut pipe slots 1/4" larger than pipe diameter and match the contour of the pipe.
- Cut an opening 1/4" larger than the fixture.
- When cutting, match the shape and contour of the fixture.





Installing Standard Accessories

GABLE VENTS

*Install gable vents**
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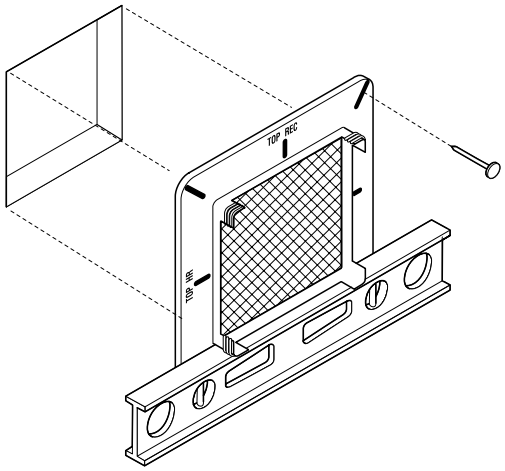
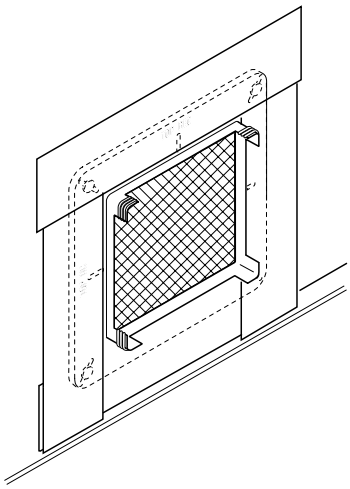
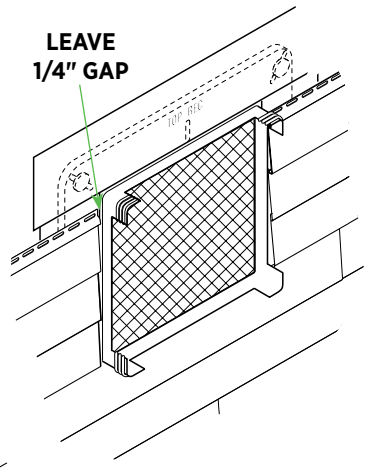
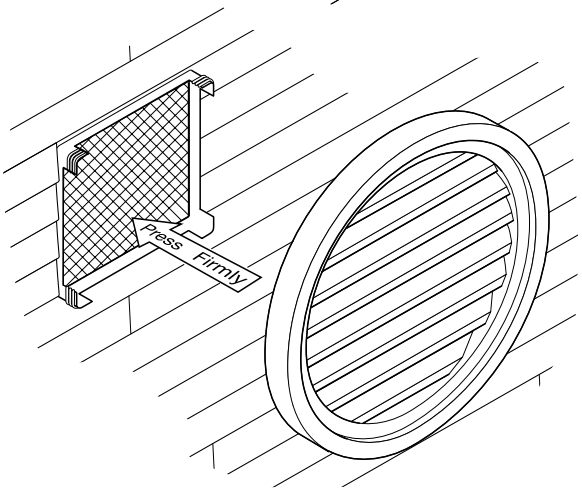








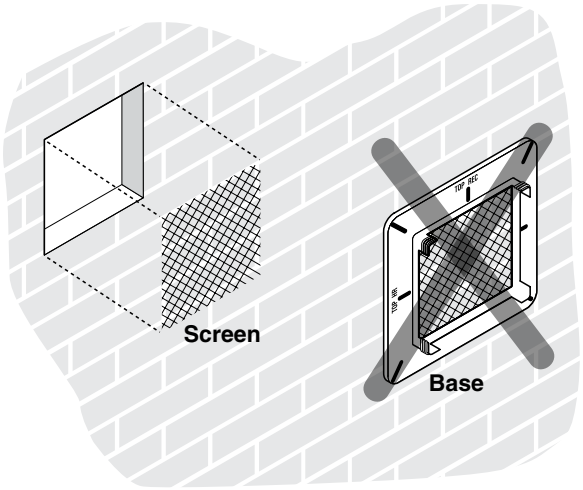
Gable Vents

Note: Gable vents can be installed without cutting a hole if you want it to be decorative only.

- Using the inward edges of the vent base as a guide, mark the area to be cut in the exterior wall surface and cut the hole.
- Center the base of the vent over the opening and level the base. *Note the word "TOP" on the base when positioning it.*
- Nail the base onto the wall surface through the slotted nailing flange.
- Cover the four sides of the base with flashing that is a minimum of 4" wide. Install flashing in the following order: bottom, sides, and then top. The flashing should sit on all four sides of the base of the block. On top of the vinyl base and on the wall. The bottom flashing can be cut to sit on the nail hem of the last full piece of siding.
- Siding can now be installed around the vent base. Be sure to leave a 1/4" clearance between the cut siding and the guide line on the base mount to allow for expansion and contraction.
- Gable vents will adjust from 3/4" to 1-1/4" in 1/8" increments. When vent is installed, make sure the vent is sitting square on the wall by snapping the vent back to its highest point on the wall behind the vent.
- Snap the face into the base by pressing firmly so face rests against siding.
- If it is necessary to remove the face, firmly pull the face from the base.

Installing Standard Accessories

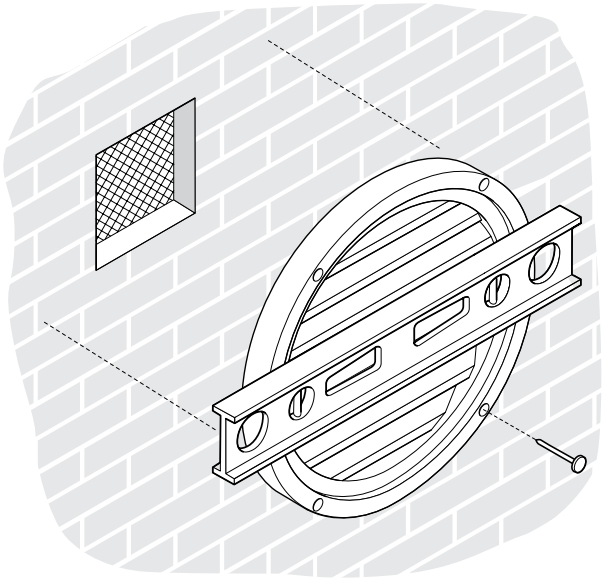
GABLE VENTS ON MASONRY SURFACES

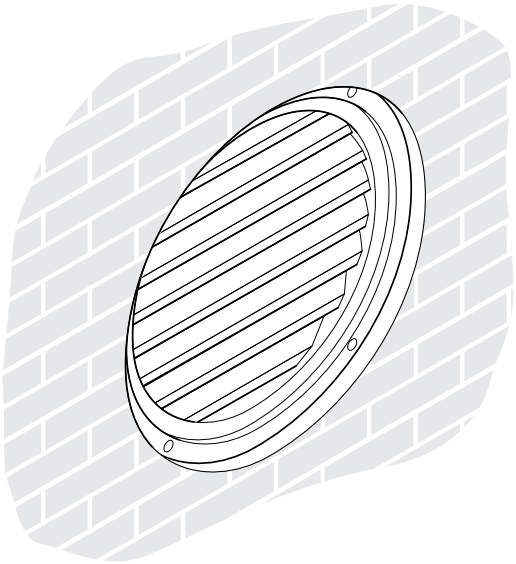


Installation onto Masonry Surfaces

- Remove screen from base. Fasten the screen to the inside or outside of the wall opening. Discard the base.
- Drill four equally spaced holes around the outer front surface of the vent face.
- Place the vent face over the exterior wall opening, level it and fasten to the wall using masonry fasteners.

Note: On new homes, the vent face may be recessed into the brick.





Installing Standard Horizontal Siding

INSTALLING PANELS

*Installing vinyl siding panels**

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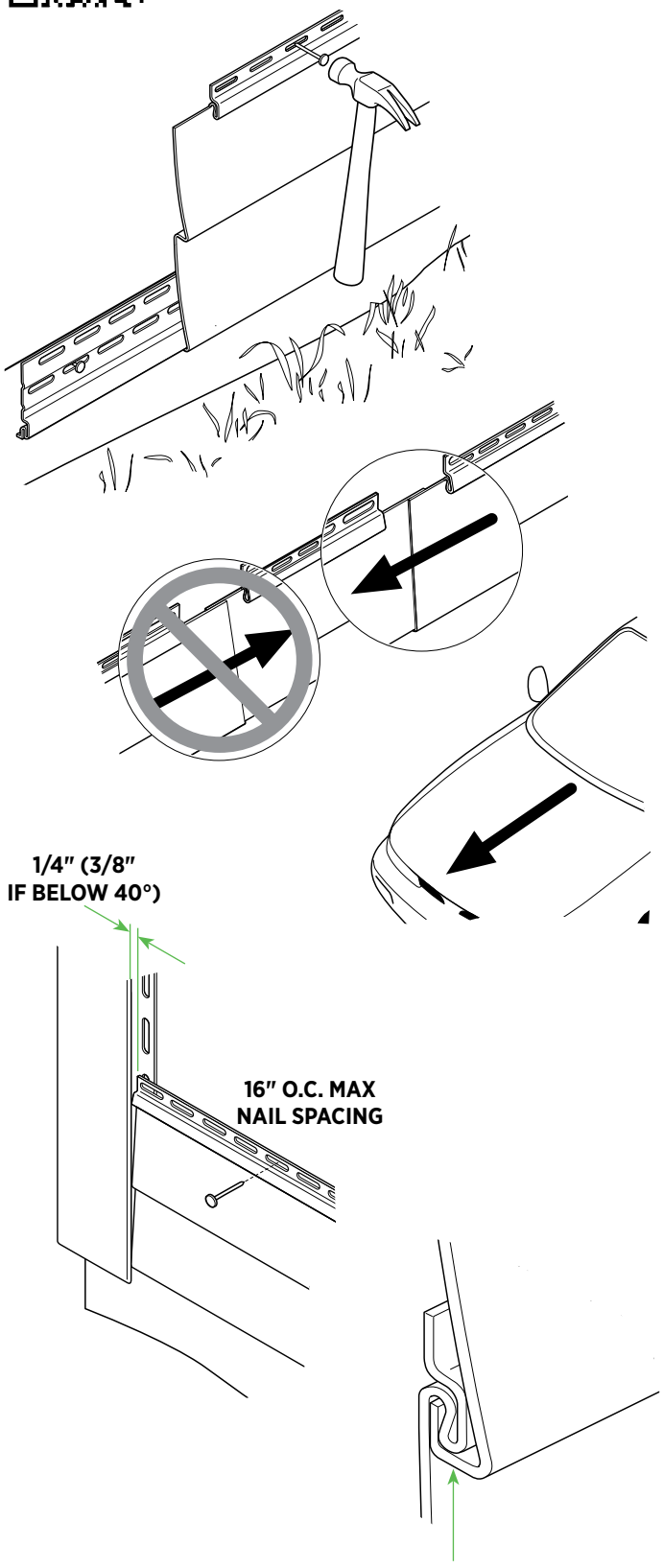

Installing Panels

The first panel (or course) should be placed in the starter strip and securely locked along entire length of the siding panel. Make sure the panel is securely locked before fastening.

Note: Always overlap joints away from entrances and away from direction of greatest traffic. This will improve the overall appearance of the installation.

Note: At panel overlaps, always fasten first nail at least 3 nail slots from the overlaps. This will help with the lap appearance.

- Fasten the panels in the center of the nail slots no greater than 16″ on center, beginning in the center of the panel and working toward the ends.

  Fasteners into framing and sheathing must have 1-1/4″ penetration.

  Fasteners into solid wood sheathing (OSB plywood minimum nominal 1/2″ thick) must be of sufficient length to penetrate **past the back of the wood sheathing by a minimum of 3/4**″.

- Allowance should be made for expansion and contraction by leaving a 1/4″ gap between the siding and all corner posts and channels (increase to 3/8″ when installing in temperatures below 40°F).
- Do not fasten tight. Leave approximately 1/32″ between the fastener head and the panel nail hem.
- Do not stretch or force the panels up when fastening. Panel locks should be fully engaged; however, the panels should not be under vertical tension or compression when they are fastened.

Horizontal Siding Installation

INSTALLING PANELS

*Install horizontal beaded siding**

https://deephow.ai/p/YsYCfQEcrRwJy4AeSU6x

*Vinyl siding profile options**

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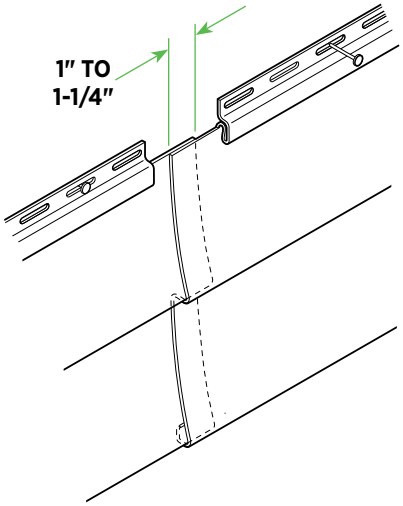
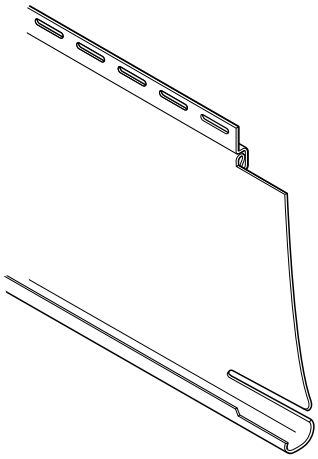




- Since vinyl siding moves as the temperature changes, make certain that the panels can move freely side-to-side once fastened.
- When panels overlap, they should overlap approximately 1" to 1-1/4". **NEVER MORE THAN 1-1/4".**
- Check panel alignment while installing. This is critical at all inside and outside corners.
- Stagger the siding end laps so that no two courses (rows of panels) are aligned vertically, unless separated by at least three courses.
- Avoid beginning and ending siding courses with panels shorter than 24".

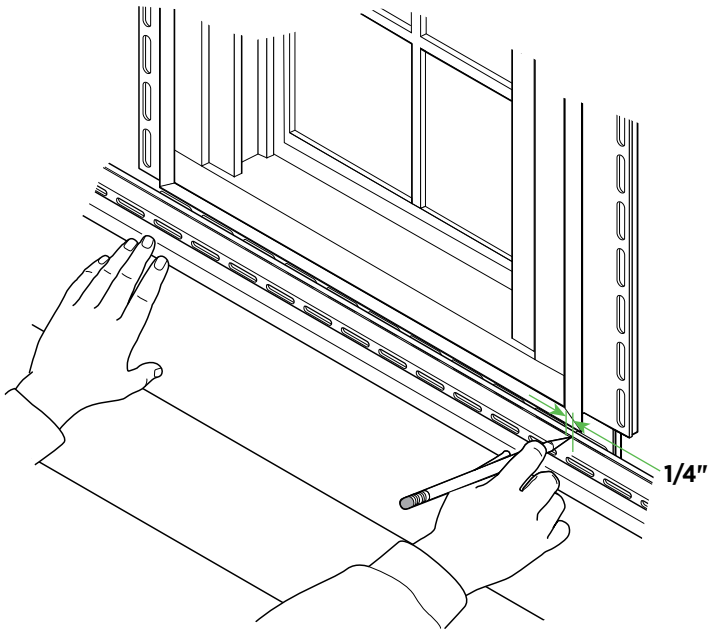
Beaded Horizontal Siding

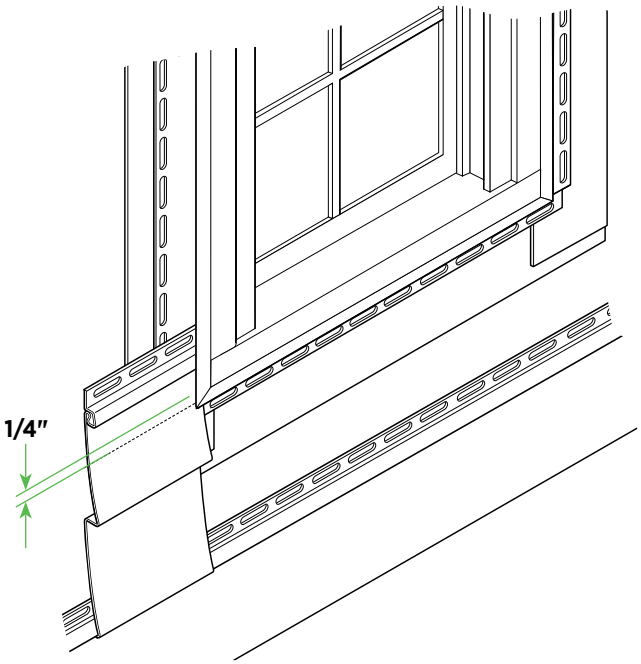
- Beaded panels are factory notched in three places. For best results, overlap panels using factory notched ends only.
- Overlap panel 1" due to the unique design of the locking and lapping system. Overlapping more than 1" will result in less than optimal laps and increase the chances of panel restriction.
- Lock panel beginning at one end and tap the lock into place toward the other end.

Note: This panel will not lock by pushing straight up.

Horizontal Siding Installation

INSTALLING AROUND WINDOWS/DOORS AND FIXTURES

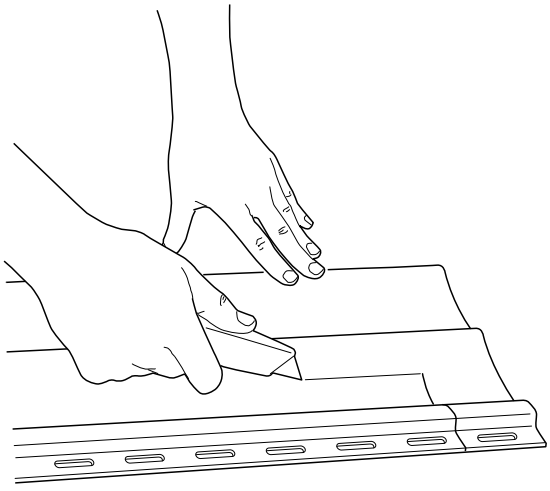




Cutting Panels Around Windows and Other Openings

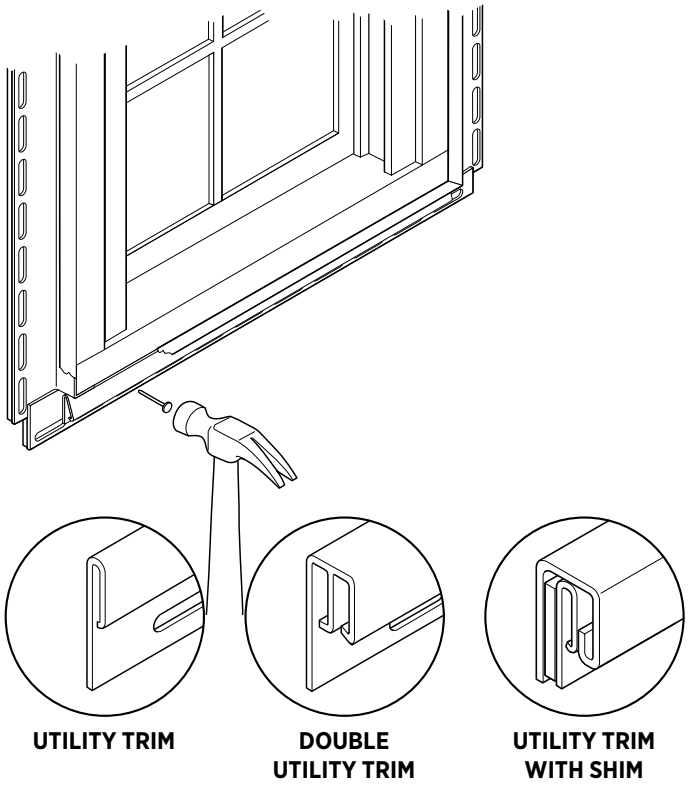
Bottom of Windows and Openings

- To mark the section to be cut, hold the panel under the window and mark the width of the window opening on the panel. Add 1/4" to each side to allow for expansion and contraction of the siding. These marks represent the vertical cuts.
- Lock a small piece of scrap siding into the lower panel next to the window. This will be used as a template for the horizontal cuts. Mark 1/4" below the sill height.
- Transfer the horizontal measurement to the panel which will be installed under the window. Measurement may not be the same on both sides of the window.
- Cut the panel with tin snips and a utility knife.



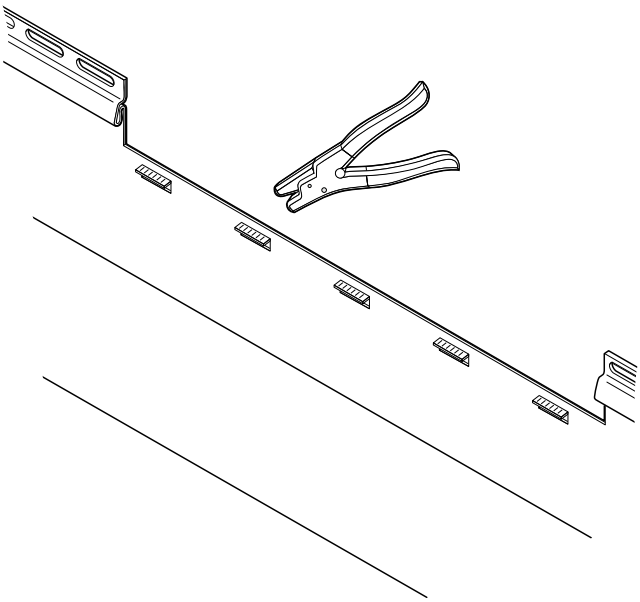
Horizontal Siding Installation

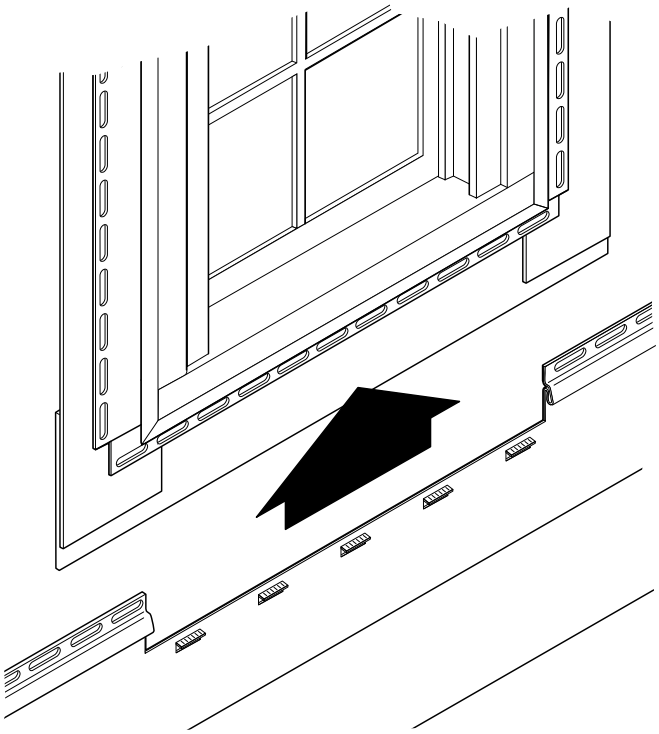
INSTALLING AROUND WINDOWS/DOORS AND FIXTURES



- Install utility trim (or double utility trim) under the window as a receiver for the cut siding. Double utility trim will allow the panel to work wherever the cut of the panel lies. If using standard utility trim, furring may be needed to maintain the face of the panel at the desired angle. J-Channel can also be used with utility trim if desired.
- Use a snaplock punch to punch lugs in the vinyl siding along the cut edge every 6″-10″, so raised lugs are on the outside face of the panels.
- Install the siding panel, making sure the lugs lock into the utility trim.

Note: Use a similar method for cutting the panels above the openings, but cut the bottom out of the panel above the window. Utility trim is not needed at top of openings.





Horizontal Siding Installation

FINISHING PANELS IN EAVES

*Horizontal siding — last course in eave & gable**

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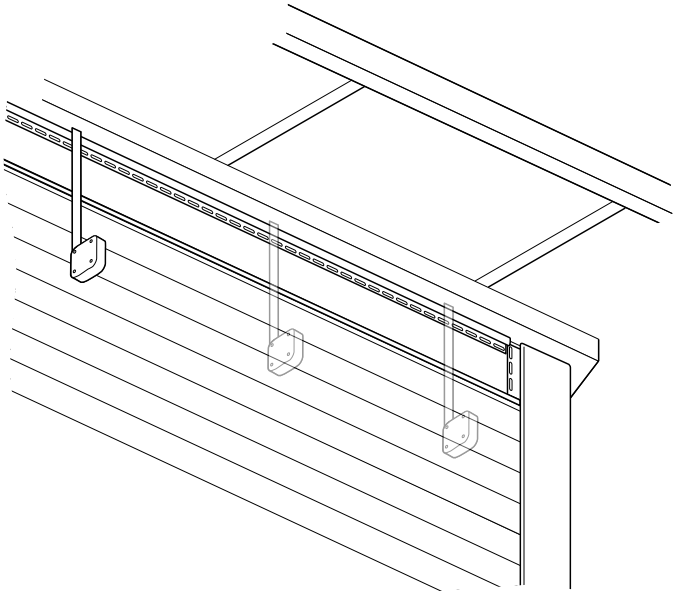

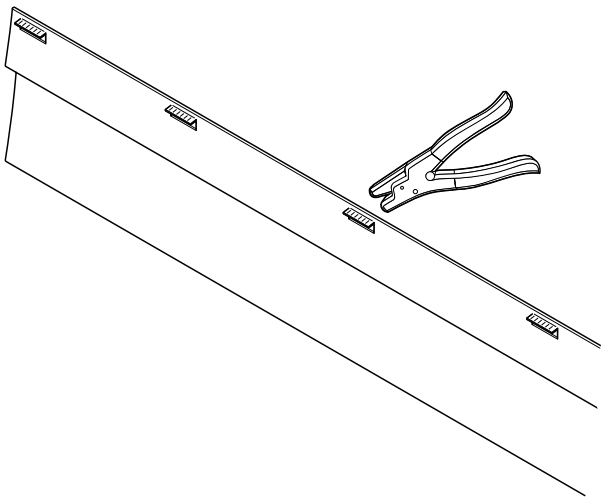

Note: Before the final course of siding is installed on the wall, all soffit accessories must be installed.

The last course of siding will usually need cut to fit the eave opening.

- Install utility trim or double utility trim under the eave or overhang as a receiver for the cut siding.

  Utility trim is used anytime the top or bottom lock has been removed from siding. Furring may be needed to maintain face of the panel at the desired angle with single utility trim.
- Measure from the top of the utility trim to the bottom of the upper lock on the previous course of panels. Check the dimension in several locations along the length of the wall.
- Subtract 1/4″, and measure and mark this dimension from the bottom edge of the panel to be cut.
- Use a snaplock punch to punch the cut edge every 6″, so the raised lugs face outward.
- Install the siding panel, making sure the lugs lock into the utility trim.

CAUTION: Use of utility trim and punch-locked siding is critical under windows and at the top of eave walls. Any time the top lock has been removed from siding, use utility trim as a receiver to secure the punched-tab siding panel. Furring may be required.

Horizontal Siding Installation

FINISHING PANELS IN GABLES

*Horizontal siding — last course in eave & gable**

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*Developing a pattern for cutting panels in gables**

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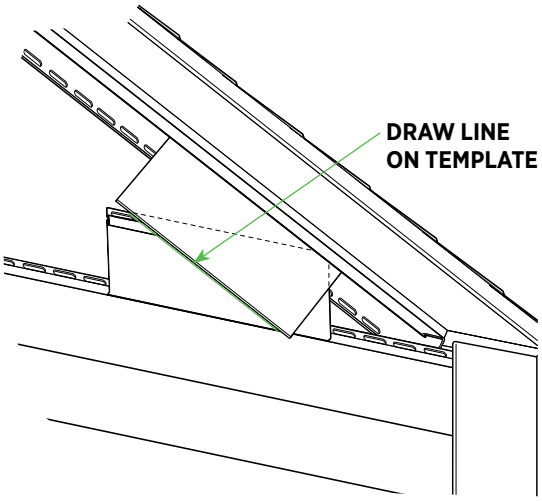

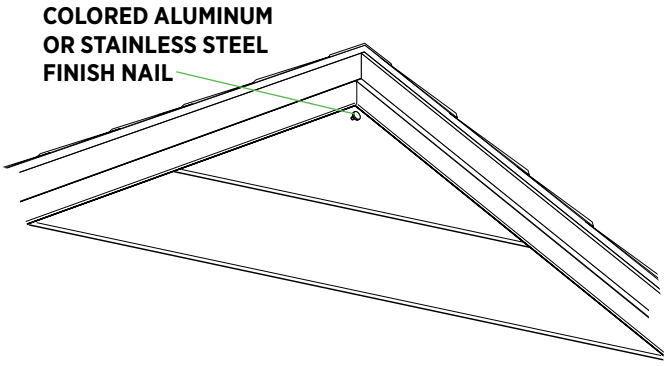

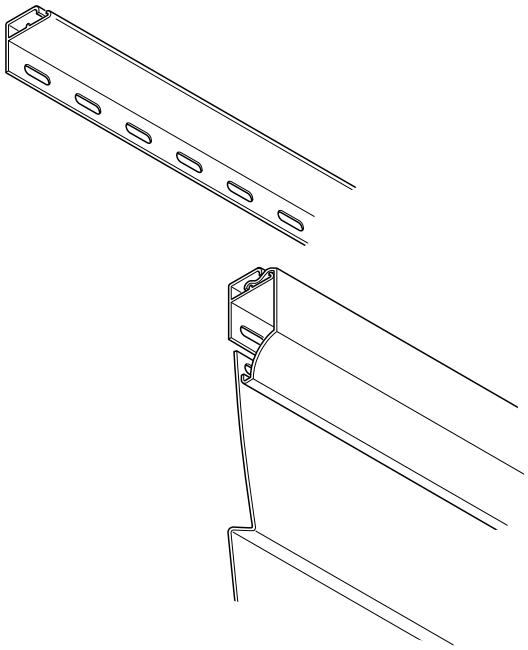

Note: All soffit accessories must be installed before gables are installed.

- Make a pattern that duplicates the slope of the gable.
- Lock a short piece of siding into the gable starter course (the last course before the gable starts).
- Hold a second piece of siding against the J-Channel at the slope of the gable. Mark the slope with a pencil on the short piece of siding.
- Remove the short piece and cut along the pencil line as a pattern for the gable angle cuts. Repeat the procedure on the opposite side of the gable. Check the angle template every few courses.
- The last panel at the gable peak must be fastened with a single painted trim nail. This is one of the few times a nail should be placed in the face of vinyl siding. Use a 1-1/4″ to 1-1/2″ nail.

Optional Eave and Gable Treatments

Use a two-piece cover/receiver along the rake and eave. Install the receiver flush with the top of the wall. Punch nail slots along the top edge of the panel every 16″ (only in the eaves). Use those nail slots to attach the panel to the wall. Snap the cover into place over the nails.

Transitions

*Transitioning from horizontal siding**

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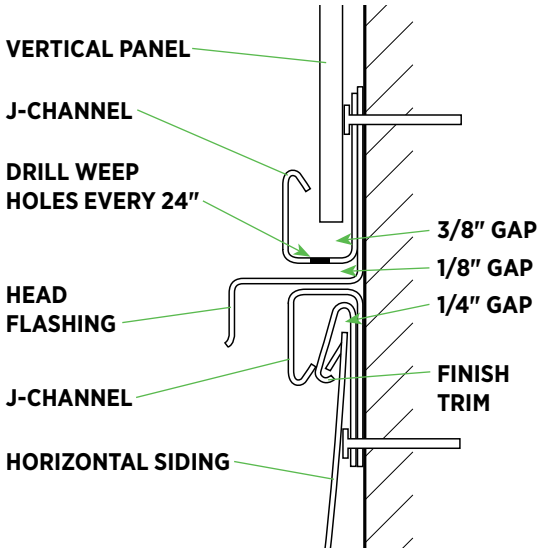
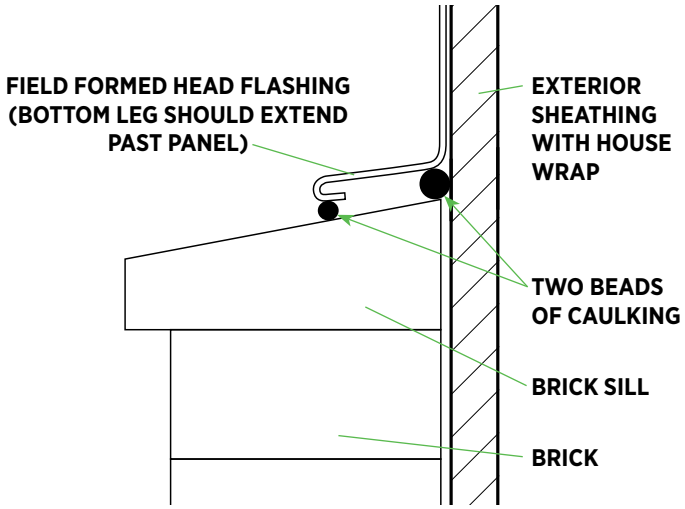
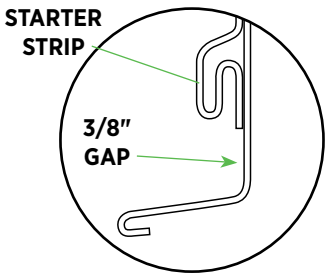
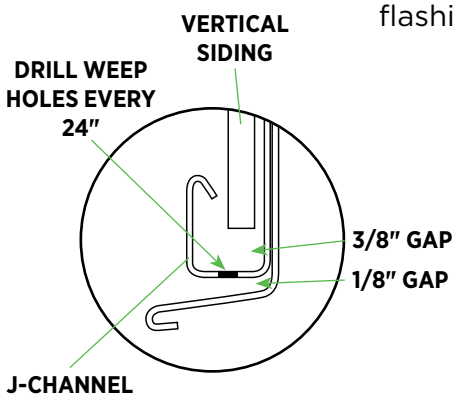








Transition from Horizontal to Vertical Siding

- Finish the last course of horizontal siding with J-Channel and finish trim or double finish trim. Install head flashing and upper J-Channel.
- The top piece of J-Channel must have minimum 3/16" diameter weep holes drilled every 24" to allow for water runoff.

Transition from Stone/Brick to Vinyl Siding

- Caulk where the sheathing meets the brick sill. Head flashing should be field formed and installed, making sure to integrate a second bead of caulking where it meets the brick sill. **Seal/integrate the top of the head flashing to the weather-resistive barrier.**

Transitioning to horizontal siding:

- Use a starter strip and provide at least 3/8" clearance for proper engagement of the siding.

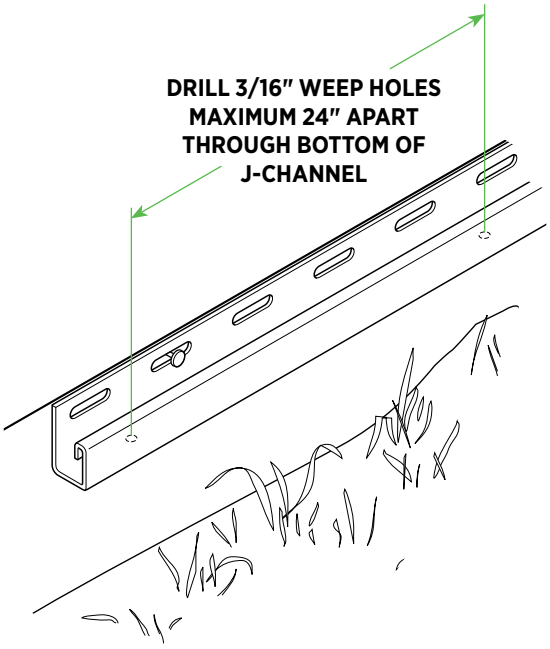
Transitioning to vertical siding:

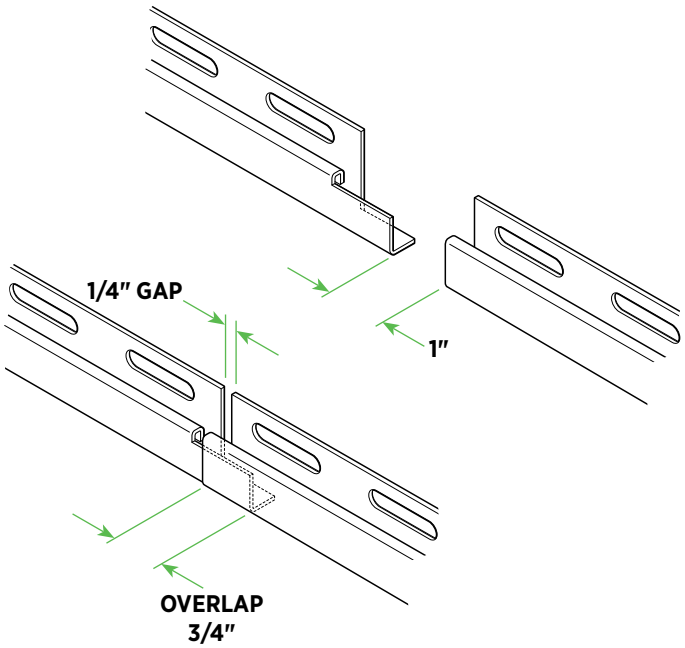
- Use J-Channel as a receiver. Drill minimum 3/16" diameter weep holes in the bottom of the J-Channel no more than 24" apart. Leave a gap between the J-Channel and the flashing.

Vertical Siding Installation

PREPARING THE WALLS/INSTALLING ACCESSORIES

Preparation for vertical siding installation is essentially the same as standard horizontal installation, **except vertical siding requires the use of J-Channel as a receiver at the top and bottom of all siding runs, and utility trim is used with J-Channel on all sides of windows/ openings but not at the top or bottom of openings.**





Note: Vertical siding can be Board & Batten or Soffit panel. Make sure that soffit panel color is approved to be used on a side wall application.

Review previous sections for wall preparation and installation of accessories. It is necessary to install accessories first, including J-Channel, corner posts, window, door, and roof trim, and all mounts and blocks before installing vertical siding.

*Installing vertical siding**
https://deephow.ai/p/12dKmoQ0VWqe5YeXR3Pz

Installing J-Channel Starter

- Snap a level chalkline around the base of the sidewalls. This will represent the top of the J-Channel.
- Drill minimum 3/16" diameter weep holes no more than 24" apart anytime J-Channel is used as a starter.
- Install J-Channel along the chalkline as a receiver for the vertical siding installation.
- Fasten every 12" in the center of nail slots. Do not nail tight. Leave 1/4" gap at the corner posts.
- Where lengths adjoin, trim the nail hem and front lip 1" and overlap 3/4" to produce a neat joint.

Cut Panels Around Windows, Doors, and Other Fixtures

- Install shims as needed and utility trim on sides of all openings. No utility trim is needed at top or bottom of openings. Allow 1/4" in receiving channels (increase to 3/8" if installing below 40°F).

Vertical Siding Installation

EAVE AND GABLE TREATMENT

*Vertical siding options**
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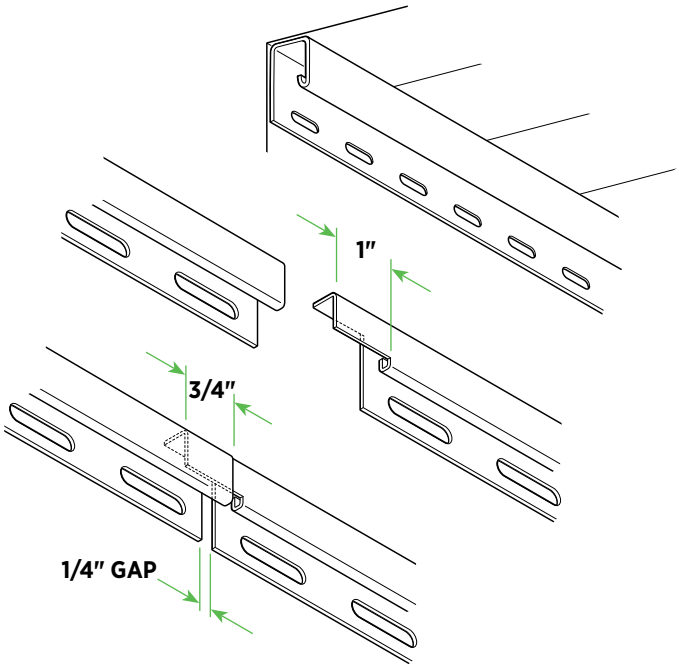


Sidewall to Eave and Gable End Trim

- Install inverted J-Channel along top of wall, under eave and gable. Overlap J-Channel 3/4" to allow for expansion.

Planning Sidewalls

- If a wall requires more than one course of vertical siding, use back-to-back J-Channel and head flashing at the joint between the two courses. The top J-Channel must have minimum 3/16" weep holes drilled no more than 24" apart to allow for water runoff.

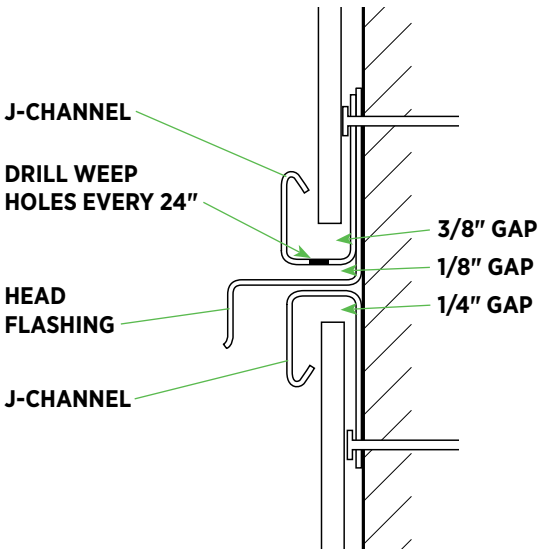
Note: Never overlap vertical siding.

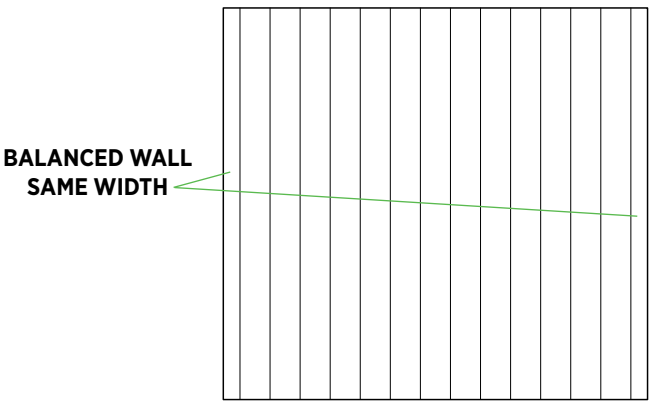
Lay Out Vertical Panels

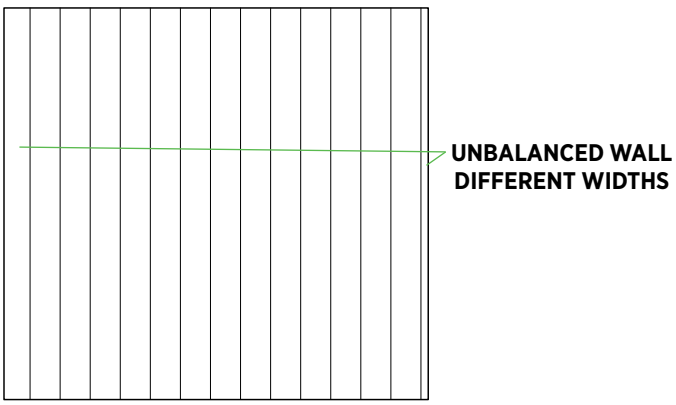
If a wider wall is being covered, start with a full width vertical panel.

If a narrow wall, like a bay window area, is being covered, create a balanced appearance.

- To create a balanced appearance, divide the length of the wall by the exposure of the vertical panel to be used. For example, if the wall requires 12 full panels plus an additional 8", then the first and last pieces installed would be cut to a new width of 4". Make sure to allow for proper depth in the receiving channels of the accessories at both ends when measuring.

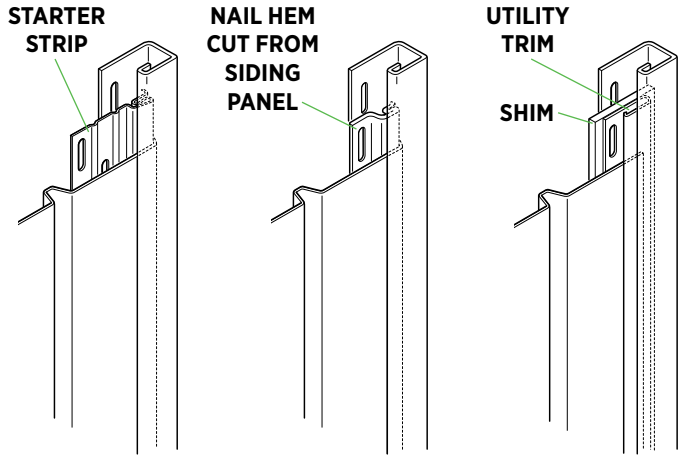


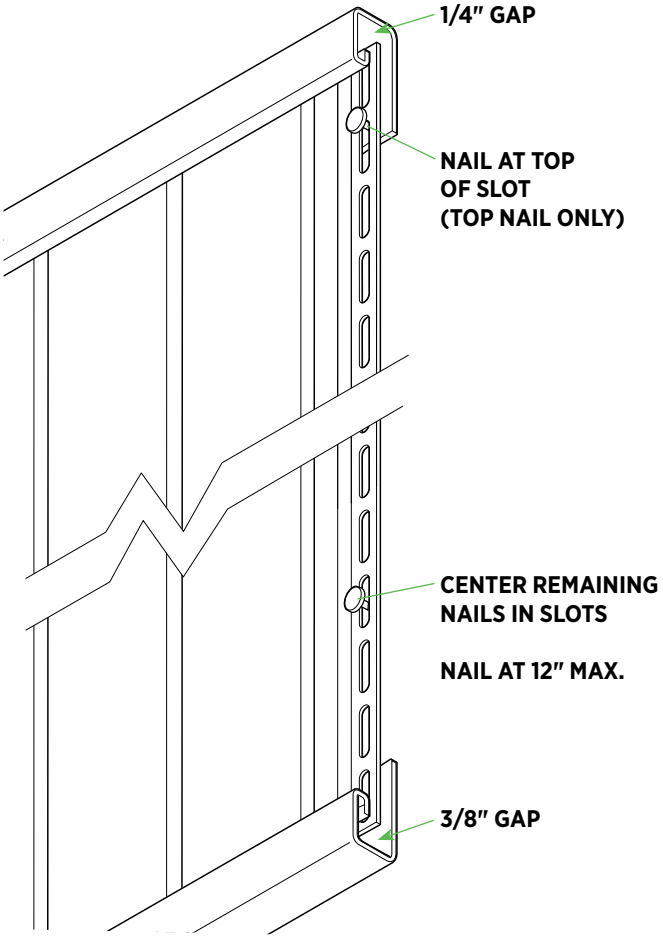




Vertical Siding Installation

INSTALLING PANELS





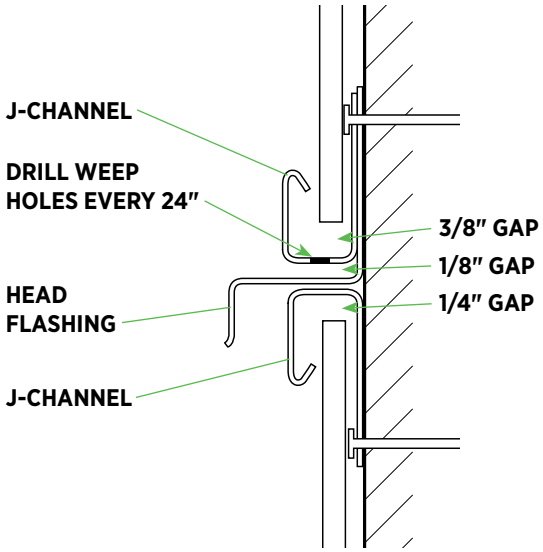
First Course of Vertical Siding

Panel installation should begin at a corner post or J-Channel at the end of a wall section.

- When starting a wall with a full vertical panel begin by installing a starter strip into the corner J-Channel. Alternatively, cut the nail hem and lock off a piece of vertical siding and install the hem with lock into the corner or J-Channel. Leave a gap to lock panel.
- When balancing a wall you will begin with a partial starting piece. For ending pieces you will need to end with a partial piece.
- When beginning with a partial panel, install and fasten utility trim or double utility trim inside the opening of the corner post or J-Channel. This is to secure the edge of the first and last course of siding. In some cases, you may have to shim the utility trim.
- Snaplock punch the cut edge every 12" and install the edge into the secured utility trim.
- Position panel, leaving 1/4" gap into top J-Channel and 3/8" gap into bottom J-Channel. Fasten first in one of the upper-most nail slots in the top of that nail slot.
- Plumb the panel and continue securing with fasteners centered in the nail slots every 12". Do not nail tight (leave 1/32" minimum clearance between the fastener and the nail hem).
- For successive panels, install return leg into lock. Maintain gaps into the upper and lower J-Channel, secure in the top of the highest unobstructed nail slot, and fasten as described above. Check the plumb of the installation every few panels to maintain the best appearance.

Vertical Siding Installation

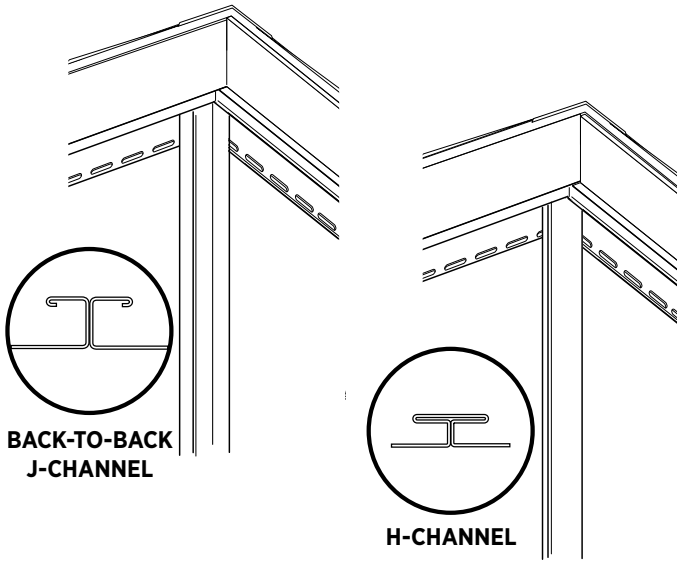
INSTALLING VERTICAL PANELS INTO GABLES



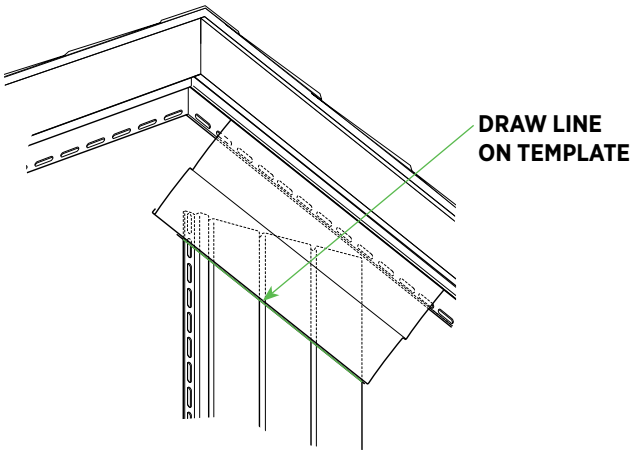
Gable Ends

- Begin by fastening J-Channel in the gable area. Install an upward-facing J-Channel as a vertical receiver on top of the previously installed J-Channel at the base of the gable. Install head flashing between the J-Channels.

  For planning of vertical siding in gables, use the same method described for balanced appearance on sidewalls.



- As an alternative, install back-to-back J-Channel or H-Channel, centered with the peak of the gable. Install a cut nail hem as a starter-strip in each J-Channel.



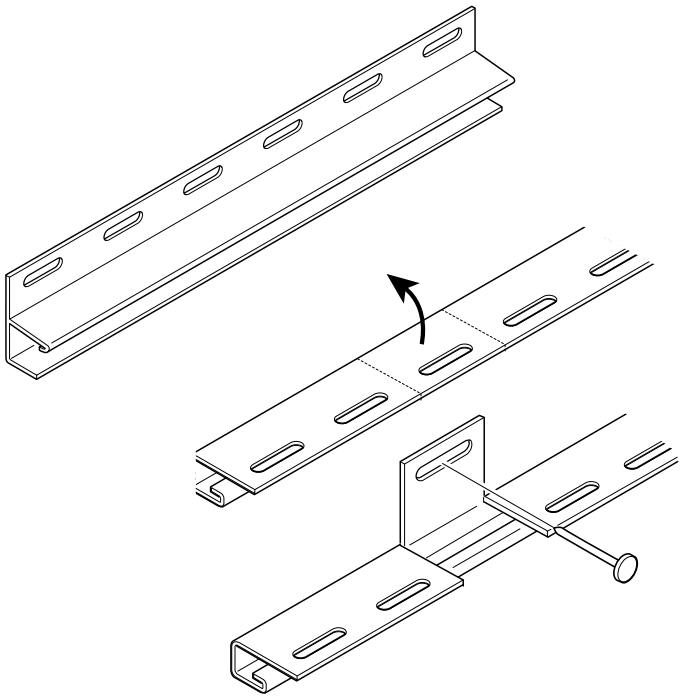
- Make a pattern for end cuts along the gable using two pieces of scrap siding. Lock one piece into the vertical strip at the center of the wall. Hold the edge of the other piece against and in line with the roof line. Mark the slope on the vertical piece and cut along that line. Use it as a template to mark and cut the ends of all other panels required for this side of the gable end. Make another pattern for the other side of the gable.

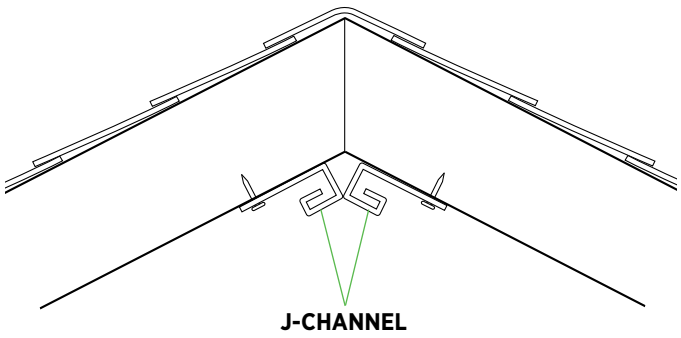
Soffit Installation

*Installing vinyl soffits**
https://deephow.ai/p/aGM18KfPoASLFpDqmIRR

The soffit is the underside of the eave, gable, and porch ceilings.

Soffit panels are similar to vertical siding and are designed to be easily installed when re-siding or in new construction. Soffits panels are available in aluminum or vinyl. Panels can be solid, fully perforated, or combination soffits. A hidden vent system is also available in vinyl soffit panels.





Note: Proper attic ventilation is important for any home. Consult local building codes for the appropriate requirements, and use vented soffit or other vented products as necessary

Note: In all applications, the maximum unsupported length of soffit is 16".

Installation Over Open Overhang

Open overhangs—overhangs with exposed rafters and trusses—are typical of new construction. Open overhang installation procedures are also used when removing damaged soffit during a re-siding project.

- F-Channel can be used to hold the soffit to the wall. If no soffit receiver is available, J-Channel can be modified to create an F-Channel/receiver.
- Simply cut slots in the nail hem area where it would be nailed to the wall (no greater than 12" on center). After cutting the nail hem, bend the nail hem back and nail it to the wall.

Install receiving channels

- When transitioning soffit at the peak of a gable, secure two J-Channel back to back to receive the two pieces of soffit. Alternatively, you may bend a section of aluminum of vinyl soffit, using a field brake, to match the angle of the peak of the gable.

*Soffit options**
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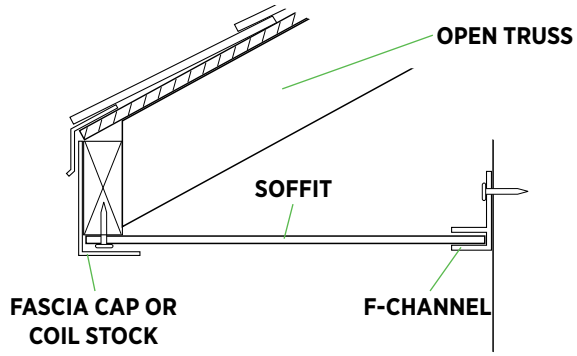
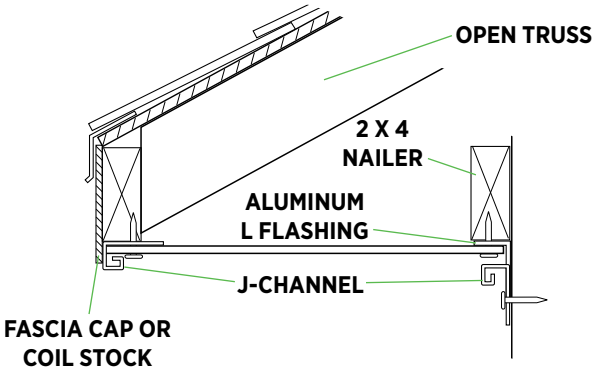
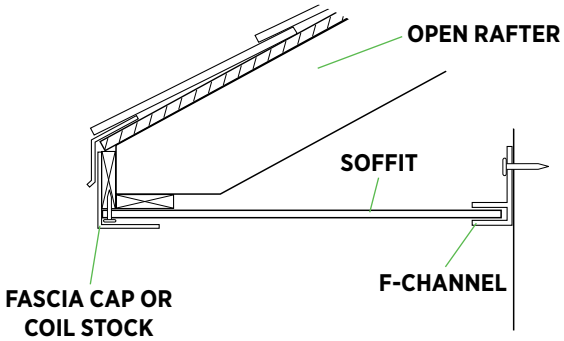
Soffit Installation

INSTALLATION OVER OPEN EAVES AND GABLES



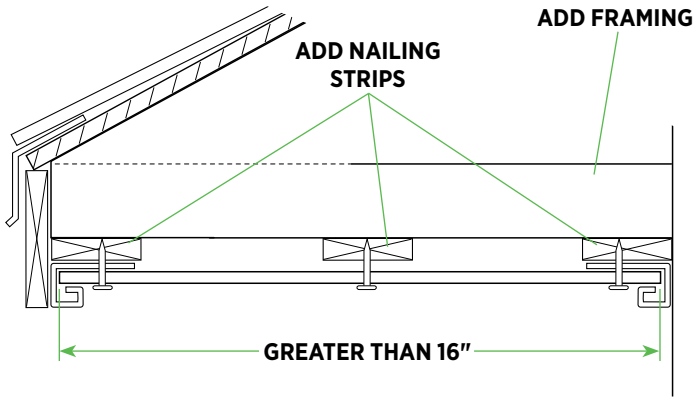




Examine the three illustrations at the left and find one that most closely resembles the construction methods used on your project.

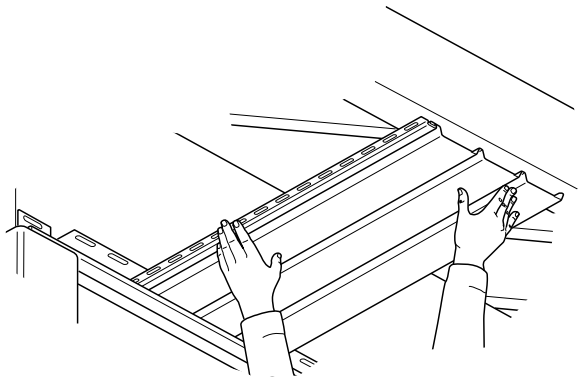
- Install the receiving channels following the details shown in the illustration. Nail channels (F-Channel or modified J-Channel) every 12″, positioning the nail in the center of the slot. Fasten channels just snug enough to take out excessive play. Do not overdrive fasteners.

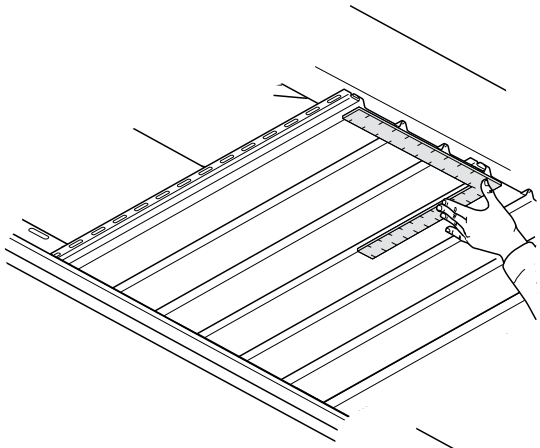
WARNING! Nailing strips MUST be installed if the eave span is greater than 16″. NEVER install soffits over 16″ without a support.

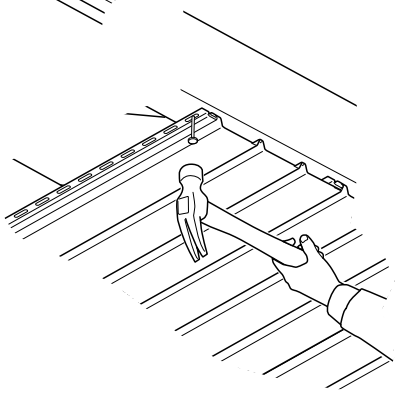


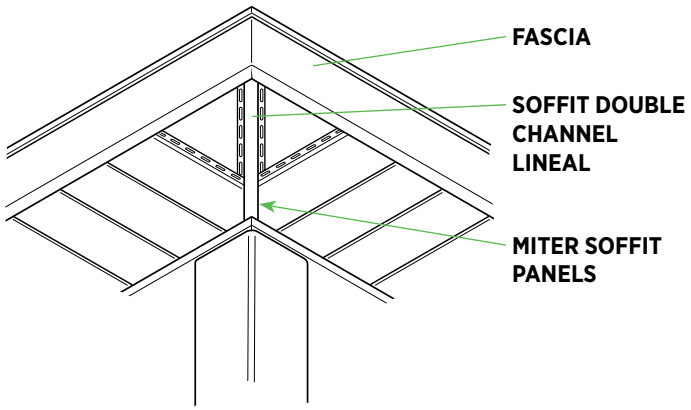
Soffit Installation

INSTALLATION OVER OPEN EAVES AND GABLES









Note: Some local codes may require that vinyl soffit be fastened at both fascia and wall. Review local building codes for variations that may apply.

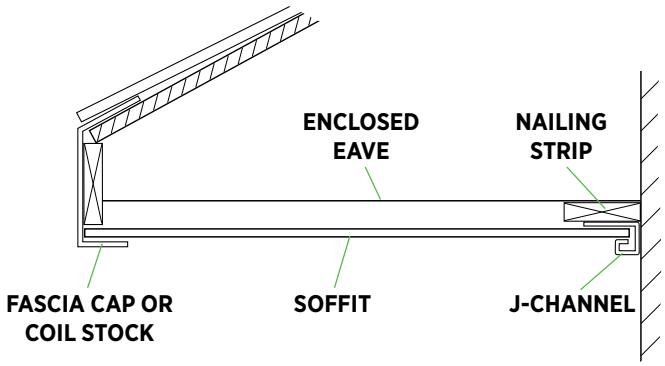
- Measure soffit panels 1/2″ shorter than opening. Mark and cut using tin snips or a power saw with reversed fine-tooth blade.
- Insert one end of the panel into the channel on the wall, nail the other end to the wood fascia. Make certain the panel is perpendicular to the wall.
- Fasten other end of soffit panels into the existing wood fascia board. This can be nailed, screwed or stapled. Inspect the existing wood fascia and replace as needed.

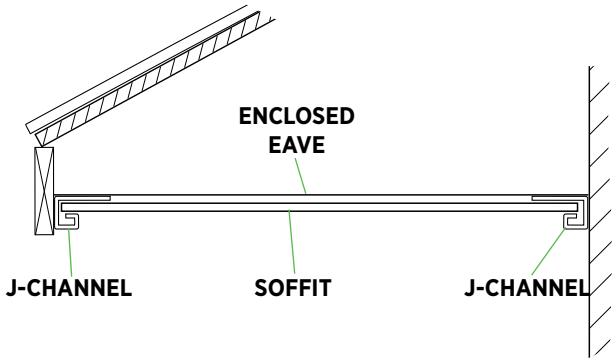
Note: Do not fasten soffit panels tight.

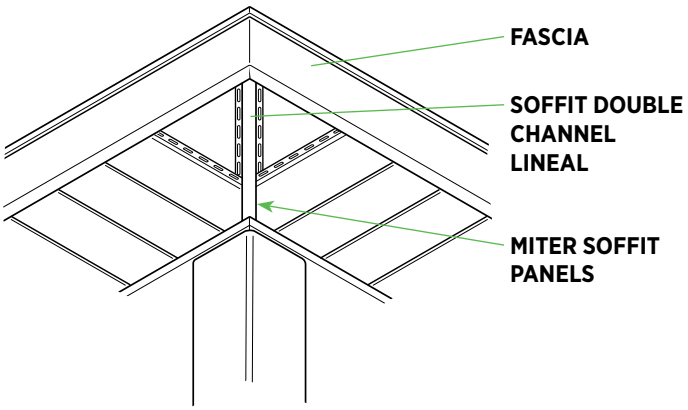
- Continue the installation by locking and nailing the panels. Make certain panels are fully locked along their entire length.
- To tum a corner, measure from the channel at the wall corner to the channel at the corner of the fascia board. Subtract 1/4″ for expansion. Cut and install H-Molding lineal or back-to-back J-Channel. If necessary, install nailing strips to provide backing for the lineal. Miter cut the corner soffit panels and install.
- If overhangs of soffits are equal. Run the channel diagonally. If the overhangs are not equal, you should square the channel.

Soffit Installation

INSTALLATION OVER ENCLOSED EAVES AND GABLES







Enclosed eaves are typical of re-siding projects. Installing soffit over enclosed eaves is almost identical to the process used for open eaves. J-Channel or F-Channel can be used to receive soffit panels.

- Inspect and plan the job in advance. Nail down any loose wood, boards or shingles. Check surfaces for straightness and fur when necessary.

Note: If the existing soffit is rotted or damaged, remove it completely and follow the instructions for open eaves.

If the existing wood soffit is in good condition, then the soffit can be attached to the existing structure.

- Determine the preferred method of installing soffit at the fascia board.
- When installing J-Channel at either wall or fascia board, nail every 12″.

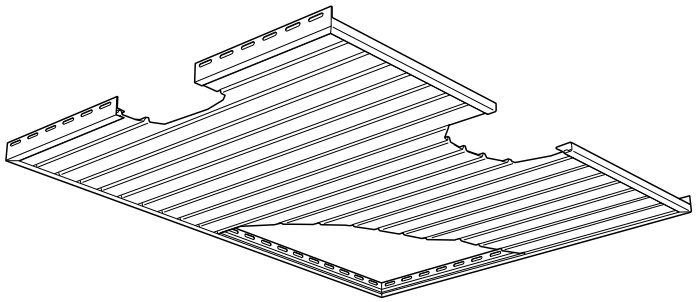
WARNING! It is critical to cut slot(s) in the existing eave overhang to allow for adequate air flow into attic areas.

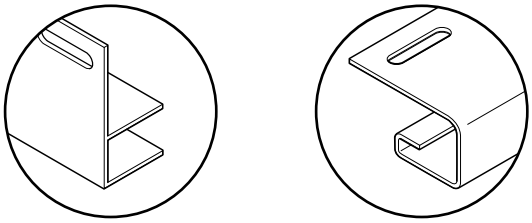
WARNING! Never install soffits in span over 16″.

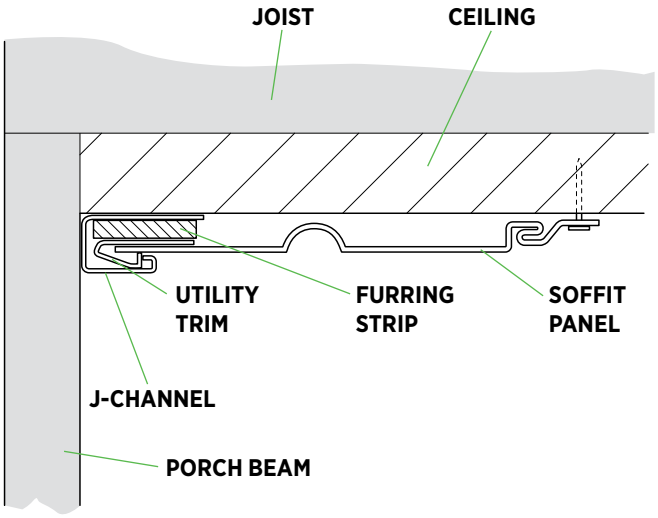
- To complete the installation, follow instructions in Installation Over Open Eaves section.
- To turn a corner for hip roofs, measure from the channel at wall corner to channel at the corner of the fascia board.
- Subtract 1/4″ for expansion. Cut and install H-Molding lineal or back-to-back J-Channel. If necessary, install nail hem to provide backing for the lineal. Miter cut the corner soffit panels and install.

Soffit Installation

PORCH CEILING INSTALLATION; NEW AND EXISTING CEILINGS







*Installing porch ceilings/ beaded soffit**

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Porch Ceilings

Installing a porch ceiling is similar to installing soffit. These procedures vary slightly, depending on whether the installation is a new construction or a re-siding project.

Note: In hot climates or in attics with limited ventilation, it is advisable to install solid sheathing on the underside of the porch ceiling joists. This will protect vinyl soffit panels from excessive heat.

New Construction

- Install receiving F- or J-Channel on all four sides of the porch. If F-Channel is being used, nail it to the existing walls or porch beams. If J-Channel is being used, a nailing base will have to be installed.
- When using blocks to attach lights or fans, make sure block base is attached to a solid wood backing.
- Plan the layout of the ceiling panels to achieve an even balance or to align with adjacent work.
- If the ceiling joists run parallel to the direction of the soffit panels, additional 1″ x 3″ wood furring nailing strips will have to be installed. Install nailing strips every 12″ perpendicular to the ceiling joists.
- Install utility trim shimmed down by a furring strip into the J-Channel or F-Channel on the starting end. Cut the hook side (opposite the nail hem) off the panel and punch snaplocks every 6″ to 10″.
- Lock the cut edge into the utility trim and install the panel, nailing through the nail slots. DO NOT NAIL TIGHT.
- Install remaining panels.

Soffit Installation

PORCH CEILING INSTALLATION

- For large areas, where more than one panel length is needed, use H-Molding lineal or back-to-back J-Channel to separate the sections.
- To install last soffit panel, fur down utility trim into J-Channel or F-Channel, trim off the nail hem and snaplock punch every 6″ to 10″. Never overlap soffit panels.

Re-siding
(or when new wood sheathing is applied)

- Check to be sure the existing ceiling can serve as a solid nailing base.
- If the existing ceiling is solid, remove all existing moldings and fixtures from the ceiling and begin by nailing J-Channel along the perimeter of the ceiling area.
- Install as described under "New Construction."

Note: If the existing ceiling is not solid, install nailing strips to provide a secure nailing base, then install the J-Channel. Additional nailing strips should be installed if the ceiling panels are to run parallel to the ceiling joists.

Aluminum Fascia Installation

*Aluminum fascia covers and bird boxes**

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*Optional aluminum fascia covers**

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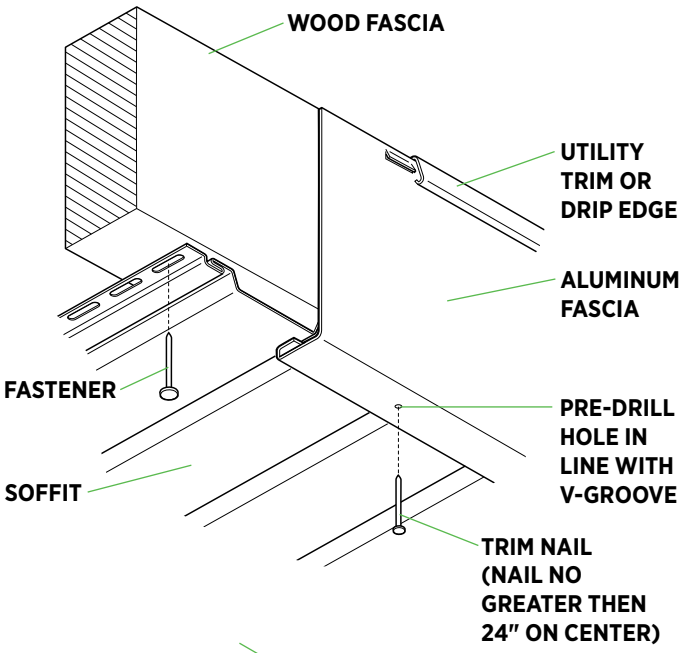

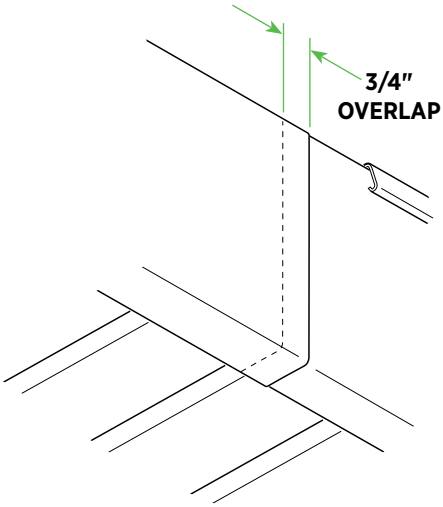

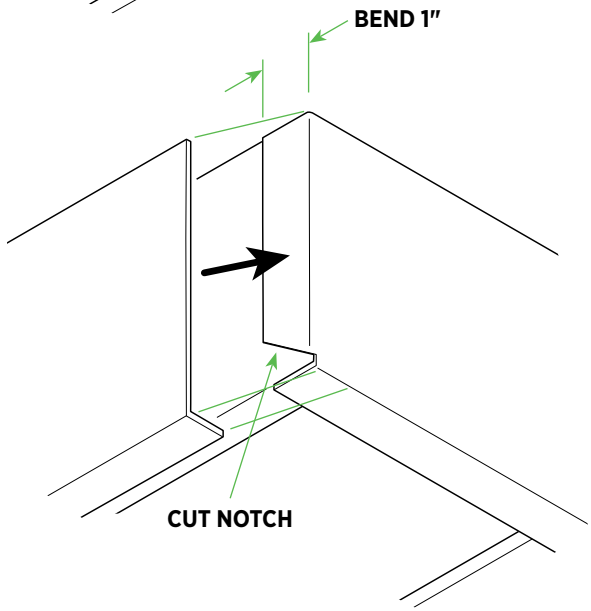

Aluminum Fascia

Aluminum fascia can either be field formed or purchased pre-formed.

Soffits must be installed before installing fascia.

Install metal drip edge, gutter trim, utility trim, etc. along the top of the fascia board to receive and secure the top edge of the aluminum fascia. In most existing structures a drip edge will be present.

- Measure from the lower side of the soffit panels to the top of the trim installed on the upper side of the fascia board. Deduct 1/8" from this dimension and cut fascia panel width using tin snips, or score and break with utility knife and straight edge.
- Slip the top edge of the fascia into the drip edge (or utility trim) and secure the fascia in place with trim nails installed through the bottom leg. Nail no greater than 24" on center. Limit face nailing of fascia panels.

Note: Only aluminum or stainless steel painted trim nails should be used to attach aluminum fascia. Pre-drill holes for the fasteners a little larger than trim nail shank and smaller than trim nail head. Do not nail tight to avoid damaging fascia. These trim nails will penetrate the fascia cover, the soffit, and into the existing wood fascia. To avoid cupping the soffit panel faces, line up the aluminum fascia fasteners with the V-grooves in the soffit. Nail no greater than 24" on center.

- When overlapping fascia covers is necessary, overlap by 3/4".
- At all outside and inside corners, add a 1" tab on one piece.

*Replacing panels and outside corners**
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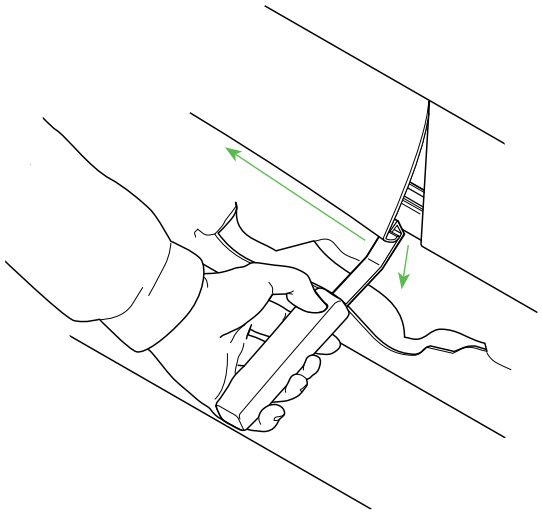
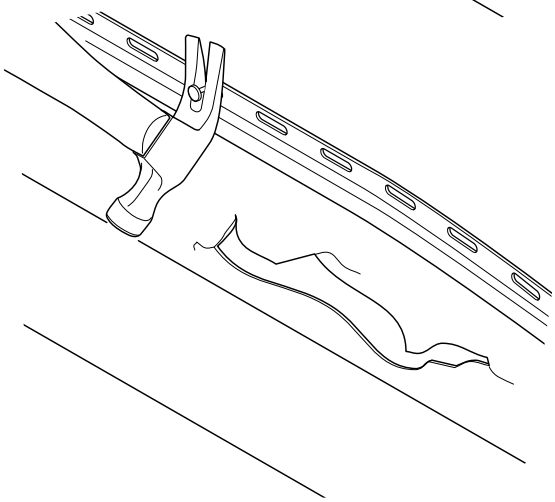
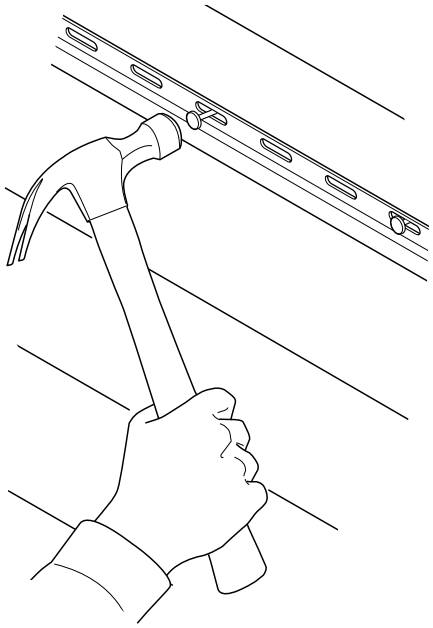
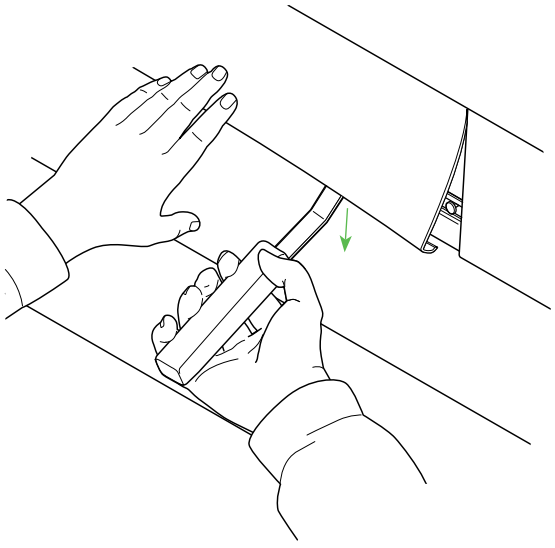




Replacing a Damaged Siding Panel

- Slip the zip lock tool under the butt of the panel above panel to be removed.
- Pull downward and slide the tool along the length of the panel to unzip from the lock on the damaged panel.
- Gently bend out the upper panel. Take the nails out of the damaged panel and remove.
- Install the new panel, making sure the bottom lock is engage. Pull panel up and nail it in center of nail slots every 16". Be sure the panel can move freely side to side.
- Use the zip lock tool to re-engage the panel by pulling the bottom lock over the newly replaced panel.





Repair/Replace

CORNER POST

*Replacing panels and outside corners**

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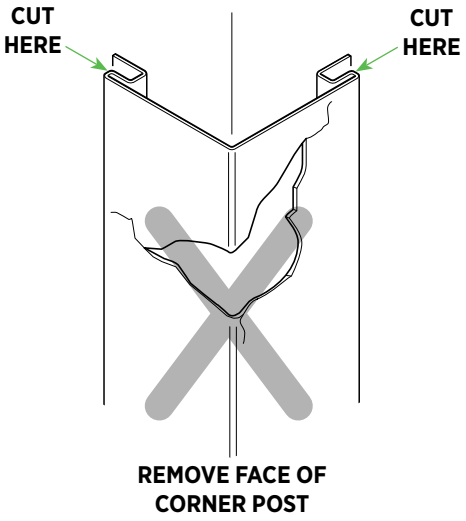
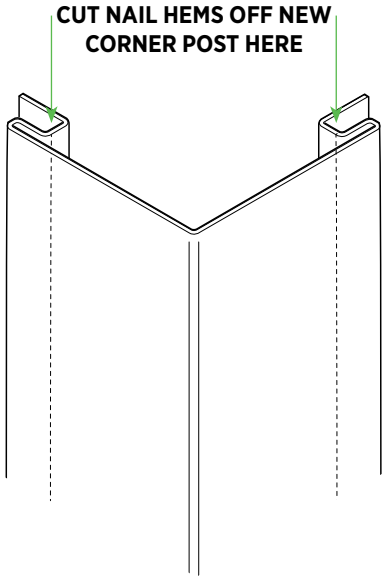
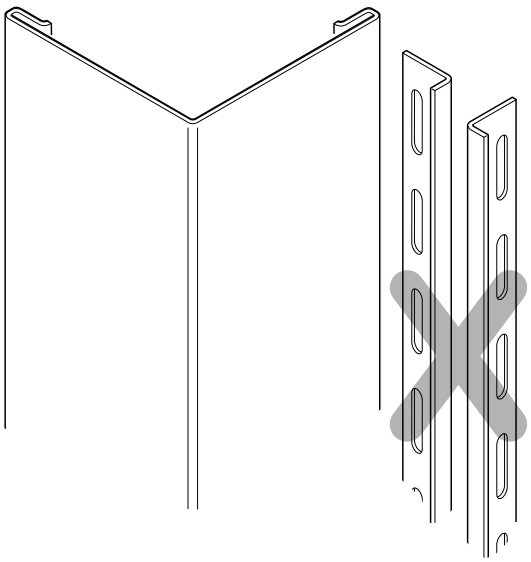
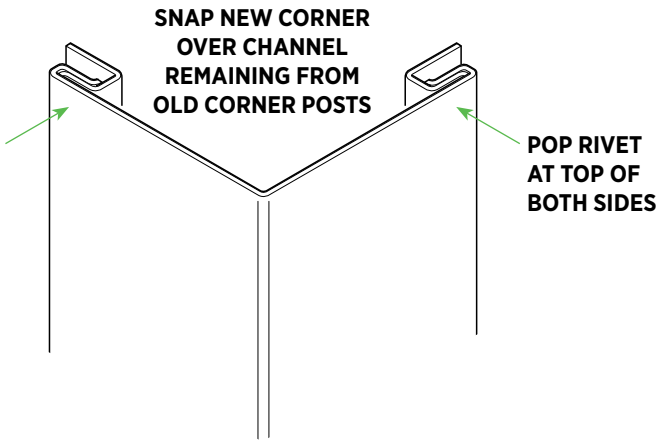


Repairing a Damaged Corner Post

- Cut away the face of the damaged corner, leaving the nail hem and pocket intact.
- Leave installed nail hem and pocket attached to the wall.
- Remove the nail hem from the replacement corner.
- Snap the new corner over the remaining nail hem and pocket of the old corner post and fasten it into position with one rivet at the top of either side of the post. A zip lock tool can be used to facilitate the locking of the new corner cover.

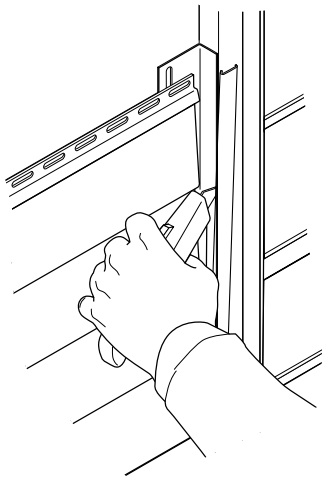






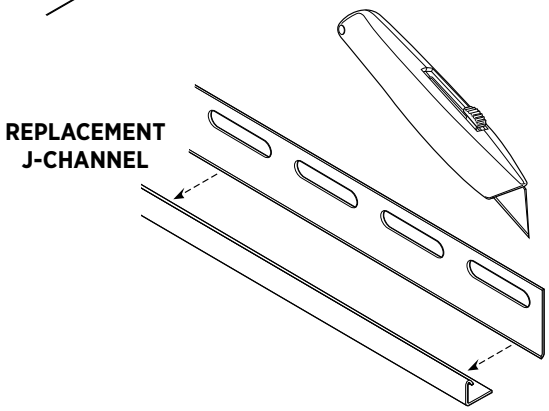
Repair/Replace

J-CHANNEL

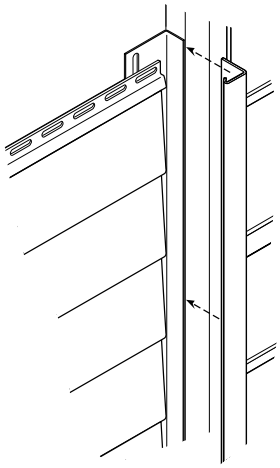


Replacing Damaged J-Channel

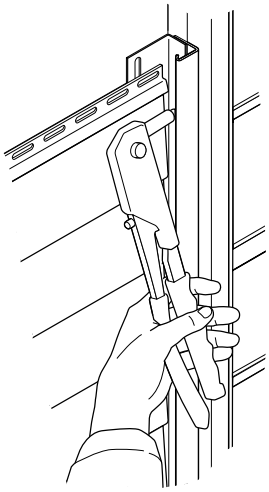
- Cut away the face of the channel.



- Cut the new J-Channel away from the nail hem.



- Position the new J-Channel over the old.



- Pop rivet the new channel into place.

NOTES

Cedar Panel Installation

*Cedar panels and accessories**

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Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

Cedar Panels

TOOLS / INSTALLATION NOTES

Tools Required

- Hammer
- Pencil
- Snips
- Nail slot punch
- Circular saw with 18-24 tooth carbide tipped blade (not reversed)
- Chalkline
- Utility knife
- Tape measure
- Level
- Corrosion-resistant siding nails or screws

Important Installation Notes

Note: A solid nailable sheathing, such as plywood or OSB, is necessary for a proper and secure installation.

- Depending on the panel profile, some panels will install left to right and others will install right to left.
- Use universal cedar starter strip and accessories with at least 3/4" pocket depth. 7/8" J-Channel must be used with Hand-Split Shake panels.
- When nailing through slots, always nail in center of slot. Do not nail tight.
- Panels should be acclimated to air temperature by placing them in the general work area at least one hour prior to installation. Air temperature should be checked when installing the first course of each new wall to determine the amount of panel overlap. As air temperature changes, it is not necessary to go back and adjust the spacing of previously installed panels.
- Allow 1/4" clearance for all stops, such as corner posts and J-Channel. When installing products in cold temperatures (<40°F), allow 3/8" clearance for expansion and contraction.
- Plan to eliminate short pieces at beginning or end of courses (horizontal rows).
- Plan your wall out to limit scrap and for the best appearance.
- This product is for exterior use only, and should be installed on flat, vertical walls to maintain an even appearance.

Maintenance

To clean, use mild soap with warm water to remove dirt, dust or surface stains that may collect from time to time.

Note: Product should not be painted.

Cedar Panels

PANEL OVERVIEW

*Cedar panels and accessories**

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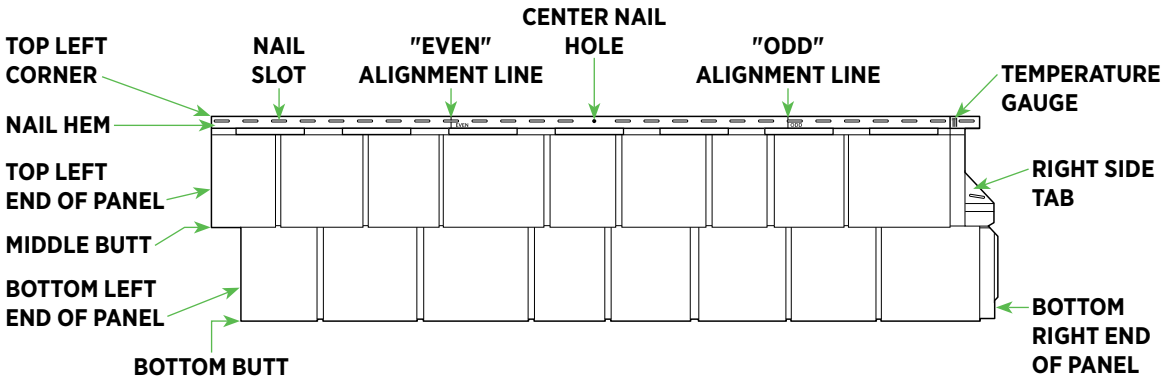
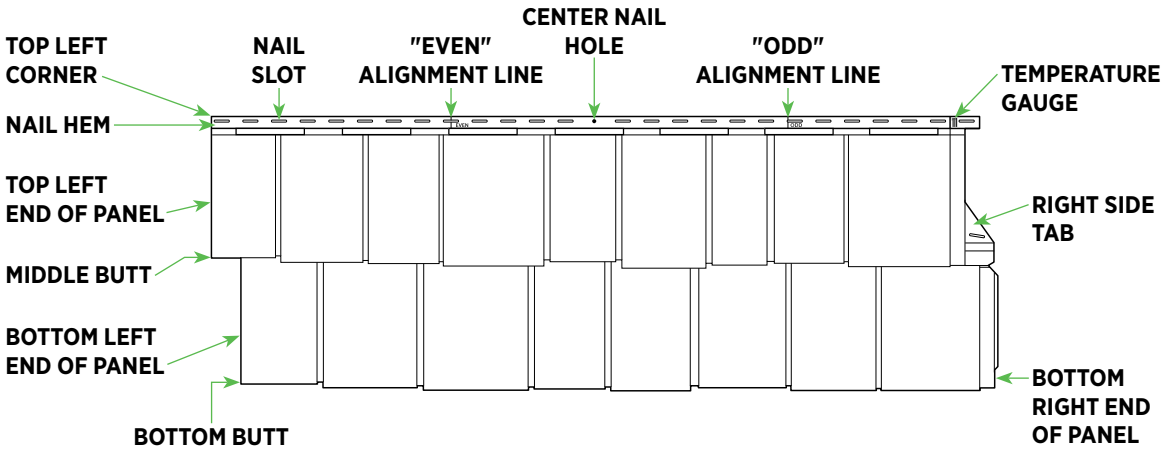
Cedar Panel Double 7"

Installs left to right



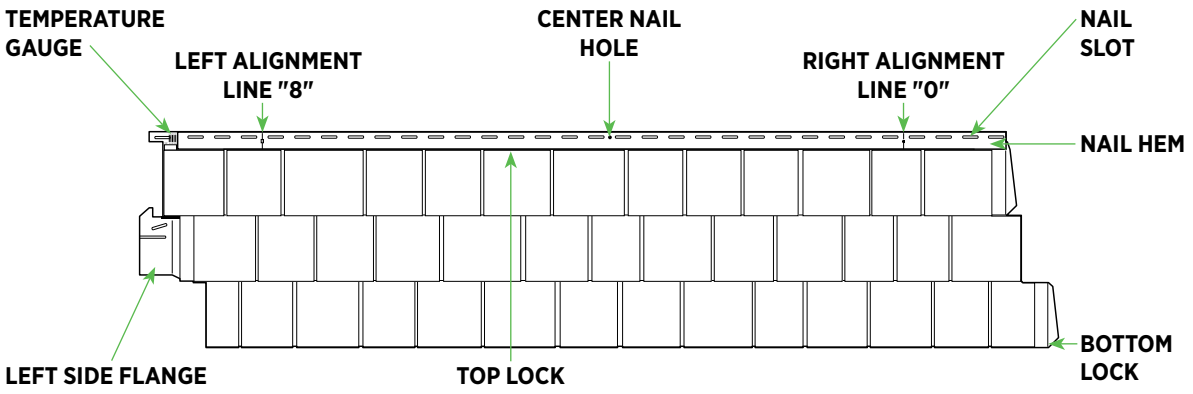
Cedar Panel Hand-Split Shake

Installs left to right



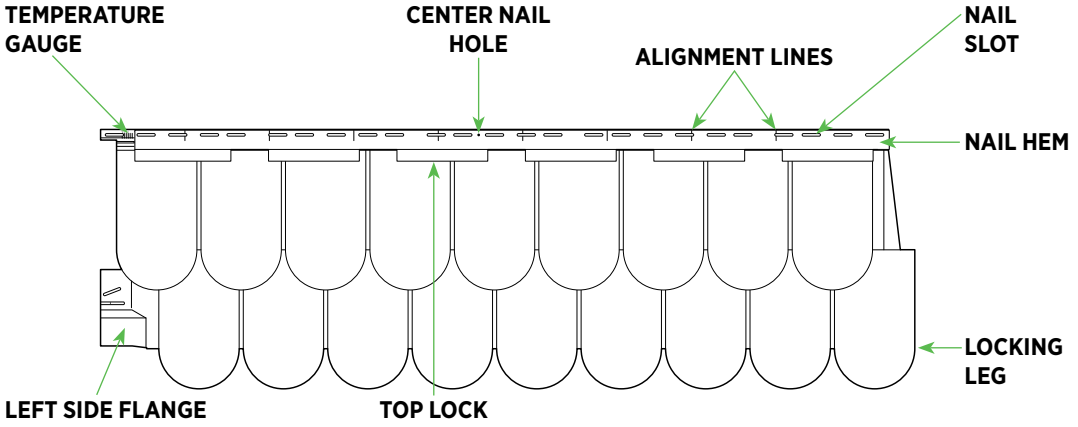
Cedar Panel Triple 5"

Installs right to left



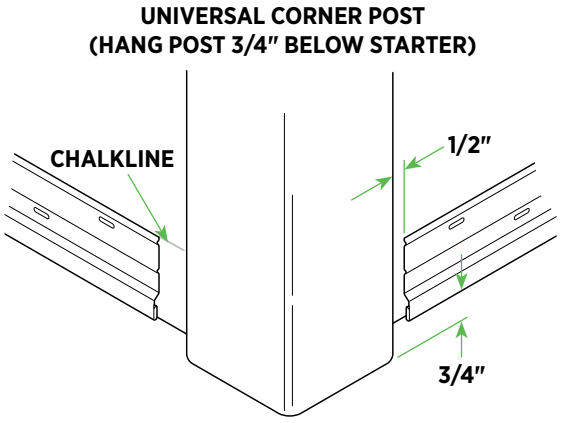
Half-Rounds

Installs right to left



Cedar Panels

STARTER STRIP INSTALLATION



Starter Strip Installation

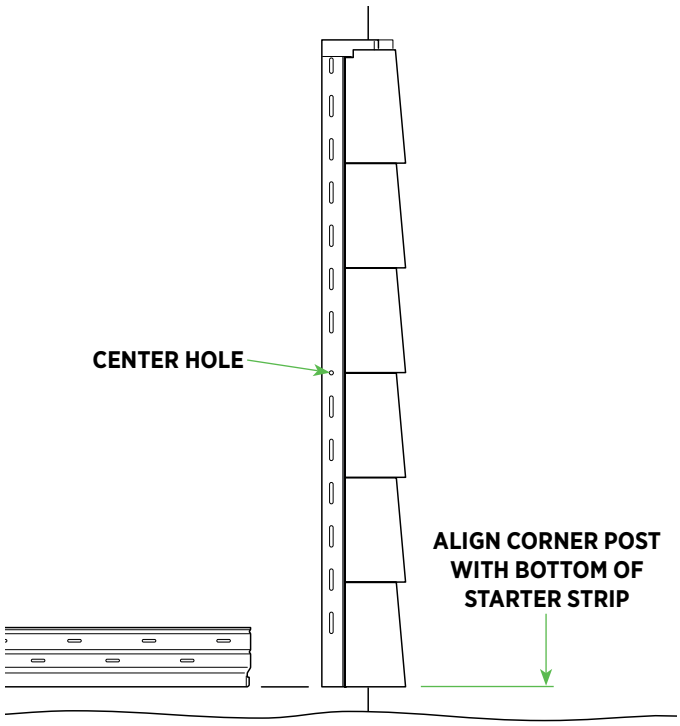
- Snap a chalkline on all walls to align the top edge of the starter strip.
- Installation of starter strip and panels should begin on the lowest wall.
- Install starter strip along the chalkline, nailing in nail slots to allow for penetration into solid wood. Wood stripping may be required to accomplish this.

Note: Do not nail at spacing over 12". Do not use regular siding starter strip — only use the starter strip that is for the cedar panels. If using J-Channel as a starter, leave a 1/4" gap into the J-Channel for panel movement. Review the basic vinyl installation section about how to use J-Channel as a starter strip.

- To allow for movement, install starter strip 1/2" from corner post.
- Install all accessories including J-Channel, corners, etc.

Cedar Panels

CORNER POST INSTALLATION



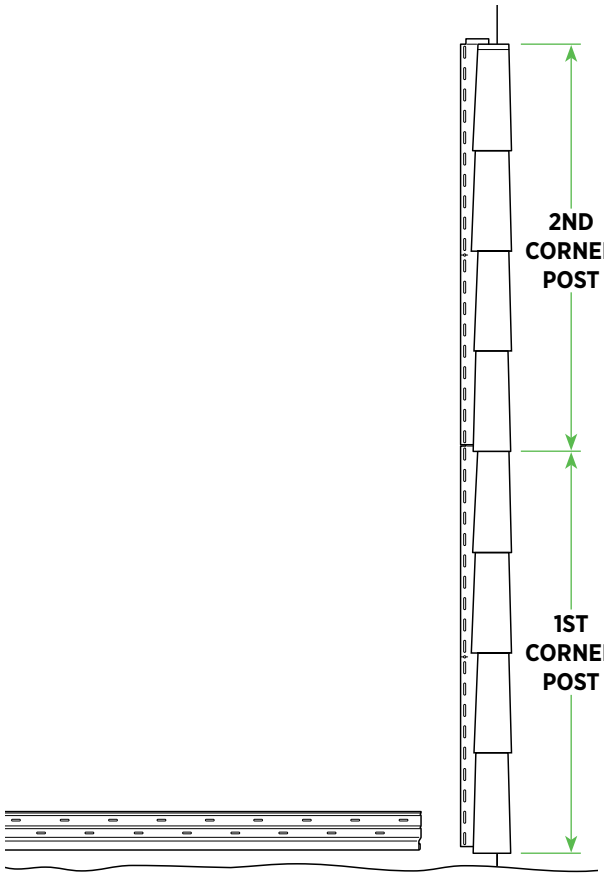
First Corner Post

Universal corner post can be used for all cedar panels. When using universal corner post, hang post 3/4″ below starter.

When using cedar panels corner post (shake, double 7″, triple 5″), align bottom of corner post with bottom of starter strip.

- Nail through center hole which is in the middle of all corner posts. This is NOT a nail slot.
- Nail corner post every 8″ through center of nail slots.

Note: Do not nail tight.



Second and All Subsequent Corners

- To install additional corners, set the top corner on top of the lower corner.
- When setting corner post, make slight adjustments to ensure the shake panels align with corner.
- Nail through center hole which is in the middle of all corner posts. This is NOT a nail slot.
- Nail corner post every 8″ through center of nail slots.

Note: Do not nail tight.

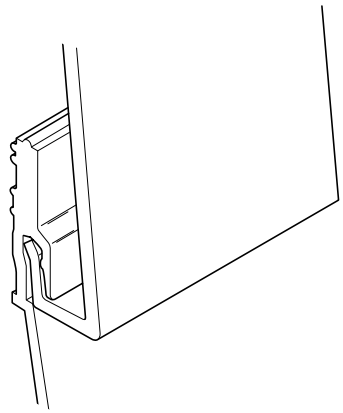
Installing Less Than Full Length Corner Post at Bottom of Wall

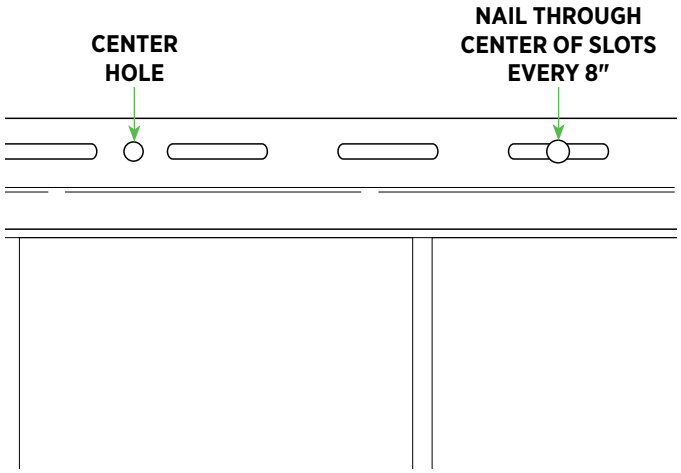
Remainder of cut corner post can be used as starter corner post.

- Cut and remove section below last full cap.
- Full length corner post can be installed as previously described.

Cedar Panels

PANEL NAILING SEQUENCE





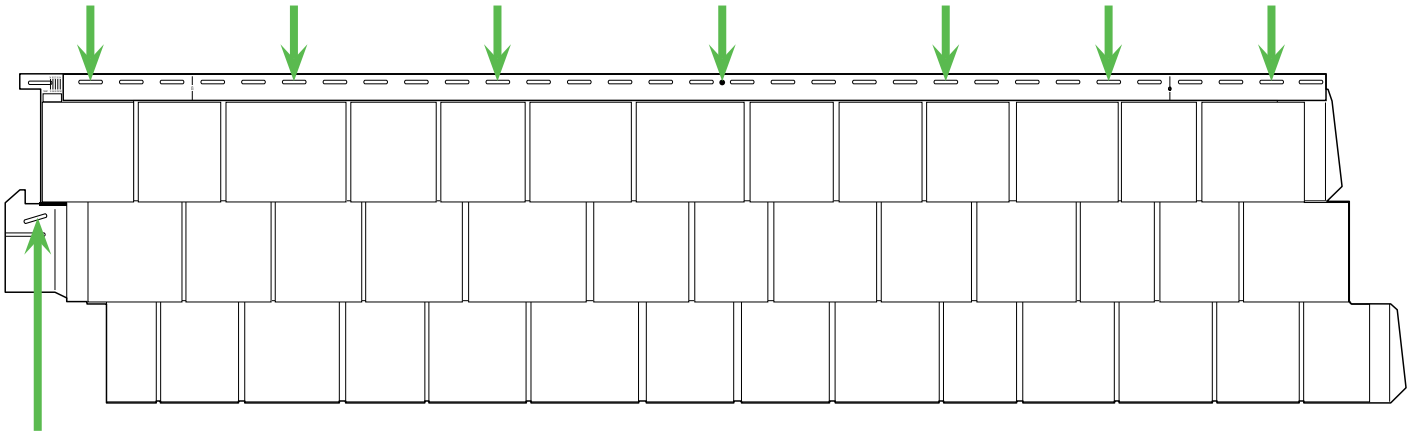
All Panels

- Pull up tight and lock securely. Nail no greater than 8″ on center.

Full Panel Fastening

Each panel requires at least eight critical fasteners.

- It is critical that fasteners are in the center hole (which is in the middle of all corner posts — this is NOT a nail slot) and the left tab as shown.
- There are seven fasteners in the top nail hem and one fastener in the left flange.
- **Do not** fasten into the last nail slot on either end of panel.
- **Do not fasten tight.** None of the fasteners should be applied tight to the panel.



Cedar Panels

INSTALLING FIRST COURSE

*Install cedar panels**
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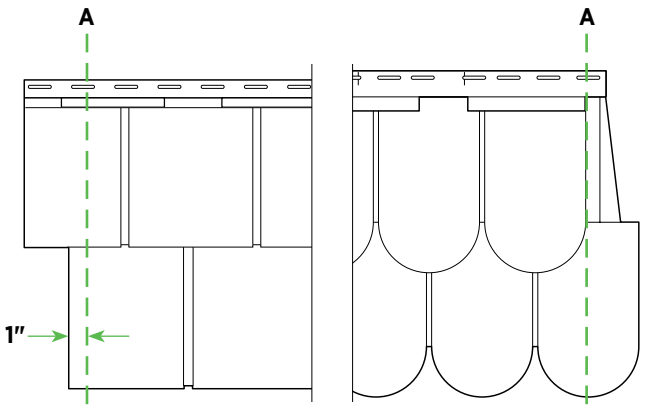
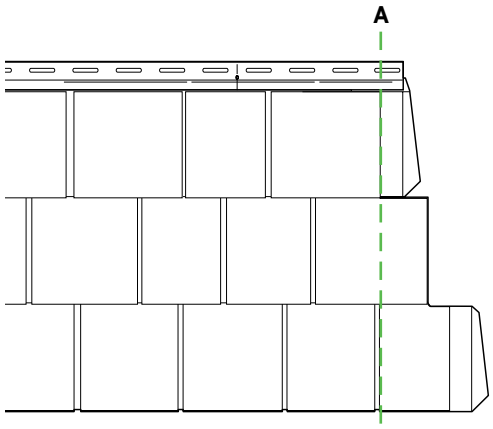


HAND-SPLIT AND DOUBLE 7"

HALF-ROUNDS



TRIPLE 5"

First Course

Note: Double 7" and hand-split install left to right. Triple 5" and Half Rounds install right to left.

- Cut the first panel at "A."

Note: To provide for panel movement, allow 1/4" gap at all corner posts, J-Channel, or other stops.

- Engage bottom lock firmly into starter strip.
- Slide the next panel into position:

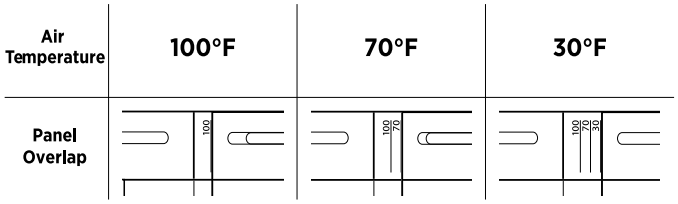
  For double 7", hand-split and half-rounds, the top half of the panel, except the nail hem, slides under. The bottom half slides over the previous panel.

  For triple 5", the top section of the panel (except the nail hem) and the bottom section of the panel slide under, and the middle section slides over the previous panel.

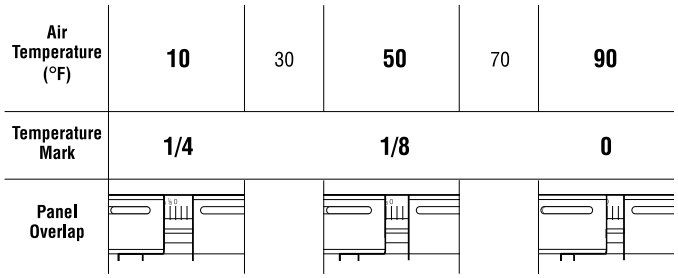
  On all products, the nail hem will be on top of the previous panel.

Cedar Panels

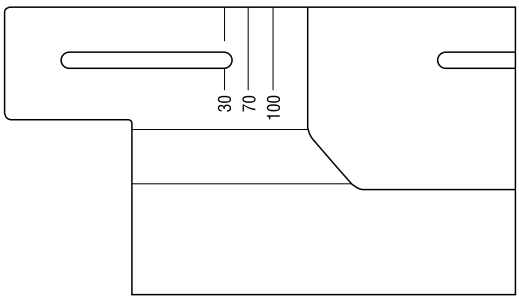
INSTALLING FIRST COURSE



DOUBLE 7" AND HAND-SPLIT SHAKE



HALF-ROUNDS



TRIPLE 5"

Align the overlap at mark based on the air temperature.

Note: The amount of panel overlap is important and varies depending on air temperature. Check and monitor air temperature when starting to install the first course on each wall. See illustrations for amount of overlap by temperature.

- Install additional full panels. Overlap each panel according to the temperature gauge.

Note: Use the temperature gauge ONLY on the first course for all panels.

Using Alignment Lines

Temperature gauge is used only for installation of the first course on each wall. Do not adjust temperature gauge on panels after first course is complete except when adjusting panels for windows or last panel of each course.

Double 7" and Hand-Split Panels:

For second and subsequent courses, align left side flange with left "EVEN" or right "ODD" alignment line of previous course according to instructions.

Triple 5" Panels:

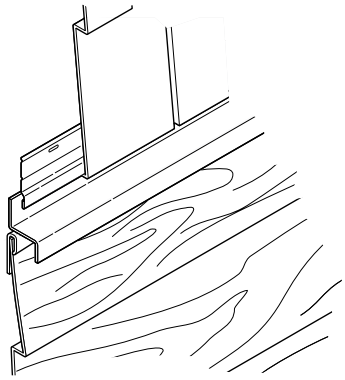
For second and subsequent courses, align left side flange with left "8" or right "0" alignment line of previous course according to instructions.

Half-Rounds:

For second and subsequent courses, align left side flange with nearest alignment line that allows proper fit and overlap of shingles. Cut panel to stagger vertical laps.

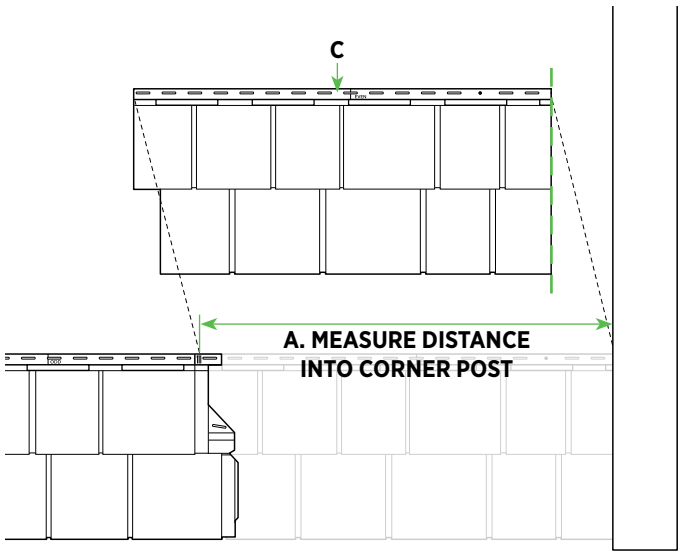
Installing Any Cedar Panels Above Horizontal Siding

Use universal cedar starter strip with drip cap.



Cedar Panels

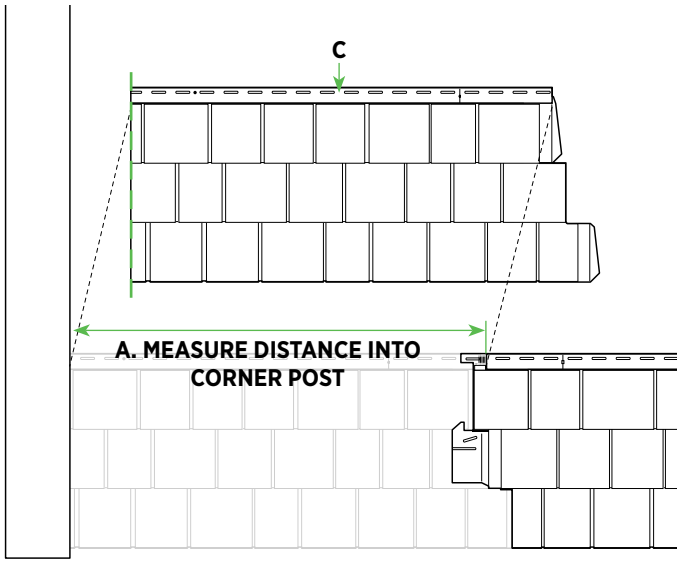
INSTALLING LAST PANEL ON COURSE



Double 7″ and Hand-Split

- Measure the distance from the correct line on the temperature gauge into the corner post, and subtract 1/4″ (A).
- Cut off right end of panel.
- On panels greater than 10″, nail through the nail hem to create a center pin (C).
- Engage lock into starter strip or continuous lock of previous course. Pull up tight. Nail at 8″ on center.

Installation Tip: Panels will flex to allow installation. To minimize waste, cut pieces can be used as starter pieces on adjacent wall.



Triple 5″ and Half-Rounds

- Measure the distance from the correct line on the temperature gauge into the corner post, and subtract 1/4″ (A).
- Cut off left end of panel.
- On panels greater than 10″, nail through the nail hem to create a center pin (C).
- Engage lock into starter strip or continuous lock of previous course. Pull up tight. Nail at 8″ on center.

Installation Tip: Panels will flex to allow installation. To minimize waste, cut pieces can be used as starter pieces on adjacent wall.

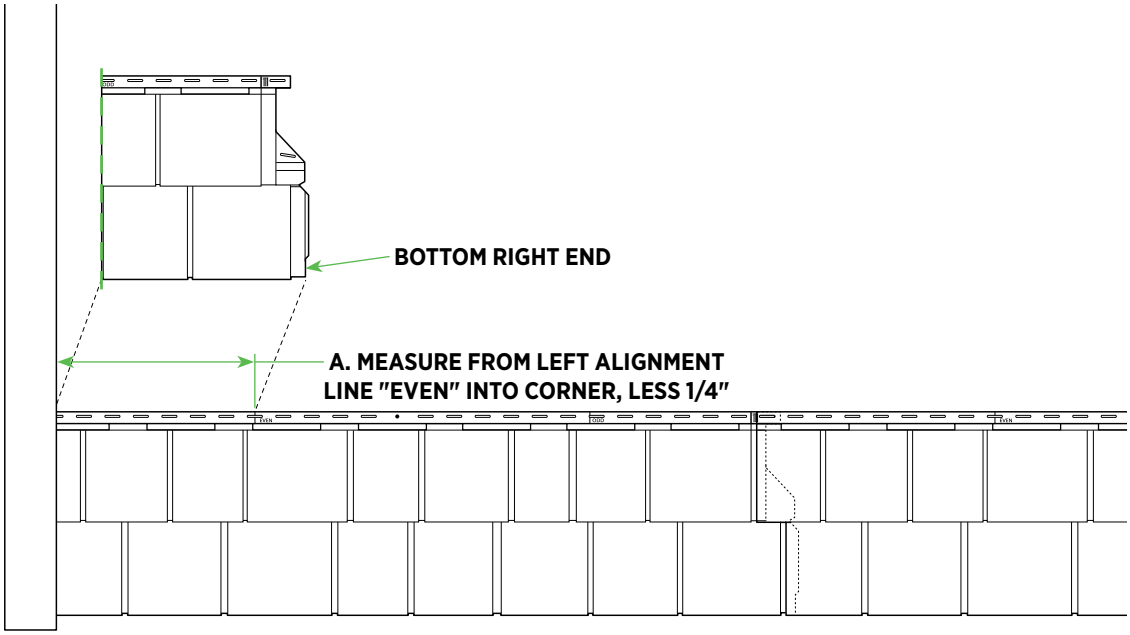
Cedar Panels

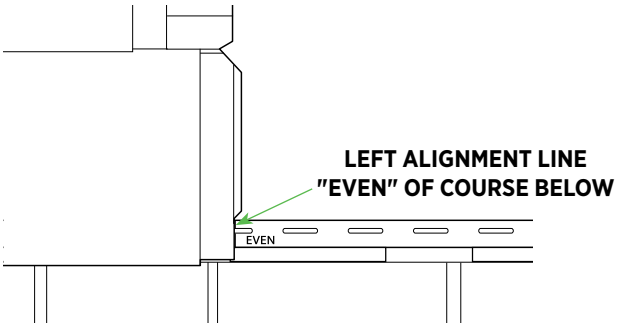
SECOND AND ALL EVEN COURSES / DOUBLE 7" & HAND-SPLIT

Second Course and All Even Courses

Double 7" and Hand-Split

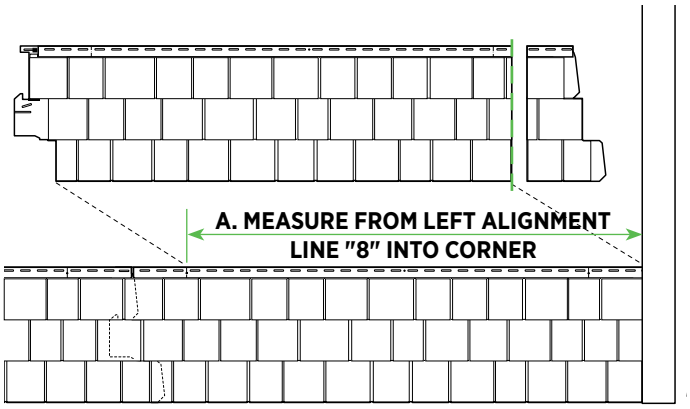
- Measure distance from the left alignment line "EVEN" of the panel below into the corner post or J-Channel, less 1/4" (A).
- Measure this distance from the bottom right end of new panel and cut to this length.
- Align bottom right end with left alignment line "EVEN" of the course below.





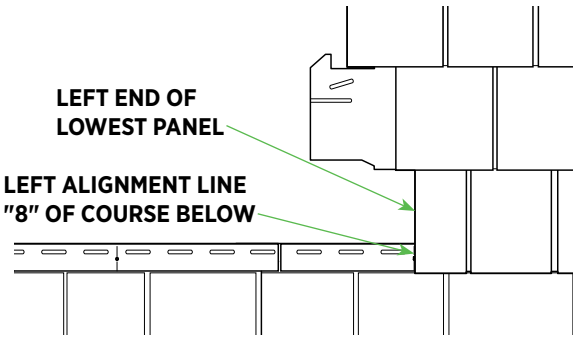
Cedar Panels

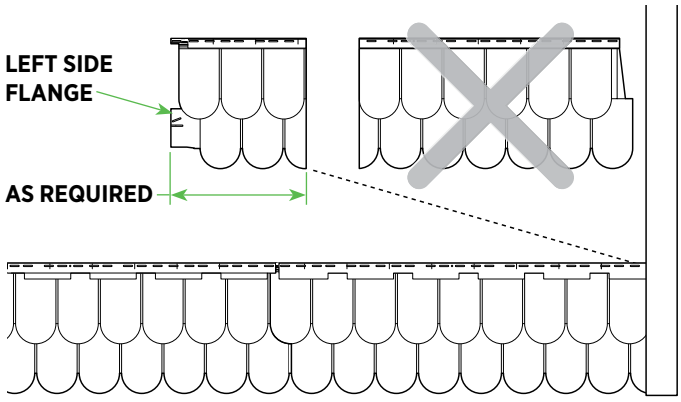
INSTALLING SECOND AND EVEN COURSES / TRIPLE 5" & HALF-ROUNDS

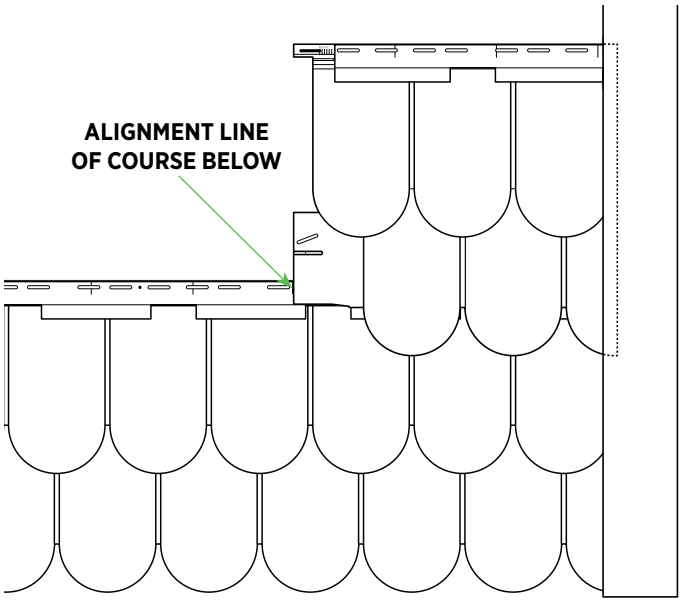


Triple 5"

- Measure the distance from the left alignment line "8" of the panel below into the corner post or J-Channel, and subtract 1/4" for movement (A).
- Measure from the left end of the bottom panel and cut to this length.
- Align lowest panel left edge with left alignment line "8" of the course below.







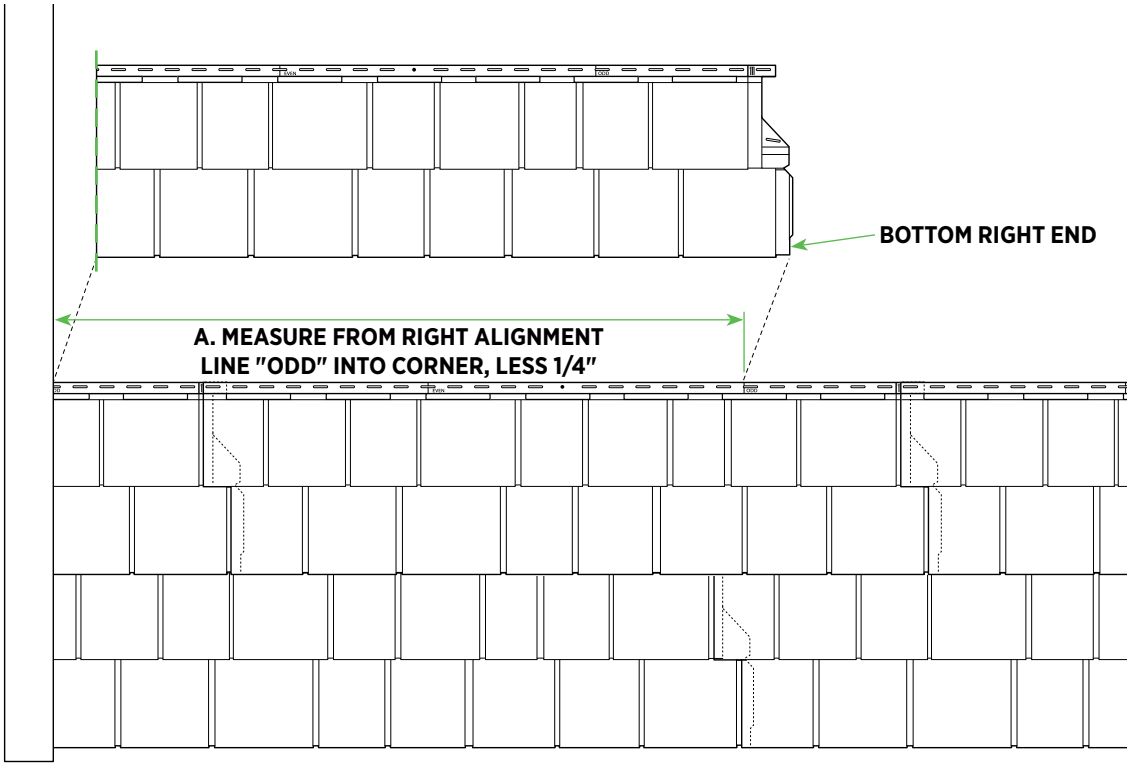
Half-Rounds

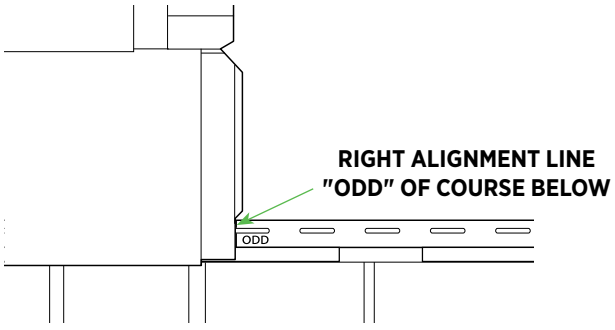
- Measure appropriate distance from left side flange of panel (allowing for staggered vertical laps) and cut.
- Align left side flange with nearest alignment line of course below that allows for proper fit into corner post or J-Channel.
- Pull up tight and lock securely. Nail no greater than 8" on center.
- Continue installing full panels in the course.
- To finish course, refer to section titled "Last Panel on Each Course."

Third Course and All Remaining Odd Courses

Double 7" and Hand-Split

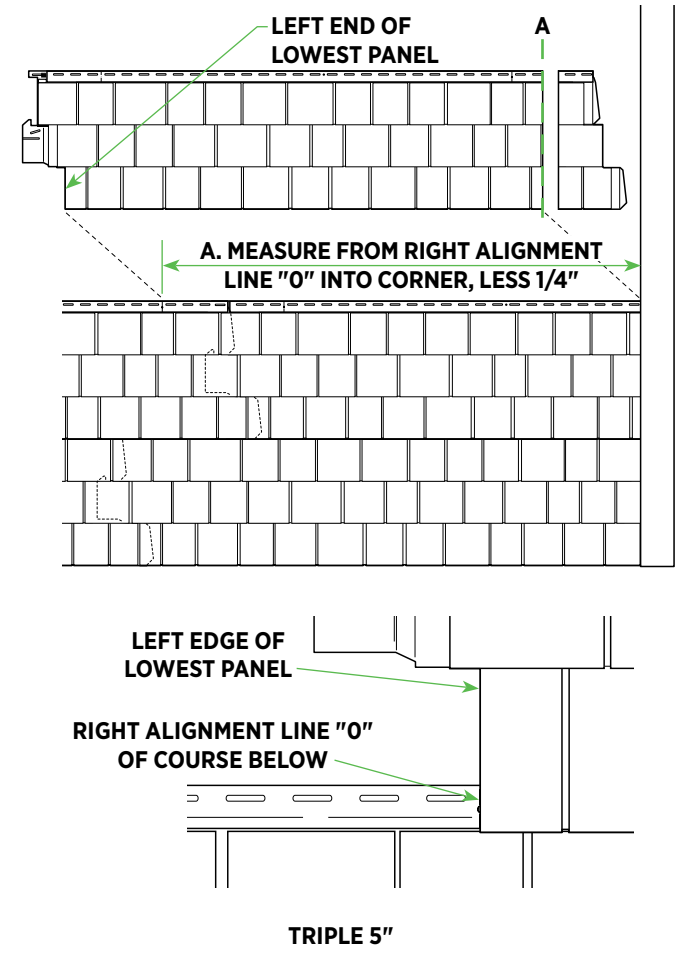
- Measure the distance from the right alignment line "ODD" of the panel below into the corner post or J-Channel, less 1/4" (A).
- Measure this distance from the bottom right end of the new panel and cut to this length.
- Align bottom right end with right alignment line "ODD" of the course below.





Cedar Panels

THIRD AND REMAINING ODD COURSES / TRIPLE 5" & HALF-ROUNDS

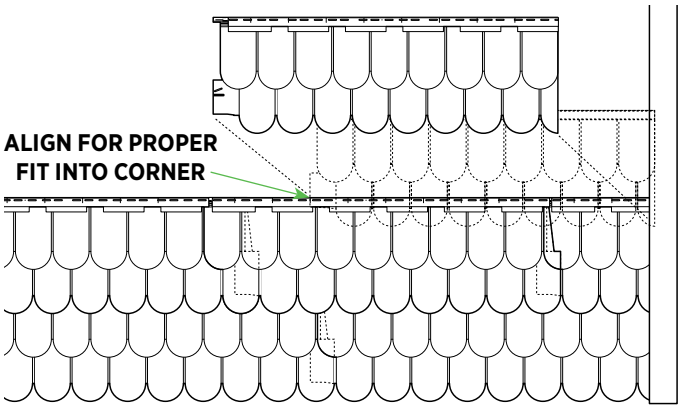


TRIPLE 5"

Third Course (and All Odd Courses)

Triple 5":

- Measure the distance from the first right alignment line "0" of the course below into the corner post or J-Channel and subtract 1/4" (A).
- Measure from the left side flange of panel and cut to this length.
- Measure from the left end of the lowest panel and cut to this length.
- Engage lock securely into continuous top lock of course below.
- Align lowest panel left edge with right alignment line "0" of the course below.

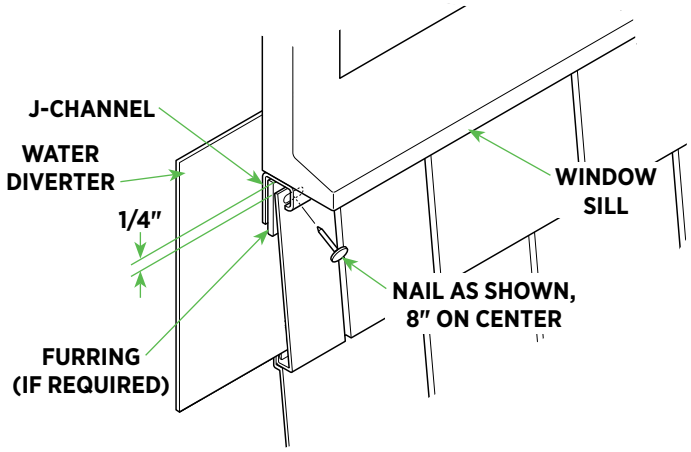


Half-Rounds:

- Measure and cut right end of panel off to allow for proper alignment and 1/4" all stops, such as corner post or J-Channel.
- Align left side flange with nearest alignment line of course below that allows for proper fit into corner post or J-Channel.

Cedar Panels

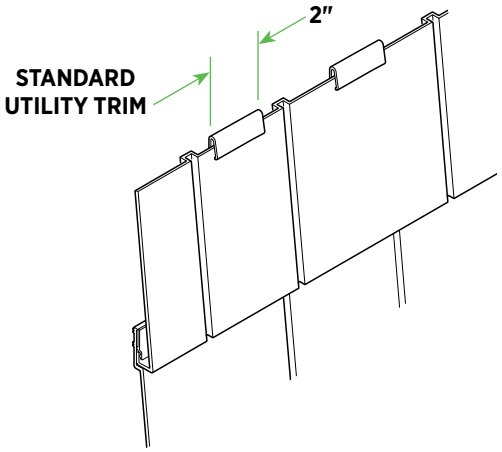
SECURING PANELS AROUND WINDOWS



Securing Panels Around Windows

- Measure and cut panels around windows, allowing 1/4" into all window channels for movement.
- Install water diverters at the bottom corners of the window.
- Use a nail slot punch to create nail slots every 8" on the cut edge of the panel.
- Shim as needed.
- Slide panel into window channel.
- Pull up tight and nail.

Installation Tip: A nail set can be used to ease installation, or the face of the J-Channel can be bent to allow for nailing.



Alternate Method One

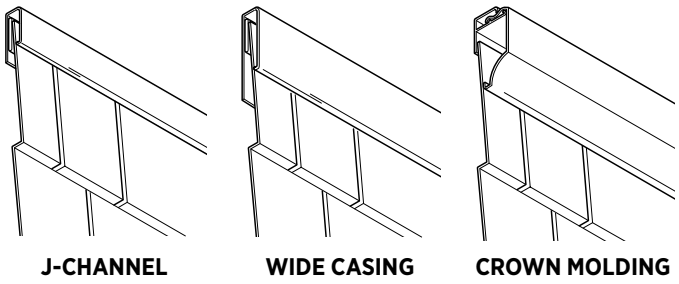
- Use the standard cedar panel utility trim.

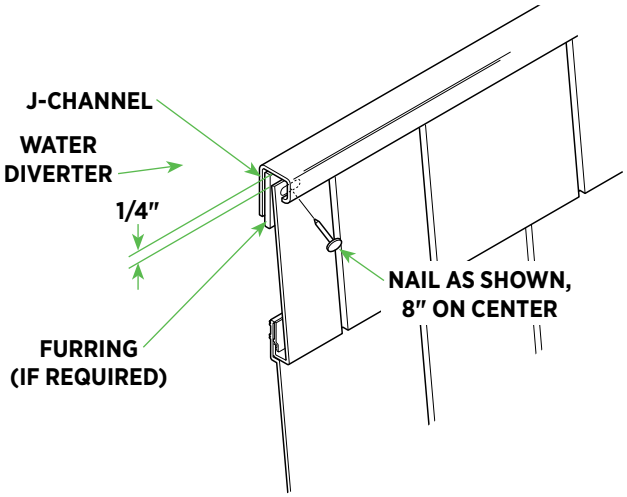
Alternate Method Two

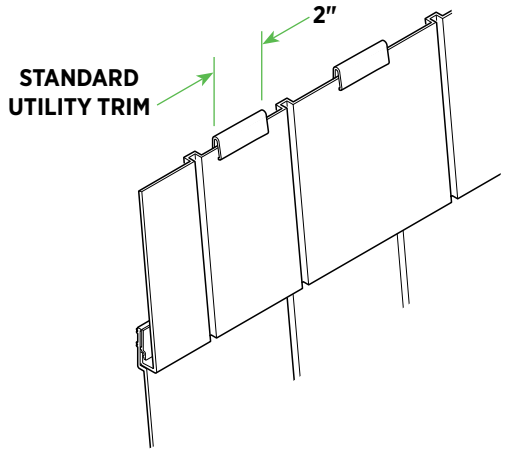
- Cut 2" wide pieces of standard cedar panel utility trim.
- Nail into the window J-Channel, making sure to locate utility trim at the flat areas of the shake. Using the snaplock punch, install a lug at each utility trim location on panel and install.

Cedar Panels

SECURING THE FINAL EAVE AND GABLE COURSES







Securing the Final Eave and Gable Courses

Note: J-Channel, wide casing or crown molding can be used in eaves and gables to receive the final course.

- Measure the required width for last course less 1/4" to allow for panel movement.
- Cut panel height as required.
- Punch nail slots every 8".
- Nail through center of slots.

Note: Shimming may also be required.

IMPORTANT TIPS

- When installing the final gable piece, use only one trim nail and face nail this panel.
- When you have a long gable piece with a very short nail hem, use a nail hole slot punch at the cut gable end (at an angle) and nail at this location.

Alternate Method One

- Use the Standard Cedar Panel Utility Trim.

Alternate Method Two

- Cut 2" wide pieces of standard Cedar Panel utility trim.
- Nail into the eave J-Channel, making sure to locate utility trim at the flat areas of the shake. Using the snaplock punch, install a lug at each utility trim location on panel and install.

*Cedar panels - last panel in eave & gable**

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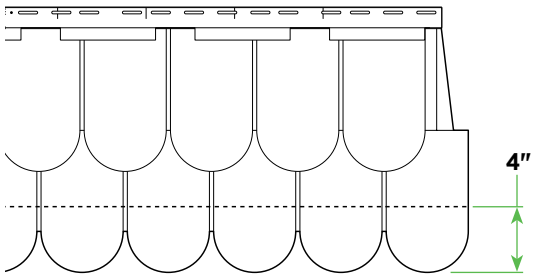
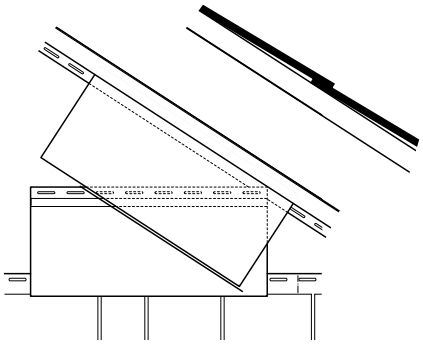
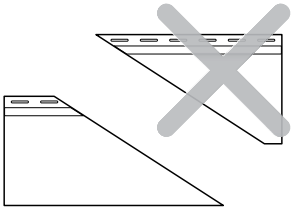
Cedar Panels

INSTALLING HALF-ROUNDS ON GABLE ENDS







Cedar panels half-rounds can be locked directly onto other cedar panels. If desired for transitions, panels can be installed using starter strip over drip cap, or into T-Channel or lineals.

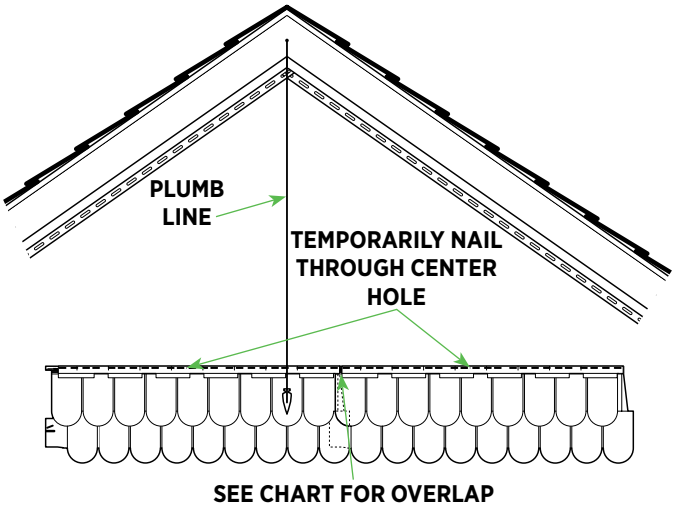
When installing into any channel or lineal, cut 4" from the bottom of the half-round. Allow 1/4" gap for panel movement.

Note: Panels must be installed from right to left. Do not nail tight. Allow 1/4" into all channels, posts and stops.

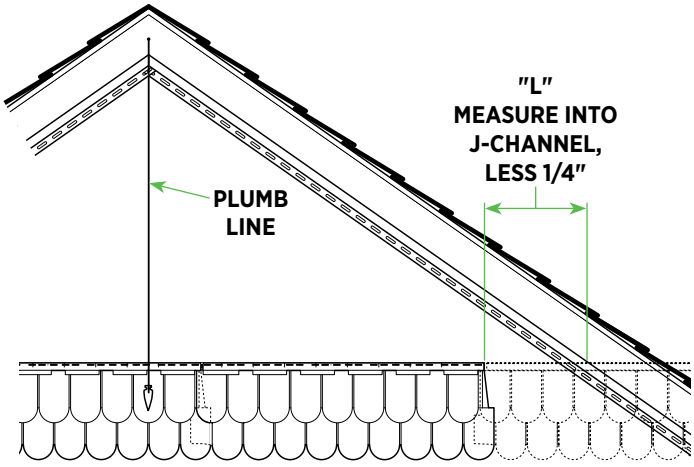
- Make a template for gable angle by locking a short piece of siding into the gable starter course.
- Hold a second piece against the gable finish trim. Mark angle on first piece and cut.
- Make templates as needed.

Cedar Panels

CENTERING HALF-ROUNDS ON GABLE ENDS



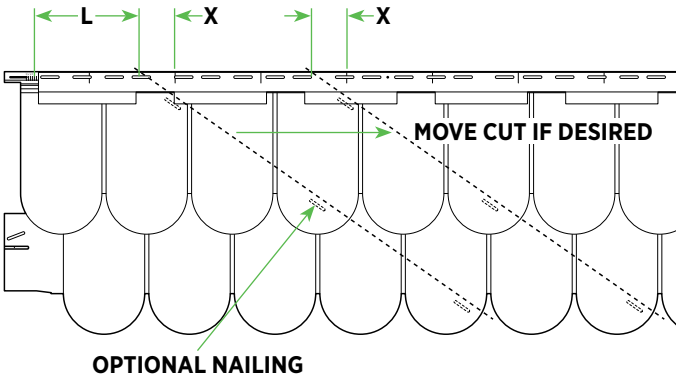
Air Temperature (°F)	10	30	50	70	90
Temperature Mark	1/4		1/8		0
Panel Overlap					



Centering Half-Rounds on Gable Ends

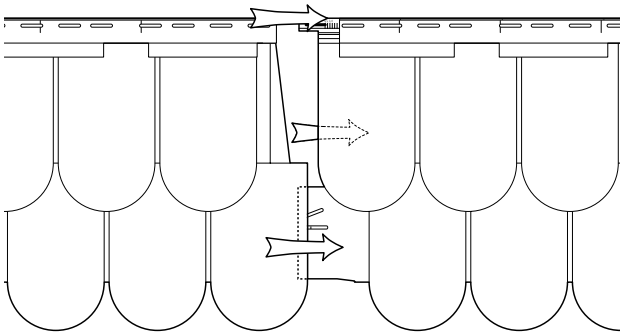
When installing half-rounds in gables, the last piece should be centered at the peak of the gable for proper appearance.

- For symmetrical appearance at peak, position and lock full panel in the first course with half-rounds at center of the gable. Temporarily fasten through center hole. Continue temporarily installing full panels toward right side of the gable.
- When less than full panel is needed, measure top of nail hem into gable end trim, less 1/4". Use this dimension "L" to cut first piece for installation.
- To locate the cut mark on first panel, measure from the appropriate temperature mark to the right and mark top of nail hem.
- Use template and cut at mark. If needed for secure installation, move the mark an equal distance (X) from any alignment line.
- Remove temporarily nailed panels.

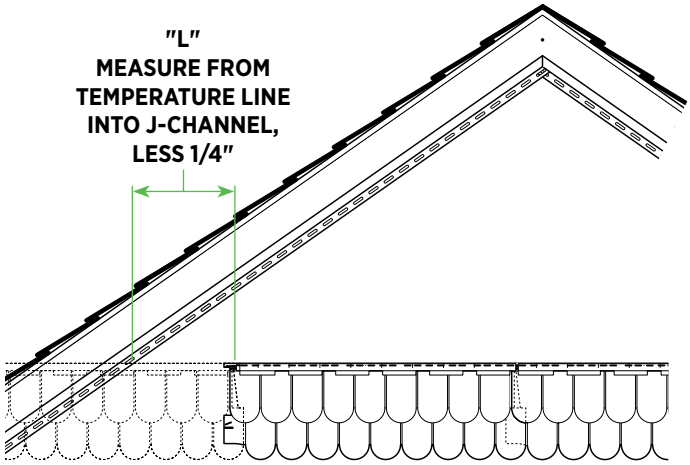


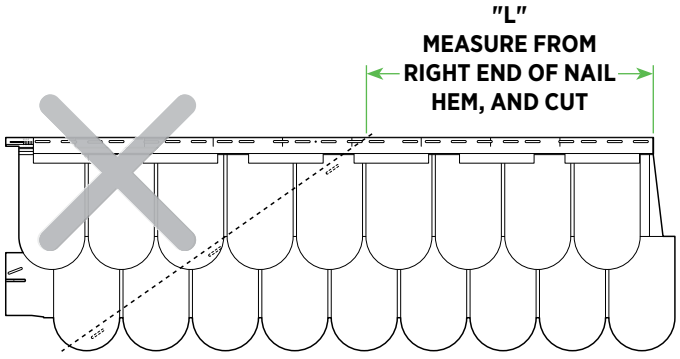
Cedar Panels

INSTALLING FIRST COURSE OF HALF-ROUNDS IN GABLE END



Air Temperature (°F)	10	30	50	70	90
Temperature Mark	1/4		1/8		0
Panel Overlap					





Installing First Course on Gable End

- Use newly cut panel. If installing into siding or starter strip, lock firmly, pull up tight and nail.
- Slide the next panel into position. The top half of the panel, except the nail hem, slides under, and the bottom half slides over the previous panel. The nail hem will be on top of the previous panel. Nail slots can be cut at angle for additional nailing.

  If this is your first course of half-rounds, refer to chart for overlap amount.

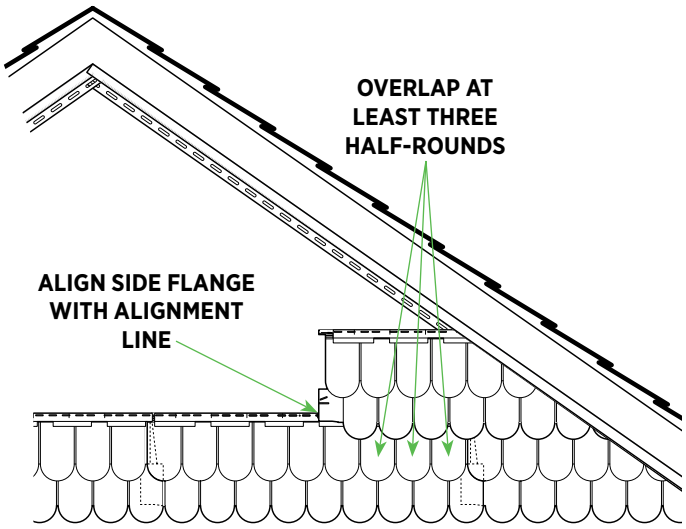
  If this is not your first course of half-rounds, align left side flange with nearest alignment line of course below that allows for proper fit into right end finish trim.
- Engage bottom lock firmly into siding or starter strip, pull up tight and nail.
- Repeat steps to install additional full panels.

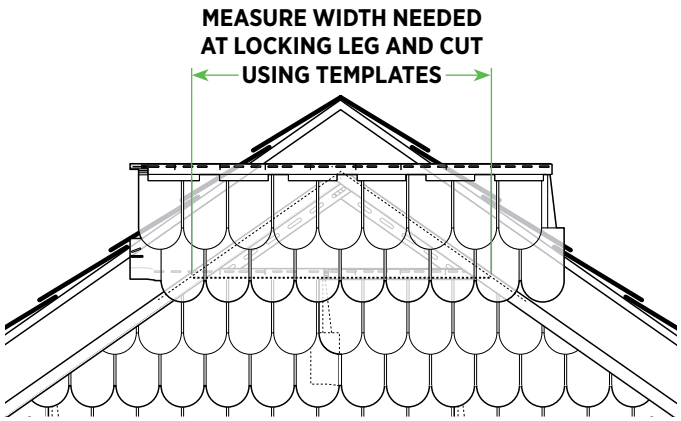
Last Panel on Each Course

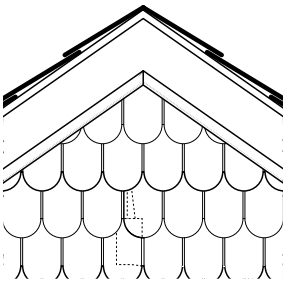
- Make template for angle if needed.
- Measure distance from correct line on temperature gauge into the gable end trim, less 1/4" (L).
- Measure panel from right end of nail hem (L) and cut at correct angle.
- Engage lock into starter strip or continuous lock of previous course, pull up tight.

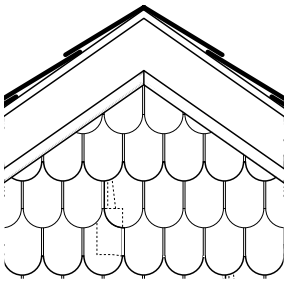
Cedar Panels

SUBSEQUENT COURSES OF HALF-ROUNDS ON GABLE END









Second and Subsequent Courses on Gable End

- Make new template for angle if needed.
- Measure from the left side of flange making sure to stagger the laps by at least three half-rounds.
- Align left side flange with nearest alignment line of course below.
- Insert bottom lock into top lock of course below. Pull up tight and nail.
- For second and subsequent panels, align left side flange with nearest alignment line of course below that allows for proper fit. Insert bottom lock into top lock of course below. Pull up tight and nail.

Final Course on Gable End

- Measure width needed at bottom lock.
- Carefully check alignment of half-rounds to center full or partial rounds as needed, and cut.
- Insert bottom lock of final course into top lock of course below. Pull panel up tight. Nail at peak using a color matching trim nail.

NOTES

Lineals, Mantels and Door Surround Installation

Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

Lineals

WINDOWS AND DOOR TRIM

*Install lineals around new & remodeled windows**

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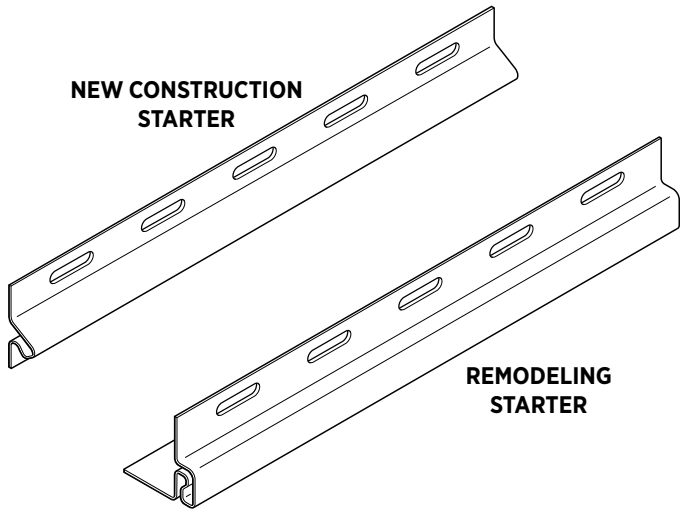
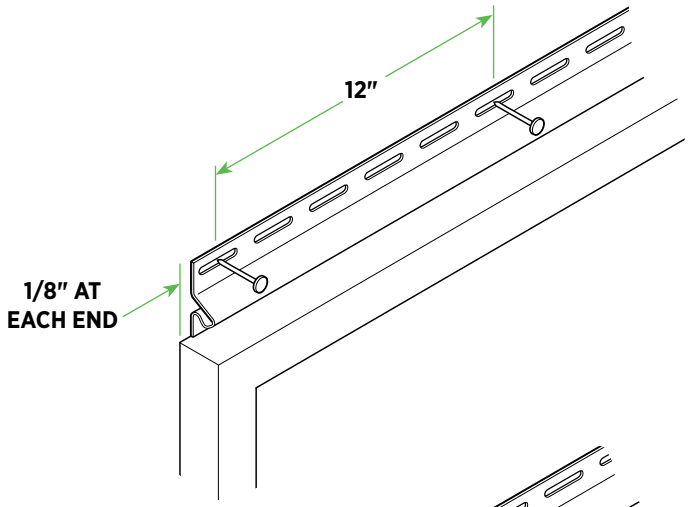
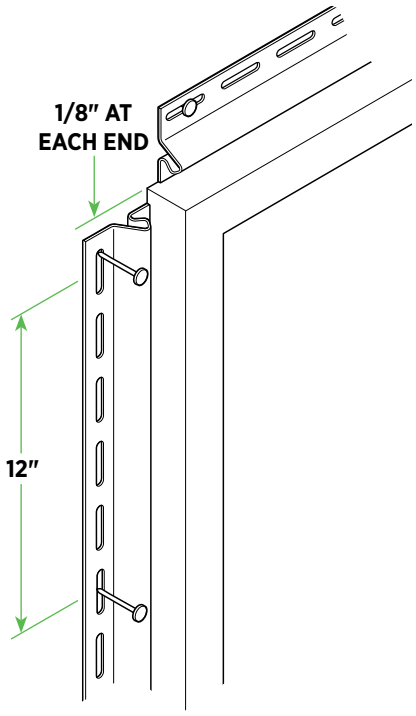




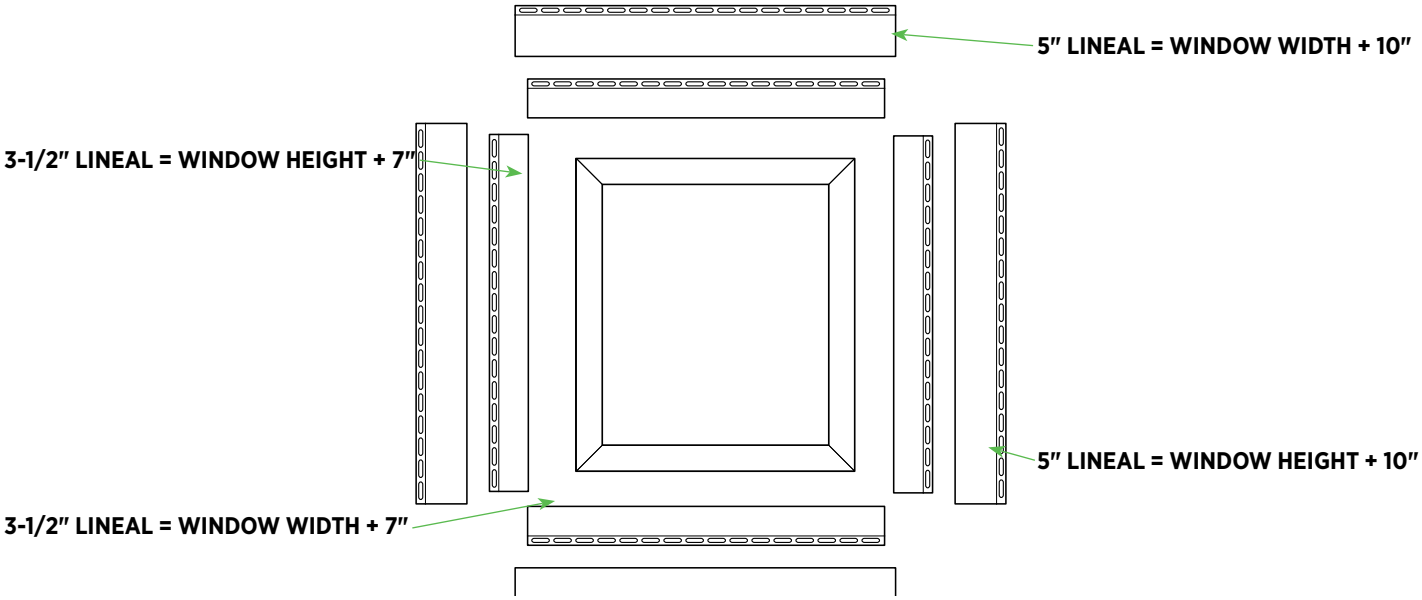


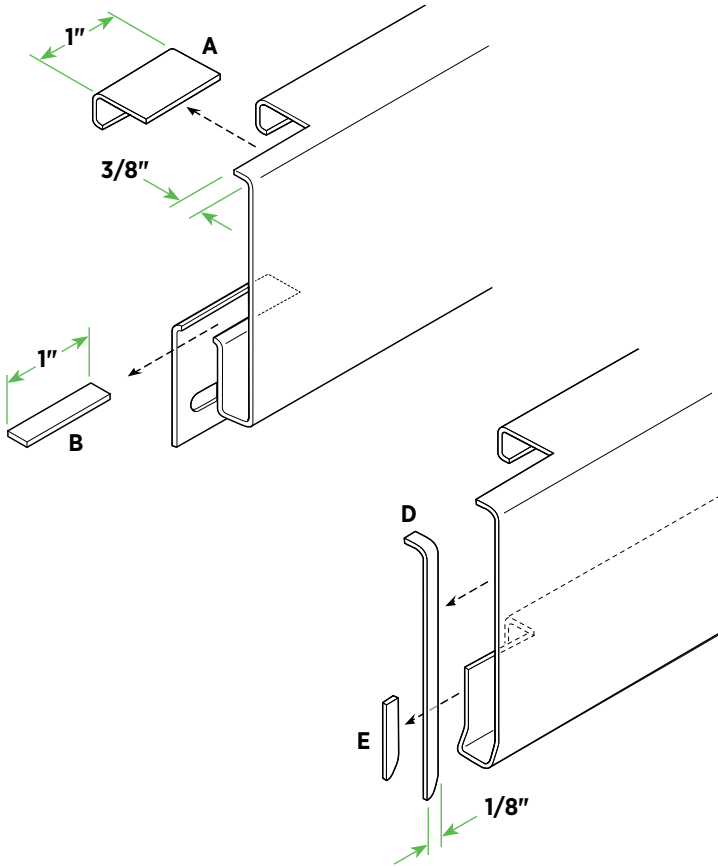
Lineals

- Starter strips are available for both new construction and remodeling.
- Flash all existing windows as shown in the Wall Preparation section.
- Measure the width of the top of the frame and cut a piece of starter strip 1/4" less than the frame (1/8" short on each end).
- Leave a 1/8" gap between the starter and window to allow lineal to snap into place.
- Continue to measure and cut starter strips for the other sides of the frame. Cut starter strips 1/4" less than the frame (1/8" short on each end).
- Install the starters. For vertical starter strips, nail the first nail in the upper most edge of the first slot. All other nails should be centered in the slots every 12".

Measure and Cut Lineals

- For 3-1/2", lineals add 7" to your measurement in order to accommodate their widths at corners. For 5" lineals, add 10". Lineals should be installed around the window or opening in the following order: bottom, sides, and top.



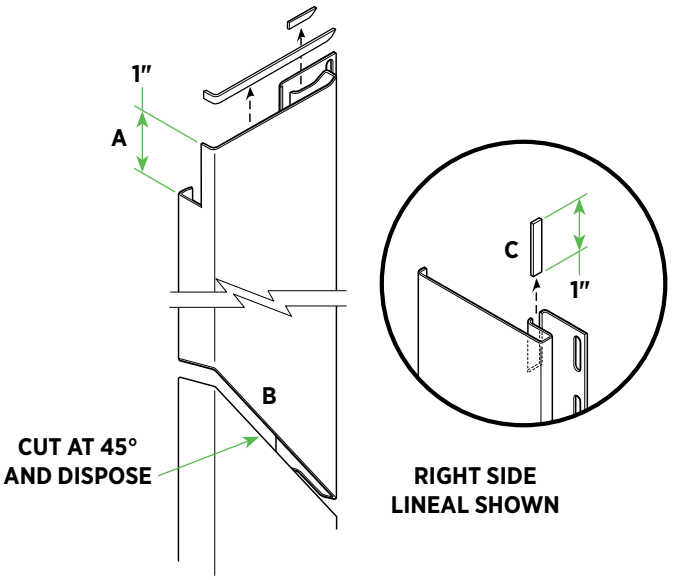


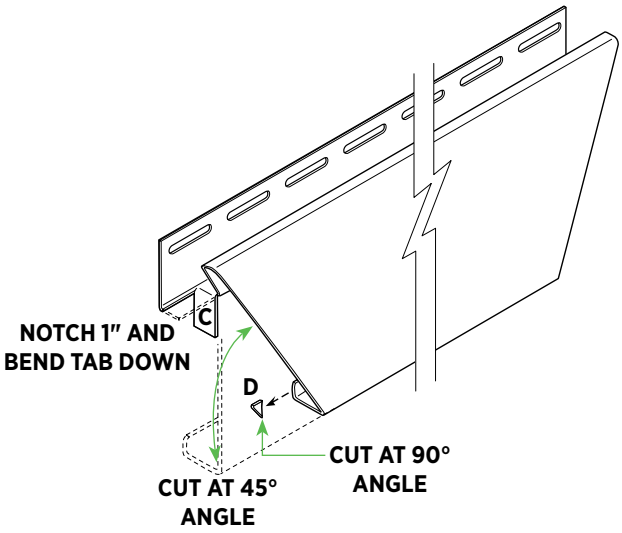
Install Bottom Lineal

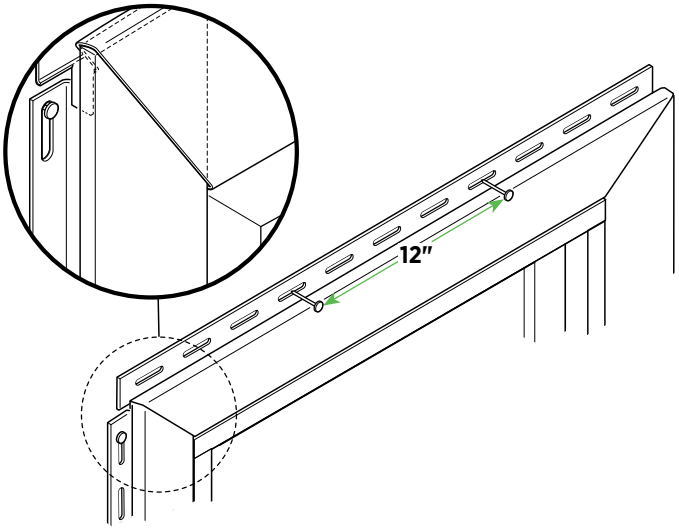
- Cut a notch on each side of the back of the lineal (A). Cut a 1" notch out of the nail hem side (B).
- Cut a 1/8" curved sliver off of the face and back leg of the lineal (D) and (E).
- Push the locking leg of the lineal into the channel of the starter. Nail the lineal every 12" centered in the nail slots.

Lineals

WINDOWS AND DOOR TRIM







Install Side Lineals

- Cut a 1″ notch (A) off the legs at top of the lineal and 45° miter cut at the bottom (B).
- Cut a 1″ notch out of the nail hem side (C).
- Make curved sliver cuts on the top of the lineal.
- At the bottom of both side lineals, cut and bend a tab that will integrate into the bottom lineal.

Note: Right and left lineals should have opposite cuts.

- Install side lineals onto starter and slide down into place, lapping the side lineals over the bottom lineal.
- Nail top nail of the side vertical lineal into top of slot, then nail lineals into place every 12″ with nails centered in slots.

Install Top Lineal

- Miter each end of the lineal at a 45° angle.
- Notch the channel 1″ to form a tab on each end and bend it down (C).
- Cut 90° angle in back leg of lineal (D).
- Work the top lineal into place by flexing the material to fit with the side lineals, lapping the top lineal over the side lineals.
- Fit tabs of the header lineal down into the side lineals.
- Nail every 12″ with nails centered in slots of lineal.

Lineals

LINEALS IN EAVES AND GABLES

*Install lineals as band boards and gables**

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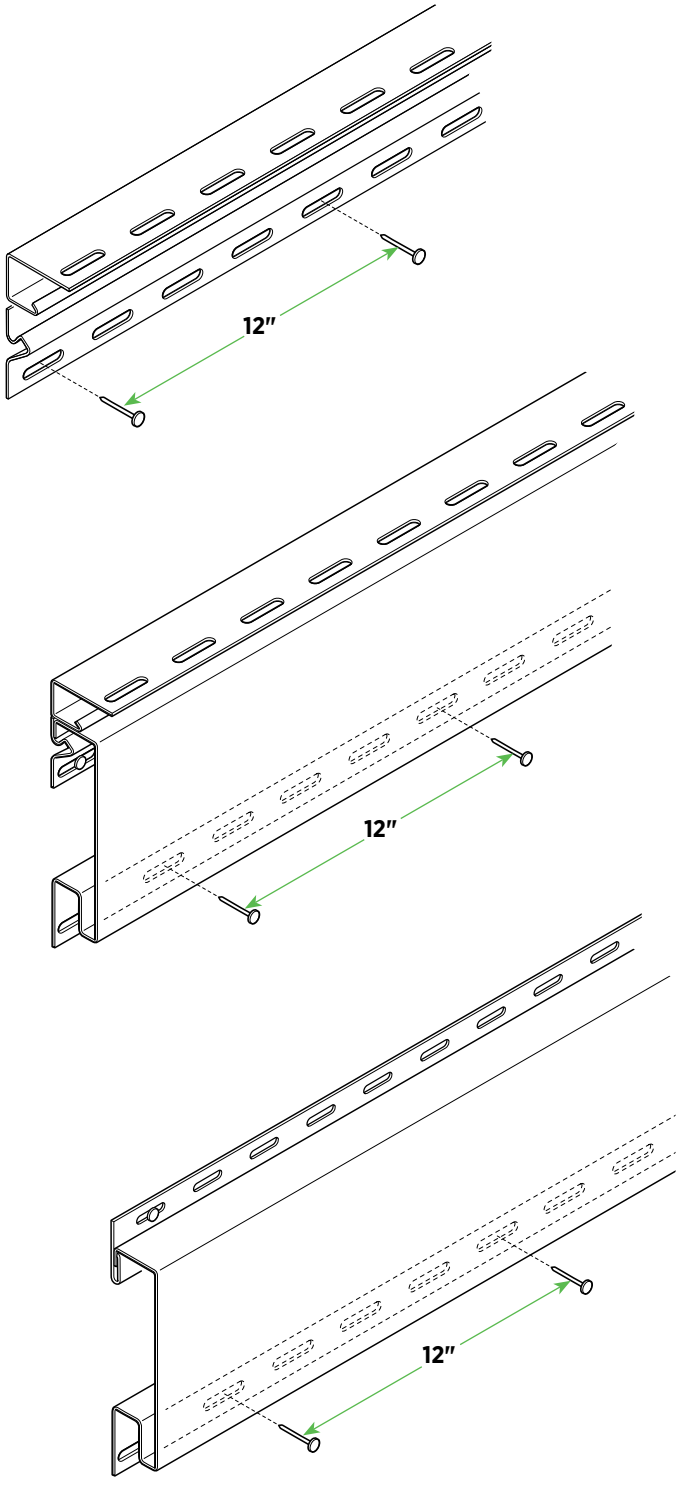
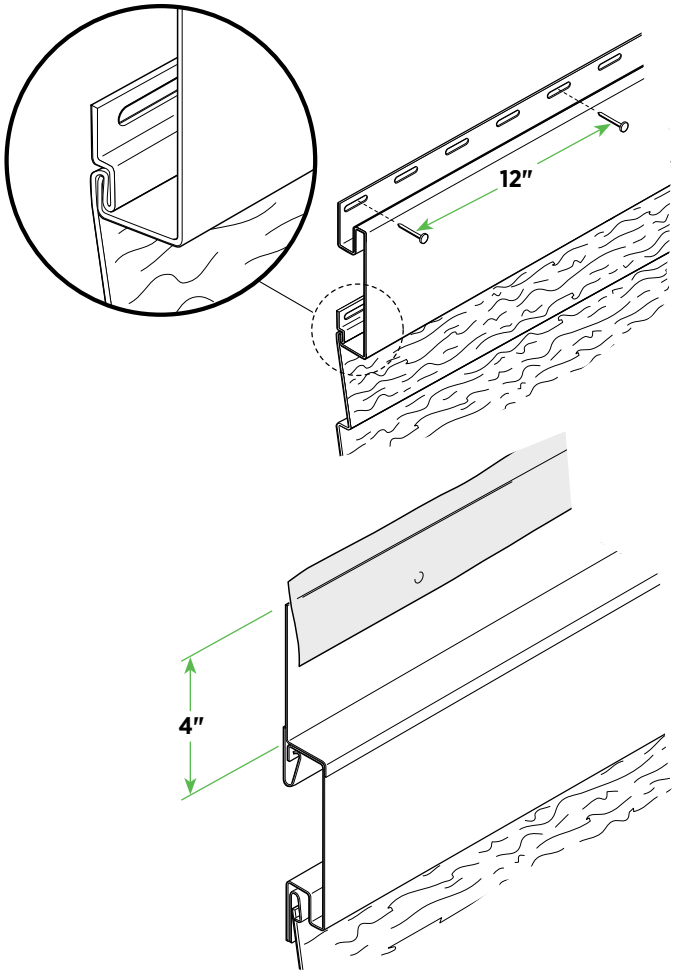


Choose either a 3.5″ or 5″ lineal, depending on the look you want to achieve.

- The soffit receiving channel must first be installed in the eave and gable areas.
- Install the new construction lineal starter next to the soffit receiving channel. Leave a 1/8″ gap to the soffit receiving channel.
- Nail the starter in place every 12″ with nails centered in nail slots.
- Push the locking leg of the lineal into the starter channel.
- Nail the lineal in place every 12″ with nails centered in nail slots.
- Install utility trim for horizontal siding applications in the eaves. Then install the last eave course.
- Install all gable panels after the lineals are installed.

Lineals

LINEALS USED AS BAND BOARDS

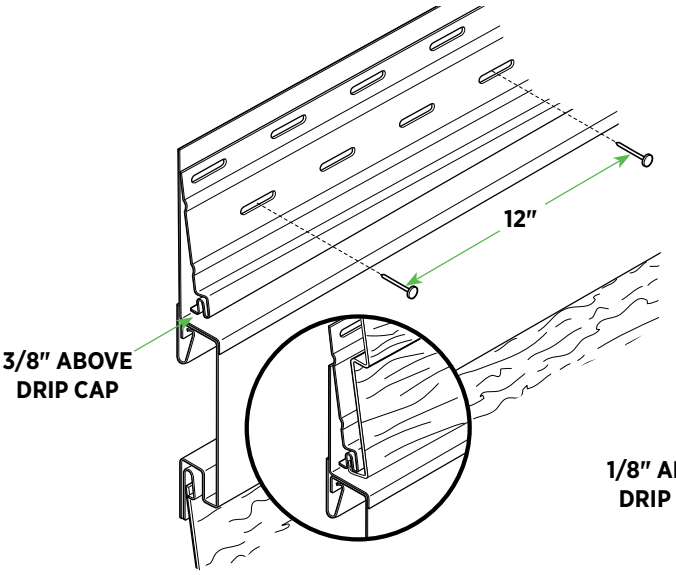


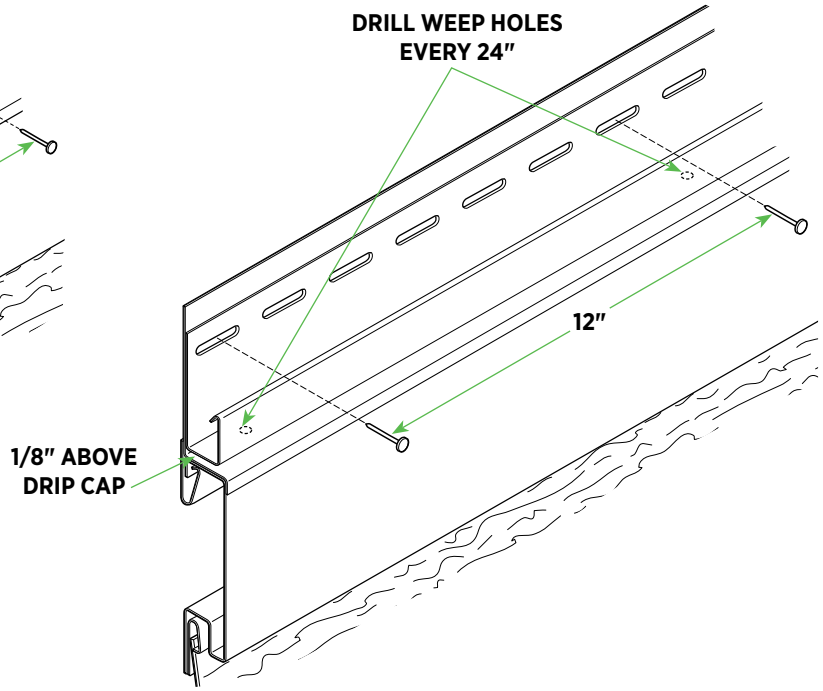
Option 1

Choose either a 3.5″ or 5″ lineal, depending on the look you want to achieve.

- When possible, lock the lineal onto the last full course of siding.
- Nail every 12″ with nail centered in the nail slots.
- Drip cap must be installed along with a starter strip for horizontal siding or J-Channel for vertical siding. If J-Channel is used, drill 3/16″ weep holes in base of J-Channel every 24″ to allow for water to run off.
- Drip cap should be formed so that it extends up the wall 4″. Integrate the drip cap flashing into the existing weather-resistive barrier.

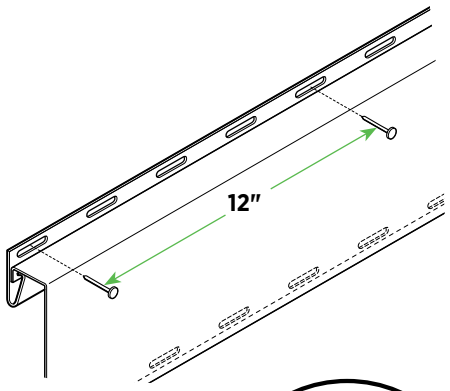
Note: If band board must be at an exact location, place flashing into the last course of siding. Use a water diverter to remove water from the lineals.

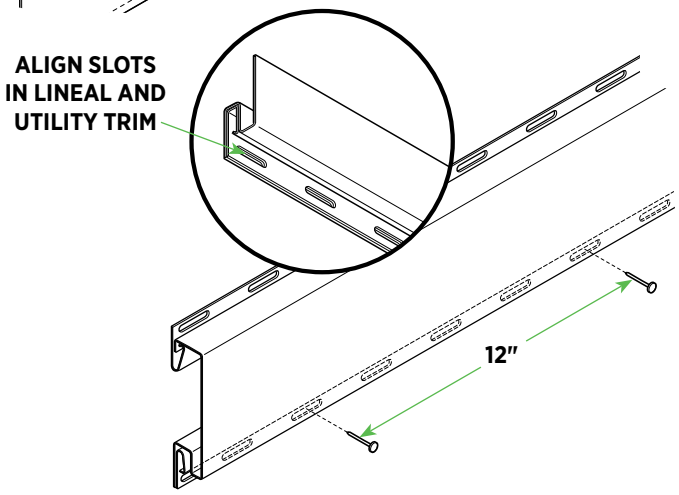


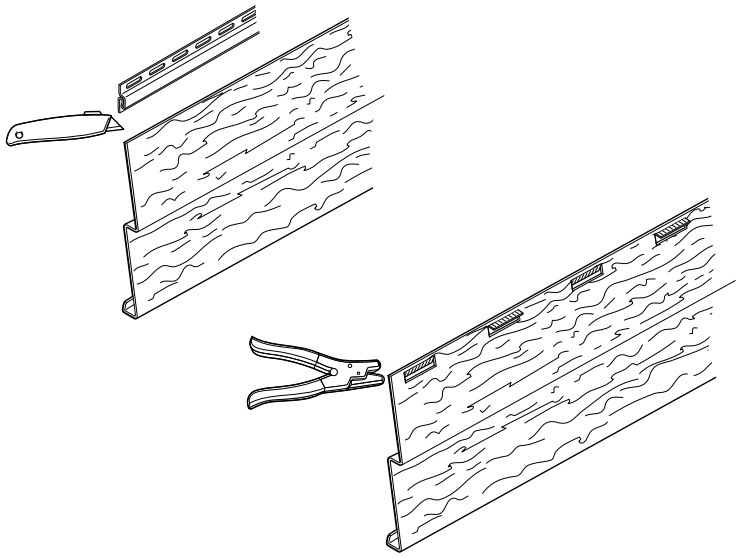


Lineals

LINEALS USED AS BAND BOARDS



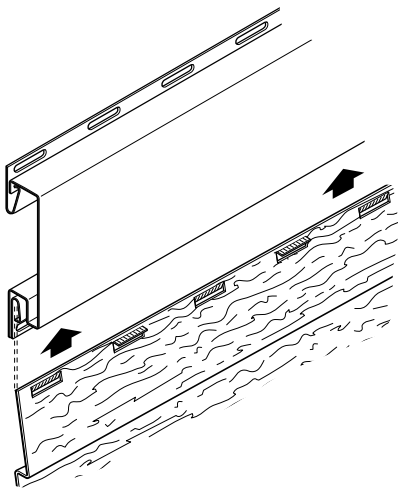




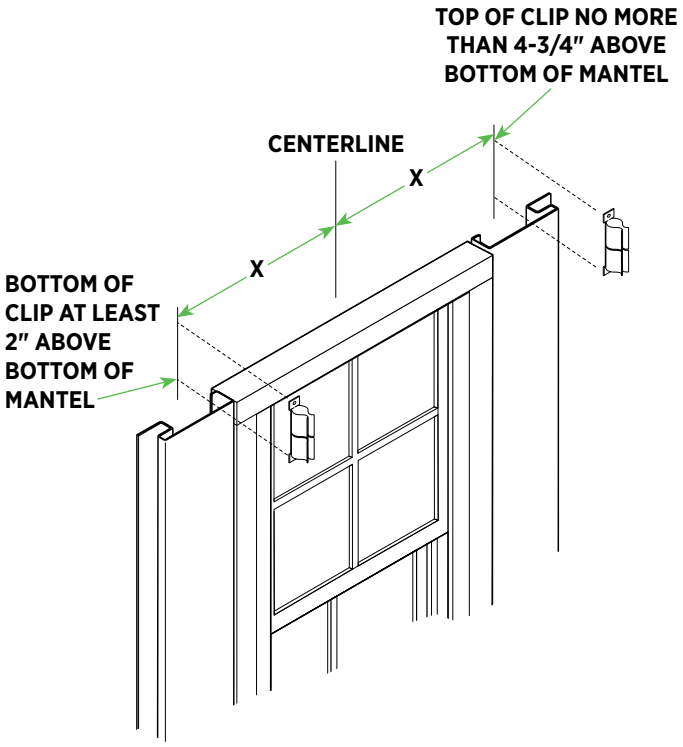
Option 2

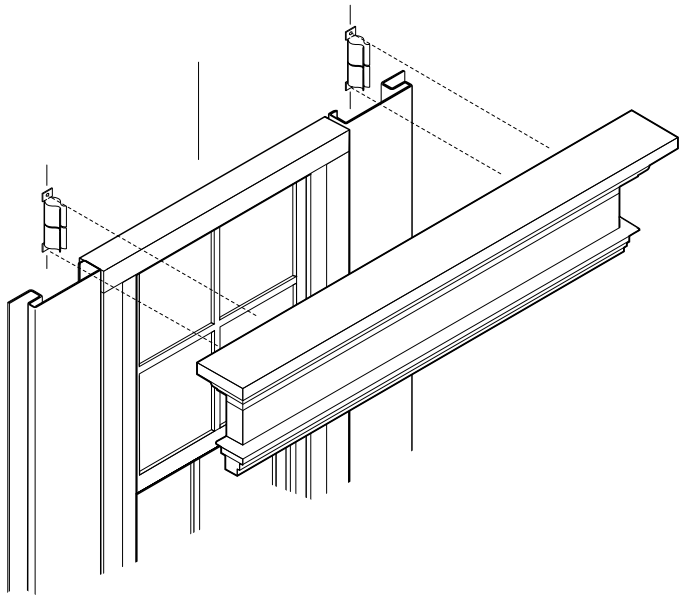
- Determine the location of the band board in relation to the siding, making certain it does not interfere with the butt of the siding panel.
- Strike a chalkline and install utility trim along the line, nailing every 12″ with nails centered in the nail slots.
- Lock the band board into the utility trim. Then, nail the band board at the bottom.
- Once the band board is in place, install utility trim into the bottom of the lineal. Utility trim may need shimmed. Nail every 12″.
- To install siding panels, use a snaplock tool to create tabs in each panel and install them into the utility trim. Place lugs no greater than every 6″.
- Once the siding is in place, install a head flashing (field or factory formed) on top of the band board lineal to prevent water intrusion.

Note: For application of siding above the band board, refer to previous instructions.



Window Mantels





Standard Length Mantels

Note: Standard mantels can be installed directly over stucco or brick. They can also be installed directly over beveled siding. When mantels must be cut to fit window openings, a keystone or end caps must be used. Use the included clips for all applications.

- For full-length mantels, locate the centerline of where the mantel will be installed and measure to each side of the centerline as shown for mantel length below:

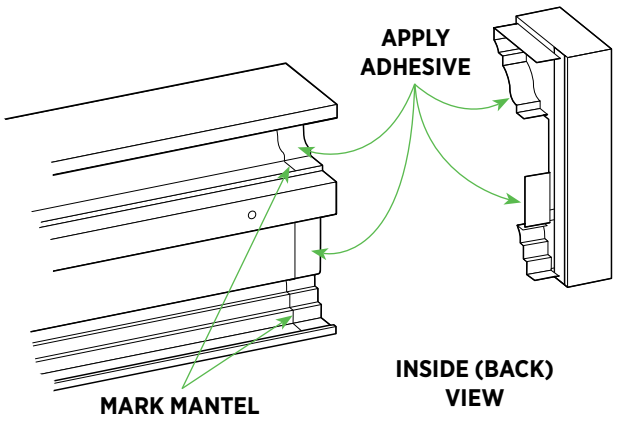
Mantel length	Measurement (X)
36″	16-5/8″
40″	8-5/8″
44″	20-5/8″

- Mark approximately 6″ vertical lines. These lines will correspond to the locking legs on the back of the mantels.
- Install 2 mounting clips to each line with the bottom of each clip at least 2″ above the bottom of the mantel, and the top of the other clip no higher than 4-3/4″ above the bottom of the mantel.
- Position the mantel over the clips and snap into place.

Note: When installing clips over beveled siding, you will have to shim and/or bend the top of the clips to keep the clip throats the same distance from the wall.

Window Mantels

MANTEL END CAPS / SHORTENING MANTEL



Installing End Caps for Non-standard Window Sizes

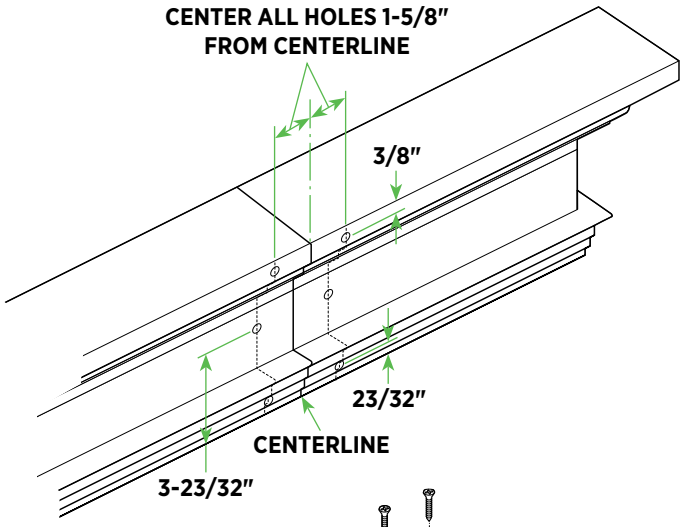
- Cut the window mantel to the required length minus 3/8″.

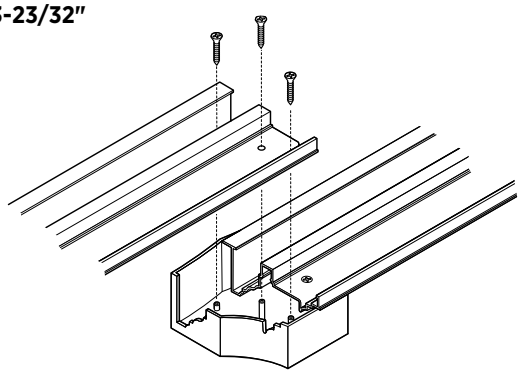
Note: The cut on a mantel with dentil blocks must be 1/8″ to the right (facing the mantel) of a full dentil block.

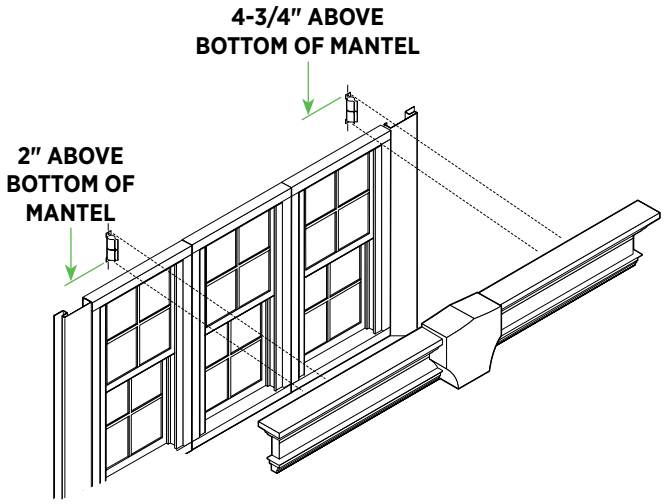
- Clean any shavings or grit from the cut end(s).
- Insert the end cap (ordered separately) into the mantel and mark the mantel on the inside.
- Remove the end cap and spread adhesive (that comes with end cap) on both the lip of the end cap and the end of the mantel where marked.
- Insert the end cap onto the mantel and clamp each side. Allow 10 minutes for drying and then install the mantel.

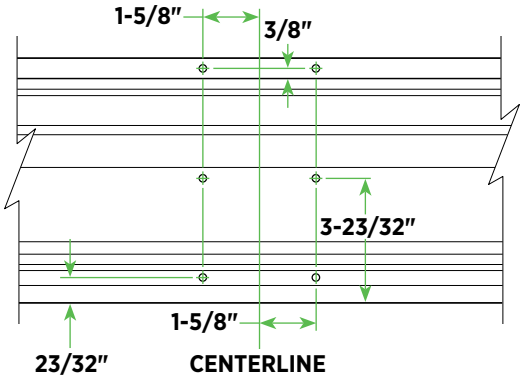
Window Mantel

INSTALLING KEYSTONE









Installing Keystone to Shorten or Lengthen Mantel

Note: Mantel keystones can be purely decorative, or can be used to modify mantels.

- Determine the length and make two cuts to remove excess material from the center of the mantel. Be sure to cut through the center of dentil blocks.
- Turn the mantel sections face down. Drill a 3/16" hole in the second indented hole marker 2-3/4" from the cut edge of both mantel sections.
- Place mantel keystone face down under the cut and drilled mantel sections. The mantel keystone screw bosses will align with the 3/16" drilled clearance holes. A paper pattern is included for screw location.
- Fasten together with #8 x 1/2" self-tapping screws (included).

Note: If spacing mantel keystone over dentil blocks, you may need to cut away a thin section on both sides of mantel to accommodate keystone over dentil blocks.

- To set clip locations when mantel has been modified or cut, measure from new mantel cut centerline to the locking legs.
- Determine the distance to place clips from the center of modified mantel and install clips to wall.
- To stabilize the mantel system, it is recommended that a piece of fitted plywood be screwed into the back of the mantel system behind the keystone.
- Install mantel onto installed clips.

120″ Mantel System

*Installing 10 foot mantle**
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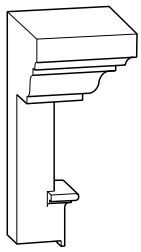
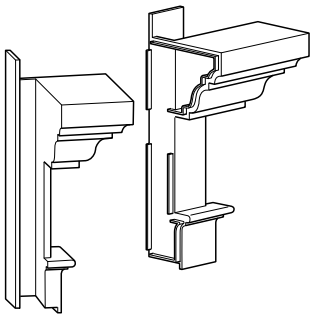
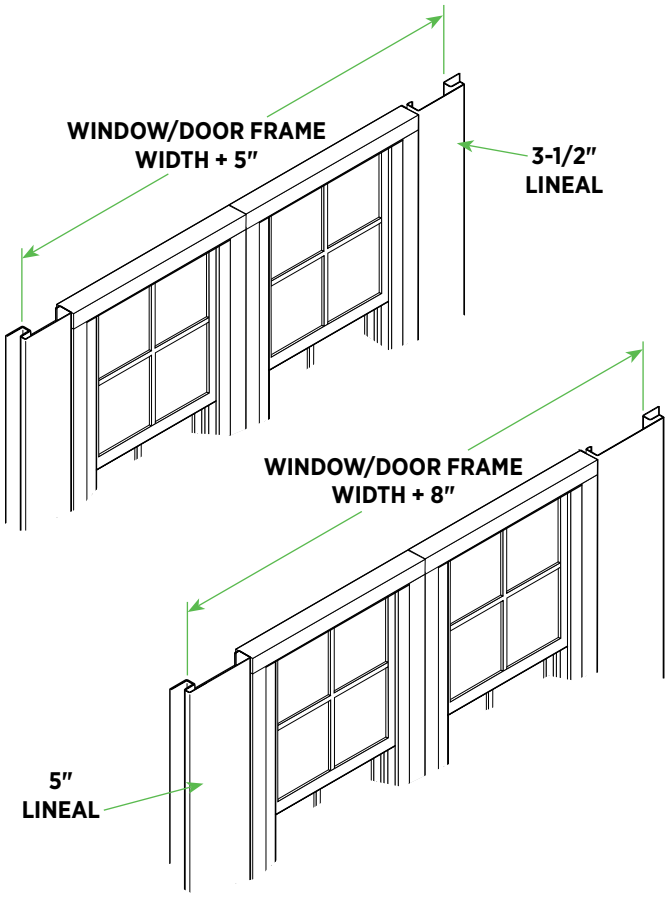
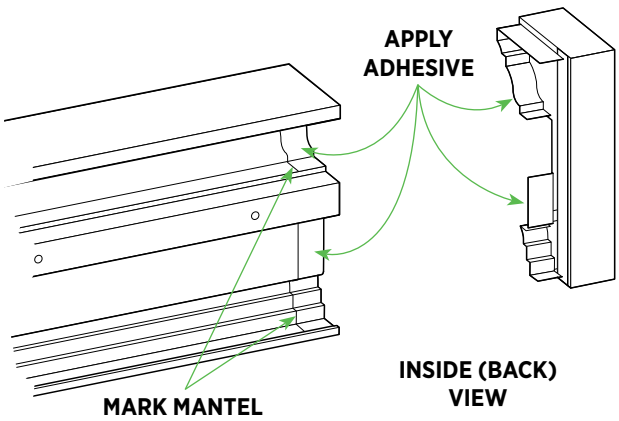


BRICK END CAP



SIDING END CAPS





Note: If installing mantel over existing siding or masonry surfaces, use brick end caps. If installing new siding, use siding end caps with integrated J-Channels before the siding is installed.

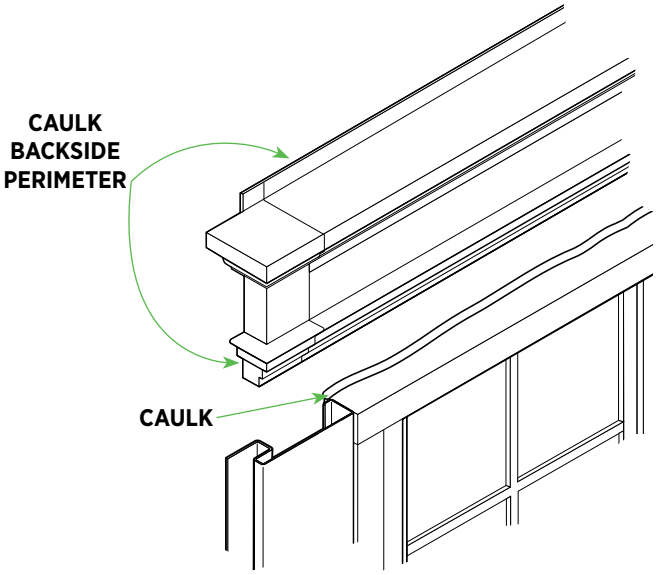
Determine the type of siding accessory to be used around opening:

- When using standard J-Channel, cut the mantel to the width of the opening.
- When using 3-1/2″ window and door casing lineal, determine the width of the opening and add 5″, then cut the mantel.
- When using a 5″ corner lineal, determine the width of the opening and add 8″, then cut the mantel.
- Clean the cut ends of the mantel.
- Insert the end caps into the mantel and mark the end caps with a pencil. Remove the end caps.
- Spread a thin coat of styrene adhesive (included with caps) onto the end cap.

CAUTION: Contact with styrene adhesive will cause painted surfaces to smear.

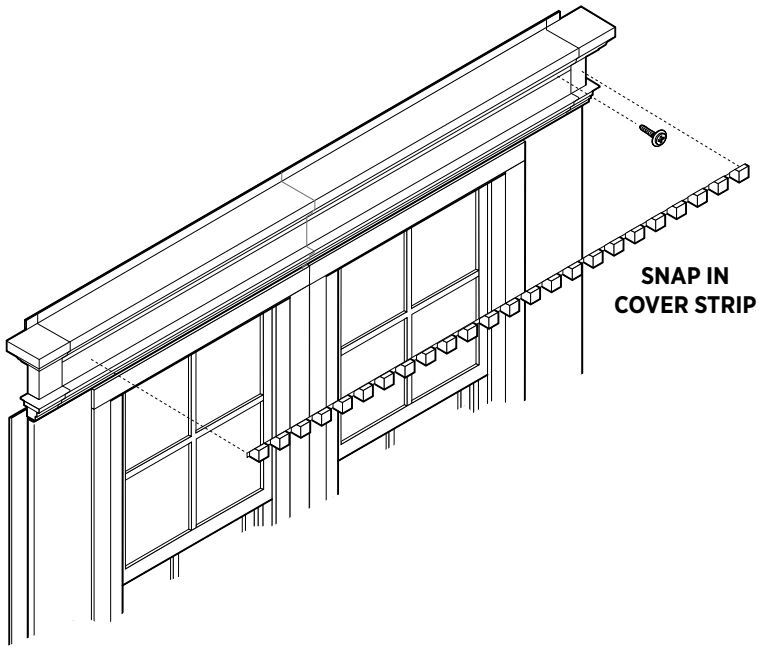
- Install mantel end caps to both sides of the mantel. Allow adhesive to set 10 minutes using clamps to hold end caps in place.

120″ Mantel System



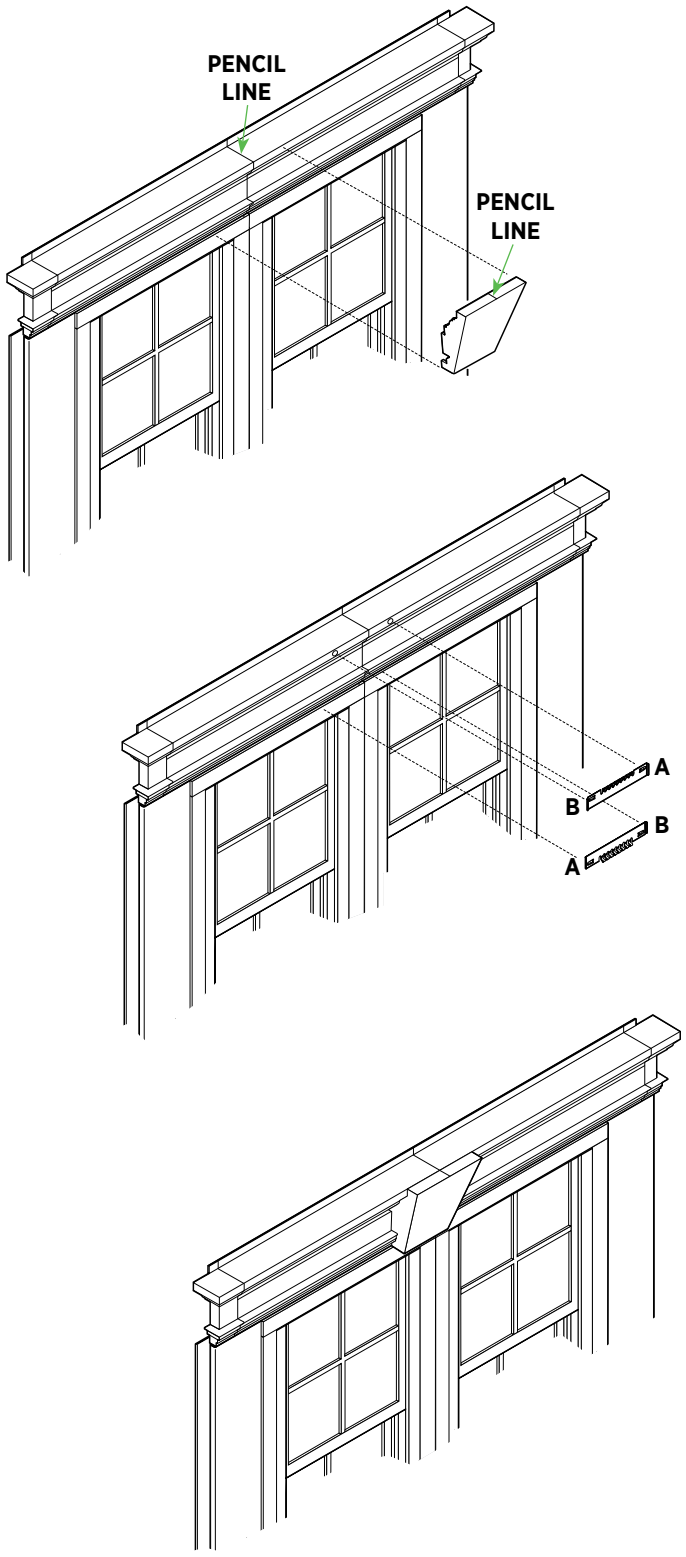
- Before installing the mantel, apply a 1/4″ caulking bead along the back edge of the window/door framing, and on the backside perimeter of the mantel and end caps.
- Center the mantel with attached end caps over the frame and fasten through the pre-drilled holes, using screws/washers provided.
- Slip the flat mantle cover (included with the 120″ mantle) onto the mantel. You have the option of ordering a separate dentil cover.

Note: When installing dentil cover strip, it may be necessary to trim cut from both ends to center the dentil blocks on the mantel.



120" Mantel System

INSTALLING KEYSTONES



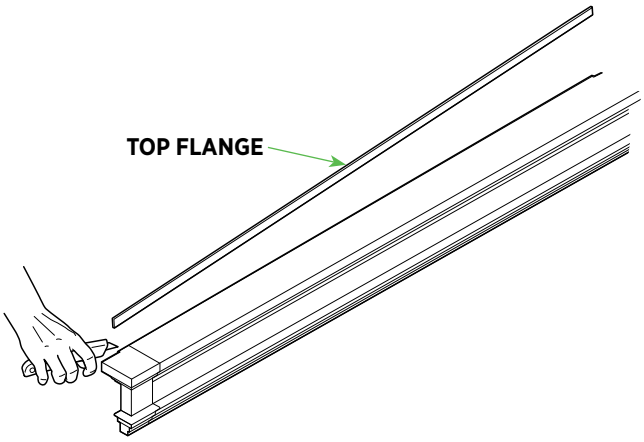
Installing Long Length Mantel System Keystones

- With the mantel already mounted to the wall, pencil a centerline on the top and bottom of both the mantel and keystone.
- Place the drill jig provided with the keystone on the mantel's top edge and align slotted holes over the penciled centerline on the mantel.
- Drill 1/4" holes through hole pattern of drill jig. Repeat second set of holes on bottom edge of mantel.
- Install the keystone clips making sure end "A" is inserted first, then snap in end "B".
- Slide clip back 1/16" to ensure clamping legs are fully locked into place.
- Position the keystone using the centerlines as guide and snap into place starting at one end of the top of keystone. You may need to trim the sides of the keystone when using dentil cover strips.

Note: When installing keystone over two-piece mantel, make sure mantel pieces are cut to equal lengths. Use the cut ends to form the centerline for clips and keystone. Caulk bottom ends then install.

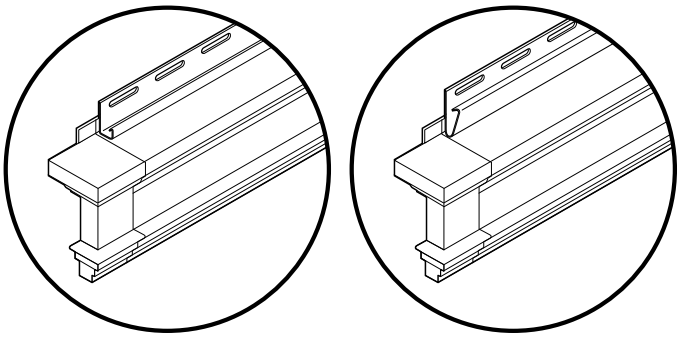
120" Mantel System

INSTALLING OVER EXISTING / NEW SIDING OR MASONRY SURFACES



Installing Over Brick or Existing Siding

- Cut mantel to desired length, allowing for brick end caps.
- Clean cut ends, apply adhesive and allow to dry as previously shown.
- Score the groove on back of mantel 3-5 times with utility knife and snap off mantel's top flange.
- Secure mantel to wall with included screws. If required, use anchors (not included) to attach.
- Install plain cover strip or dentil cover strip.
- For keystone installation, see "Installing Keystones."



J-CHANNEL FINISH TRIM

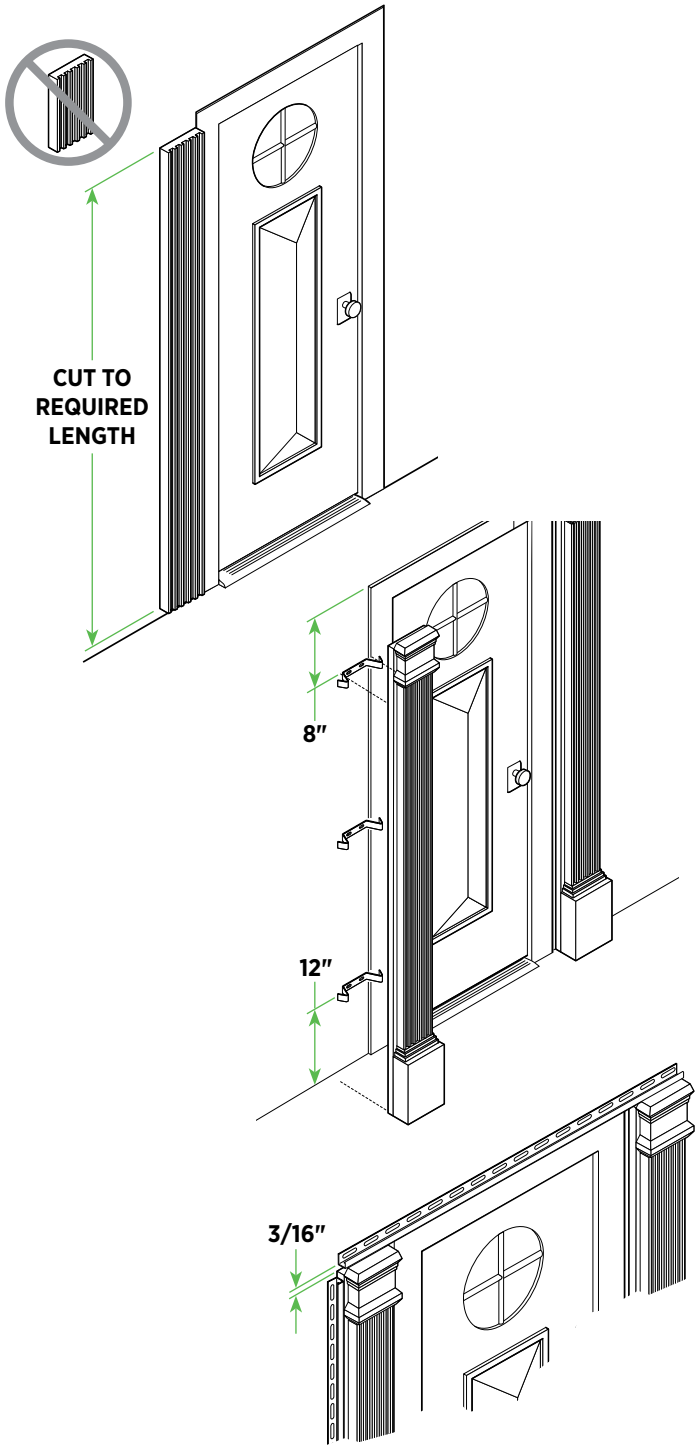
Installing with a New Siding Application

- Use J-Channel for vertical siding.
- Use J-Channel, utility trim, or shimmed utility trim for any type of horizontal siding.

Door Surrounds Systems

Installation of Pilasters on Brick, Stucco or Before Vinyl Siding.

- Measure and cut pilasters to the required length.
- To attach pilaster caps, use template enclosed in the carton. Mark and drill holes into back of pilasters (use 3/16″ drill bit).



Note: Pilasters are available in 96″ and 144″ lengths. Pilaster package includes: two pilasters, clips, two caps, two bases and screws.

IMPORTANT: When installing during new construction before vinyl siding, use lower set of holes on the template. This will ensure that the caps will sit 3/4″ above the top of the pilasters. Attach caps to pilaster using 4 screws (enclosed).

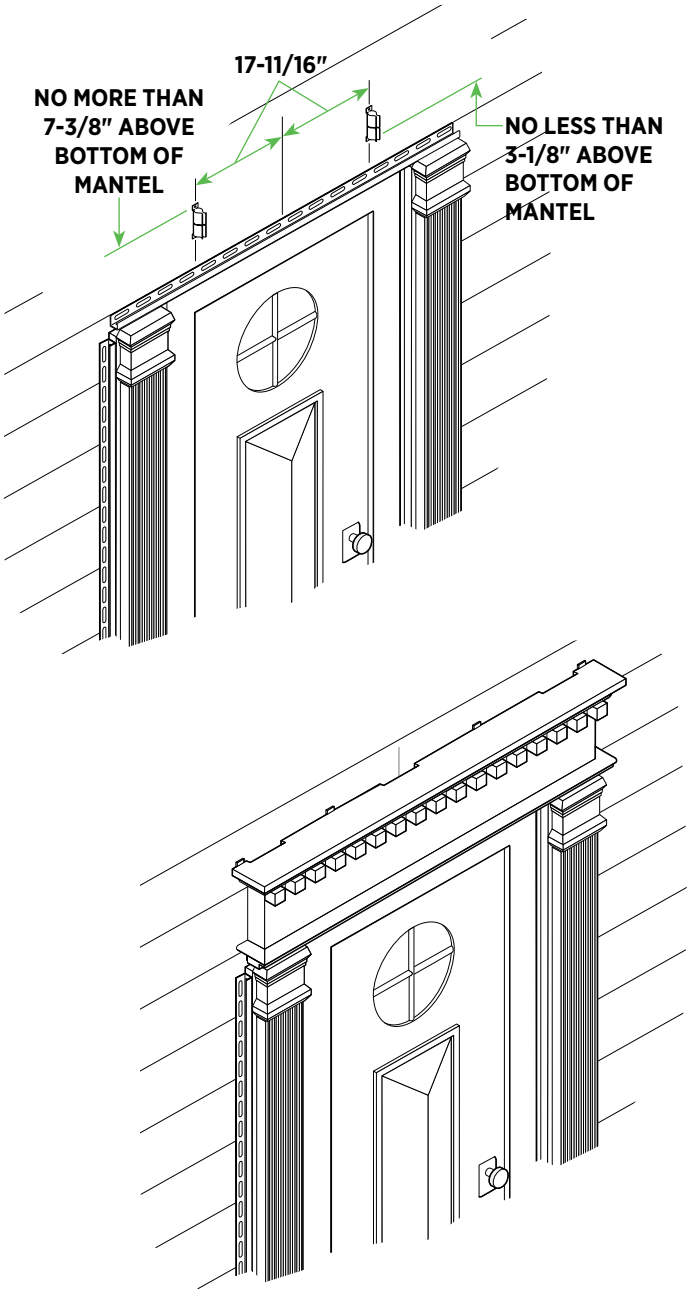
- To attach pilaster bases, use template enclosed in the carton. Mark and drill holes into back of pilasters using 3/16″ drill bit. Attach caps to pilaster using 4 screws (enclosed).
- Attach mounting clips (three sets for 96″ and four sets for 144″) and pilasters. Locate clips 1/8″ from door trim. Attach the clips with two screws (enclosed).
- Locate top clips 8″ from top, and bottom clips 12″ from the ground. Space third set at mid-point from 96″ pilasters. Evenly space the other two sets for 144″ pilasters. If the clips are being attached to beveled wood or vinyl siding, bend the two tabs on the clips so that the clips are installed in a vertical position.
- Place pilasters over clips and snap into place.

Installation With Vinyl Siding

Install pilasters as described above, then install J-Channel around the pilasters.

Leave a small gap (3/16″) between the top of the pilasters to allow for expansion. Install vinyl siding, completing the wall before installing the top mantel and pediment & urn.

Door Surrounds Systems



Installing Full-Length Mantel

- Develop a chalkline that represents the bottom of the mantel. Mark the center of the mantel on the chalkline.
- Mark 17-11/16" from both sides of centerline. Draw an 8" vertical line at both marks.
- Attach two clips on each line. Make sure that both clip throats fall in the area that is 3-1/8" to 7-3/8" from the chalkline.

  When applying on beveled siding you will have to shim or bend the top of the clips to keep the clip throats the same distance from the wall.
- Place locking legs over the four clips and snap into place.

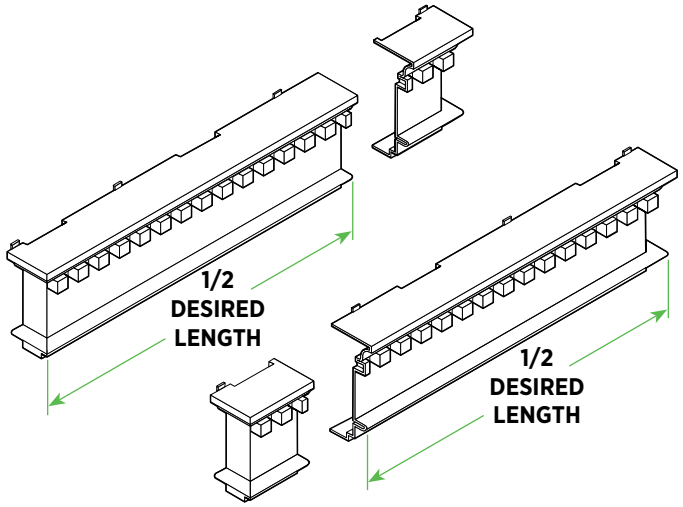
Note: In new construction applications using vinyl siding, the mantel will sit on top of the cap. In all other situations the mantel will sit on the pilaster behind the cap.

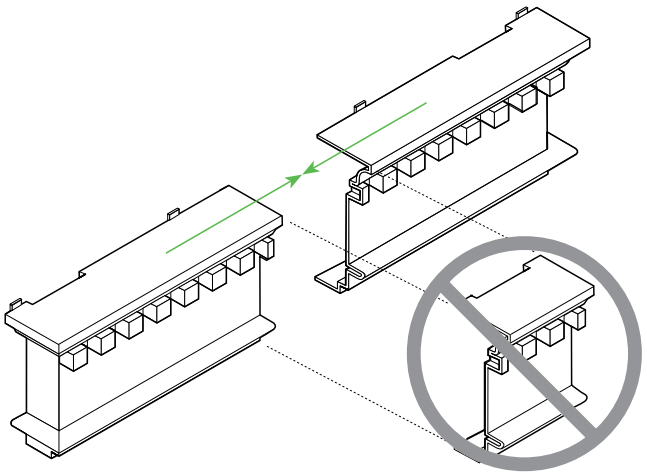
*Installing door surrounds**

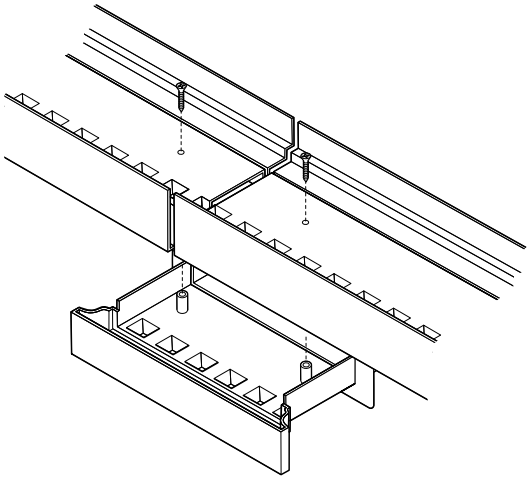
https://deephow.ai/p/USgQ0EwAhvSTcsIHUlqj

Door Surrounds Systems

INSTALLING MANTLES THAT ARE MODIFIED IN LENGTH







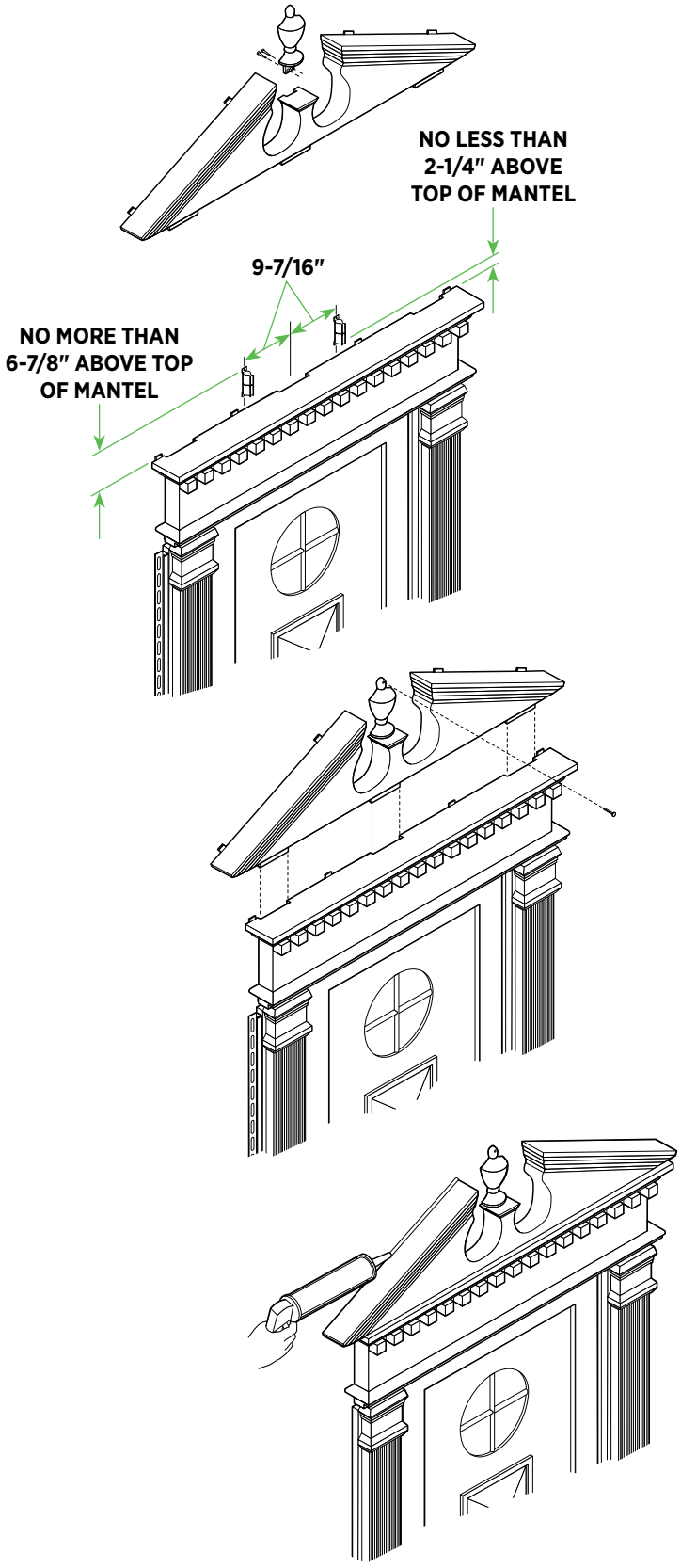
Modified-Length Mantel

- To lengthen a mantel, cut the ends off two mantels. The mantels should be equal in length and must span the required distance.
- To shorten a mantel, cut out a center piece to make two equal size mantels totaling the required length.
- Place the two cut mantels face down and locate hole for mantel overlay. From centerline (cut edge) of mantels, measure over 2-3/4", and from top of mantels measure down 4-1/8". At these locations, drill one 3/16" hole into each mantel piece.
- Place mantel overlay (this is a separate part) face down located under the two mantel sections. Butt the two mantel parts and fasten the two mantels to the overlay with two #8 x 1/2" screws (provided).
- To stabilize the system (especially longer lengths) it is recommended that you screw a 6" by 7-3/4" piece of plywood, centered, into the back of two mantels. This will eliminate sagging.
- To install clips and mount the mantel system, use the distance from the center of modified mantel system to one of the locking legs to determine the location of clips.

Note: Seal gaps at top of mantel if pediment and urn system is not used.

Door Surrounds Systems

PEDIMENT AND URN FOR STANDARD SIZE MANTEL



Pediment and Urn Installation for Standard Size Mantel

- Attach urn to pediment by sliding urn into place from back. Fasten with #8 x 1/2" self-tapping screws.
- Measure 9-7/16" to each side of the mantel centerline and mark a vertical line approximately 8" long.
- On each of the lines, install two clips. Locate the bottom of the bottom clip throats are located at least 2-1/4" above the top of the mantel, and the top clip throat is no more than 6-7/8" above the top of the mantel.
- Position the pediment over the mantel by inserting the three male lugs on the bottom of the pediment into the matching slots in the top of the mantel.
- Align the ribs over the clips and snap into place.
- Secure the top of the urn to the wall by nailing through nail hole in urn.
- With brick or stucco walls, caulk space between top of pediment and wall and other places where water seepage is possible.

Note: The use of a drip cap/head flashing may be necessary to cap the top of the jamb pieces of the pilasters to divert water.

NOTES

Shutter Installation

Shutters

Navigating This Manual

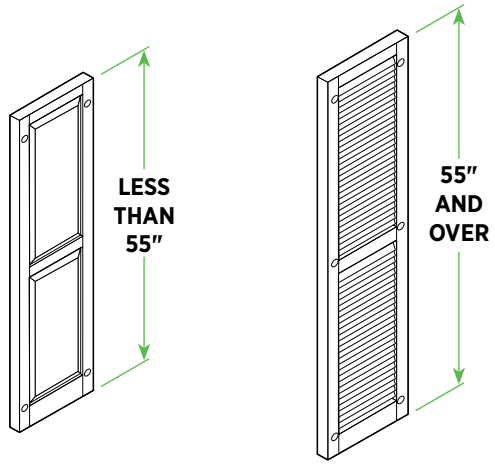
To go directly to your desired section, click on the subject in the Table of Contents.

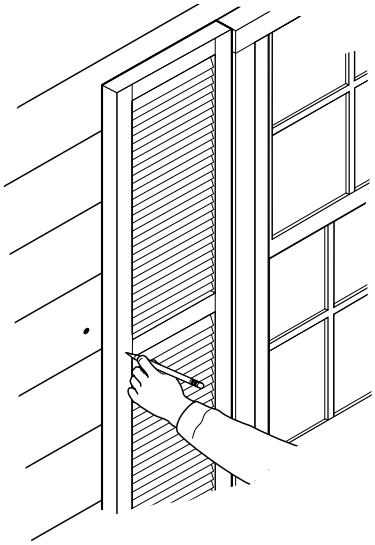
NOTES

Shutters

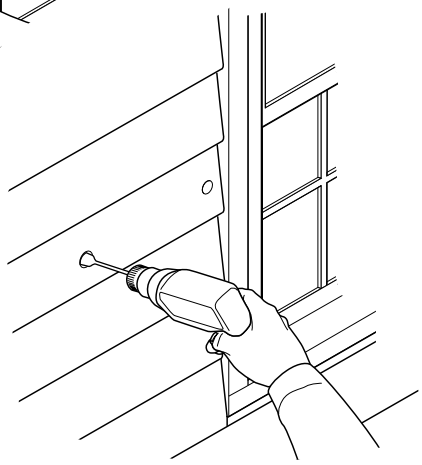
SHUTTER INSTALLATION

*Installing shutters**
https://deephow.ai/p/60Ffaa4MAwMCzzNOD79s





Note: Allow 1/4″ gap between shutter and window and all other stops to allow for expansion and contraction.



Optional hidden fasteners (clips) for standard shutters are available from your distributor. See “Window Mantle” section for more details.

General Shutter Installation Requirements

Two types of fasteners are included in shutter package; metal screws with paint matching heads and polymer shutterplugs.

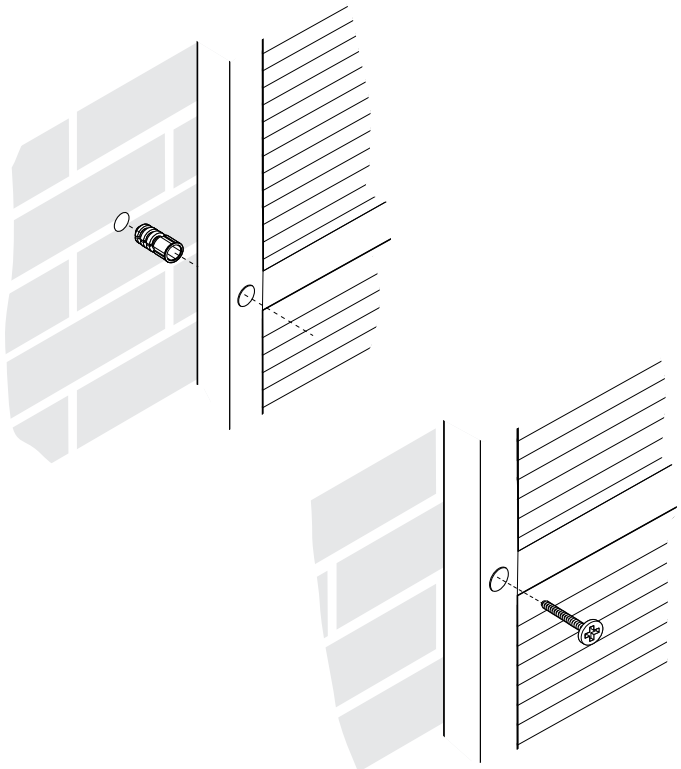
- Use four fasteners for shutters less than 55″ in length. Position top screw/plug approximately 6″ down from the top of the shutter, and bottom screw/plug approximately 6″ up from the bottom of the shutter.
- Use six fasteners for shutters 55″ and longer in length. Attach the two additional screws at the midpoint along the length of the shutter.
- Whether using screws or shutterplugs, drill a 1/4″ hole into the face of shutters.
- For vinyl siding applications, it is critical you drill a hole into the vinyl siding only that is 1/4″ larger than the diameter of the fastener shank to allow for expansion/contraction.
- Do not force fastener head tight to the shutter.

Neither screws or shutterplugs will work over foam sheathing. Take appropriate steps to ensure that you have a nailable surface. Shutterplugs are suggested for permanent, non-removable installations. They work well with brick or block. A solid base construction material is required.

- Locate shutter beside window. Drill a 1/4″ diameter hole in shutter and into solid base material a minimum of 2″ deep (into mortar joint locations for masonry).
- Insert plug by tapping lightly with a hammer.

Shutters

METAL SCREWS



Wood Substrates

- Locate shutter beside window. Drill 1/4" diameter hole in shutter and in wood surface.
- Drill a hole, in the vinyl siding only, that is 1/4" larger than the diameter of the fastener shank, to allow for expansion and contraction.
- Screw shutter in place with 3" long metal screws (included). Do not force screw tight onto shutter surface.

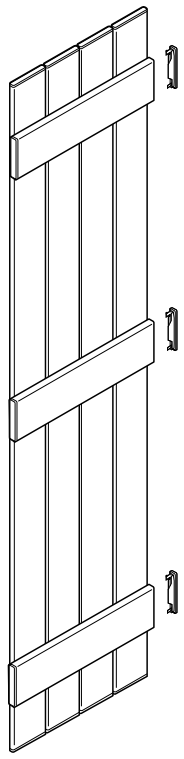
Masonry Construction

- Locate shutter beside window. Drill 1/4" hole into shutter making sure to position at mortar locations.
- Drill hole in mortar joint of masonry as instructed by insert manufacturer.

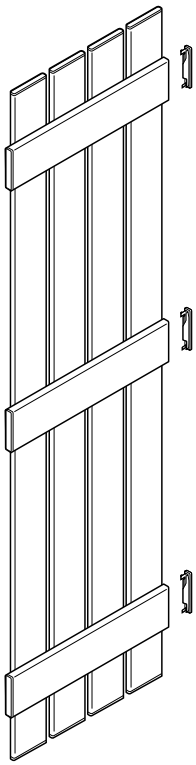
  It is necessary to incorporate inserts (not supplied in shutter packaging) to provide holding power for the screw.
- Place insert in hole with hammer.
- Position shutter and screw in place with 3" long screws. Do not force screw tight onto shutter surface.

Shutters

BOARD & BATTEN SHUTTERS



CLOSED STYLE



OPEN STYLE

Concealed Fastener Installation

When installing a 3-board or 4-board batten shutter, screws or shutterplugs may be used.

- Remove the end cap of each of the battens and slide the batten off the shutter.
- Level and fasten shutter to the surface.
- After the installation of the fasteners, slide the batten board back into place and secure the compression end cap back onto the batten board.

Note: The end caps are compression fit. Do not glue the end caps on to the shutter in case future access is needed.

Note: Do not overdrive the fastener or shutter may become deformed.

Exposed Fastener Installation

- Locate shutter beside window and drill a 1/4" hole for either fastener option into solid base material a minimum of 2" deep.
- Fasteners can be located on either the board or the batten part shutter.
- Drill a hole, in the vinyl siding only, that is 1/4" larger than the diameter of the fastener shank, to allow for expansion and contraction.
- Insert plug by tapping lightly with a hammer.

Note: Do not force shutterplug so tightly as to cause depressions of shutter surface.

NOTES

Gutter Protection System Installation

*Leaf Relief**
https://deephow.ai/p/TqVFD7GzempF4N4VE1k5

Gutter Protection Systems

*Leaf Relief CH & DuoPro on new gutters**
https://deephow.ai/p/82dA0MVwRi5OoJXcSbrU

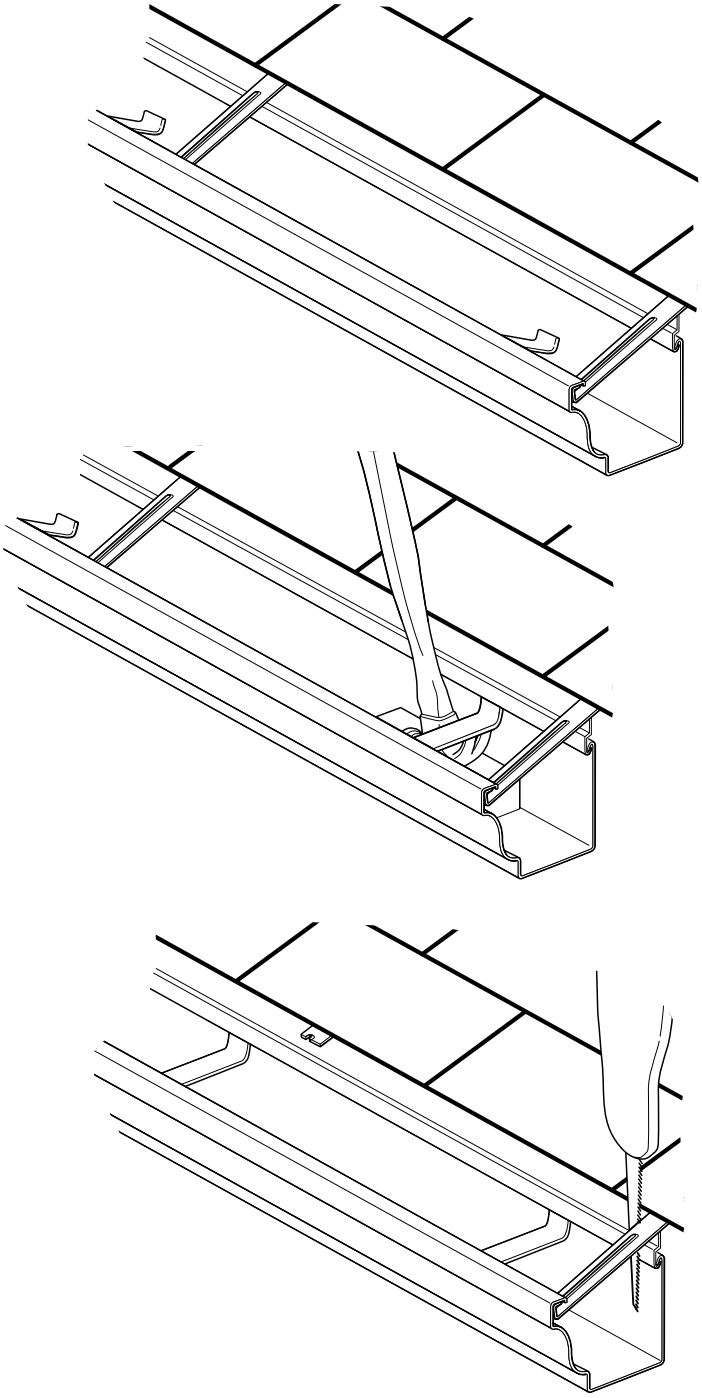
Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

Replacing Strap Hangers

PRODUCTS CAN NOT BE INSTALLED OVER STRAP HANGERS

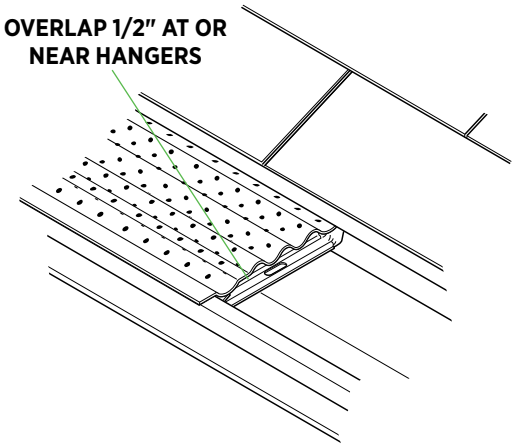


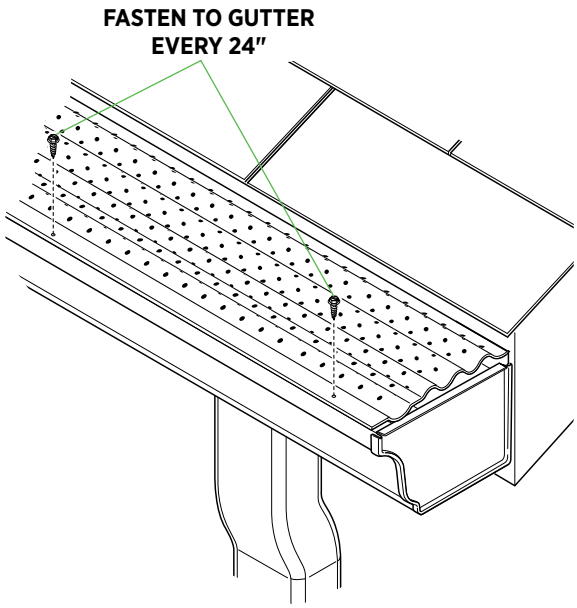
Replacing strap hangers or bar hangers on existing gutters

- Hook front of snap-in (free float) gutter hangers (OG13LR5) into front lip of gutters every 24″ along length of gutter.
- Position block of wood inside gutter at hanger location. Using claw hammer, apply pressure to bottom of each hanger until hanger engages in existing roof apron or fascia apron. Remove wood block.
- For strap hangers, use a metal cutting tool, such as a reciprocating saw, to cut old strap hangers at drip edge and remove from gutter system.
- For bar hangers, remove nail or screw and remove bar hanger from gutter system.

Leaf Logic™

INSTALL ON FLAT HANGERS, SPIKE/FERRULE





Prepare the Gutter

- Clean and flush existing gutters and downspouts thoroughly with water.

Note: 3" x 4" or larger downspouts are recommended in areas with conifer (pine) trees.

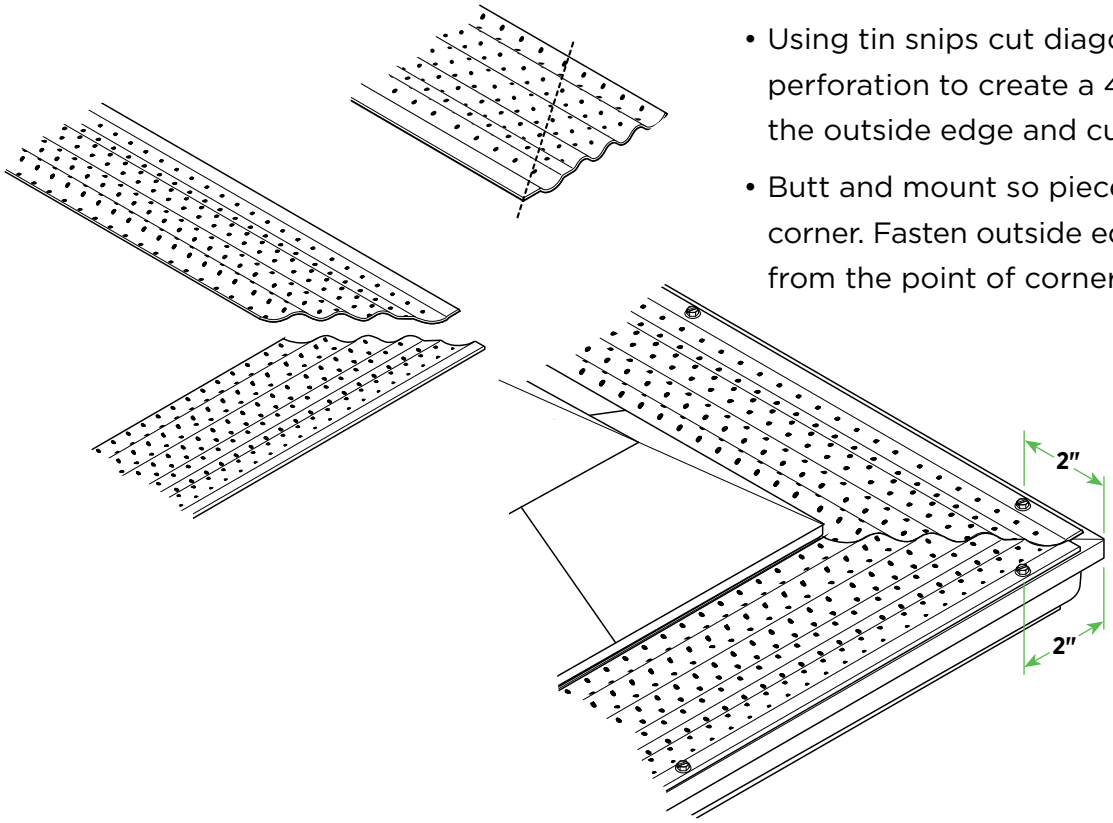
Install Leaf Logic System

- Place the Leaf Logic sections on top of the gutter with the vertical edge against the fascia or behind the drip edge. The Leaf Logic surface should slope downward slightly to the front of the gutter.
- Position Leaf Logic so overlaps are near or over hangers.
- Overlap 1/2" with adjacent section — do not butt. Add or replace hangers as needed for proper support (maximum support spacing is 30").
- Starting at one end, fasten front of Leaf Logic to gutter every 24" using #6-3/8" screws.

Leaf Logic™

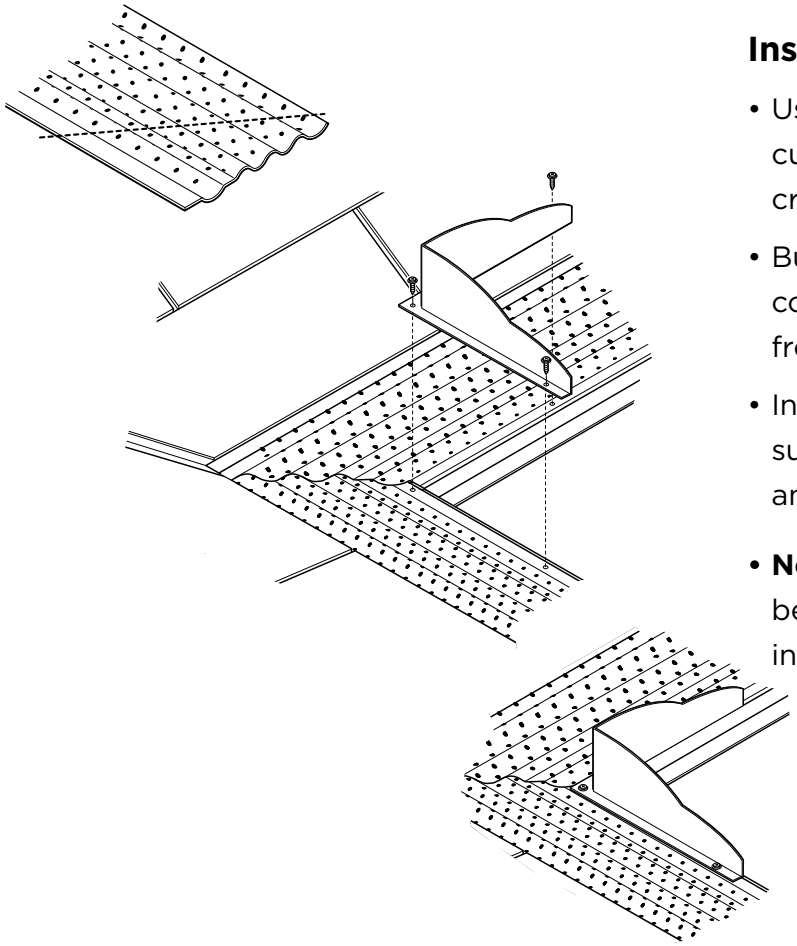
CORNERS

Outside Corners



- Using tin snips cut diagonally along the perforation to create a 45° angle, starting at the outside edge and cutting as shown.
- Butt and mount so pieces form 90° outside corner. Fasten outside edge with screws 2" from the point of corner.

Inside Corners



- Use tin snips starting at the rear edge and cut diagonally along the perforation to create a 45° angle.
- Butt and mount so pieces form 90° inside corner. Fasten outside edge with screws 2" from the inside of corner.
- Install water diverter/deflector on top surface of Leaf Logic at all inside corners and valleys.
- **Note:** The flow from high-level gutters must be transferred within downspouts directly into lower-level gutters.

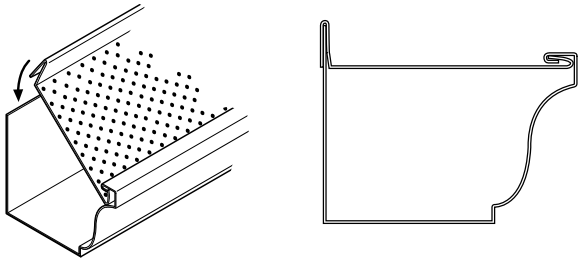
NOTES

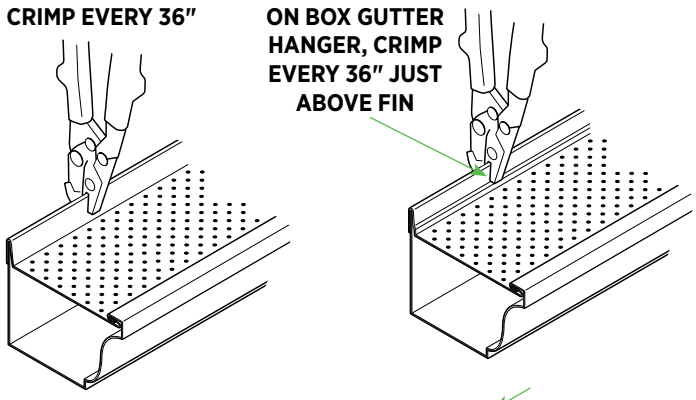
New Gutters with Continuous Hanger

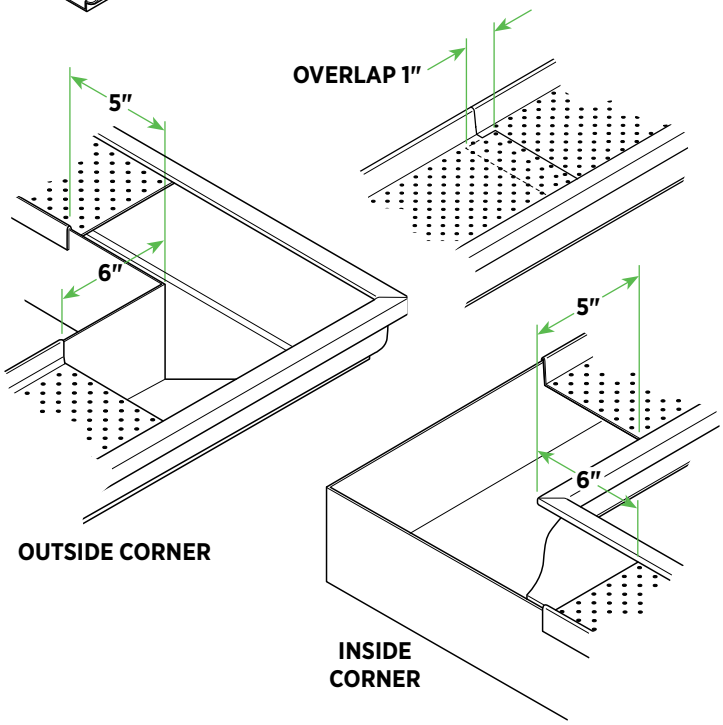
INSTALLING CONTINUOUS HANGER PRODUCTS

(Including all "SN" and "D11" Leaf Relief products)

See links to training videos on page 125.





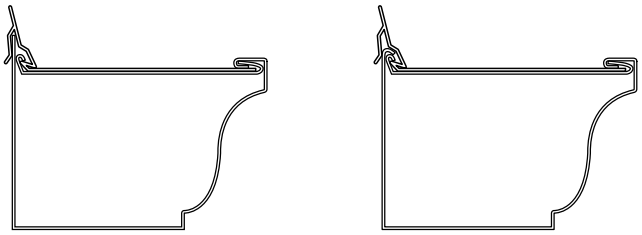


Mount product on the gutter

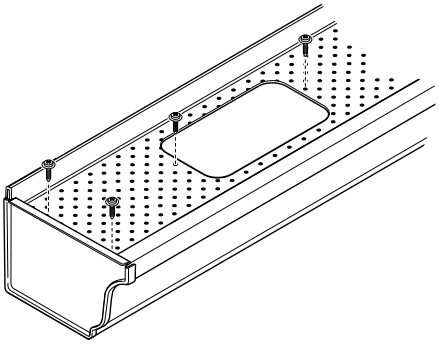
- Insert the front of the continuous hanger inside the front of the gutter.
- Insert the back of the continuous hanger on the back of the gutter.
- Using an end cap crimping tool, pinch back of continuous hanger and the gutter every 36". Pinch box gutter continuous hanger right above the fin to stabilize it.
- Overlap sections 1".
- At outside (or inside) corners stop the continuous hanger 5" and 6" from the corner areas.

Special applications unique to DuoPro

- The inside/outside corner installation should be followed as shown in the section "DuoPro Inside/Outside Corner Applications."
- Facing the gutter, DuoPro must be lapped left to right.
- DuoPro can be installed on gutters with a flat back or with a curl.

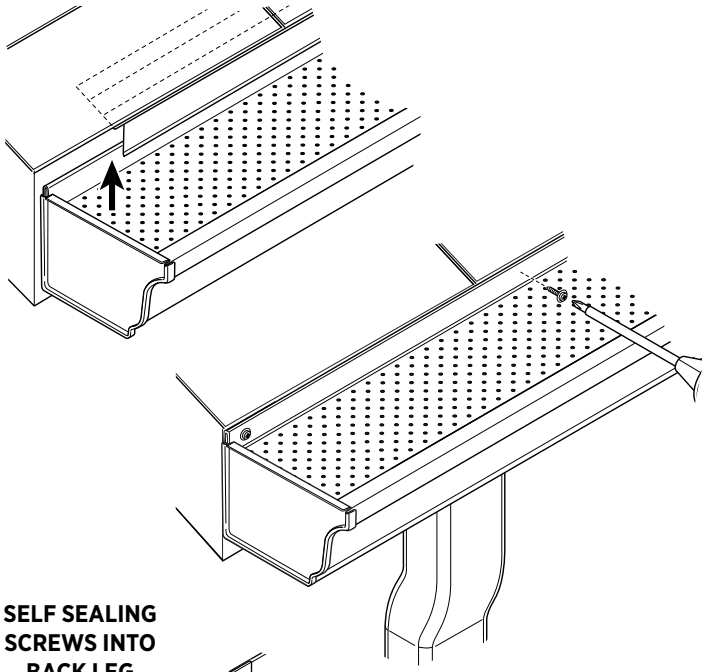


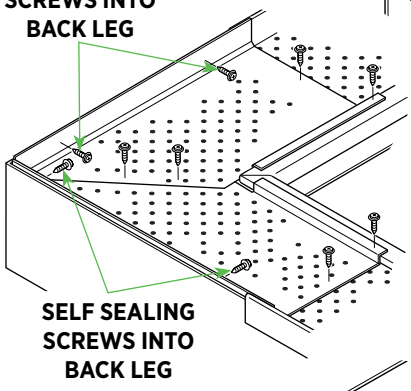
Note: To cut the DuoPro continuous hanger to receive downspout from above, secure the two layers of the product together with 1/2" screws before cutting for the 2nd floor downspout connection.

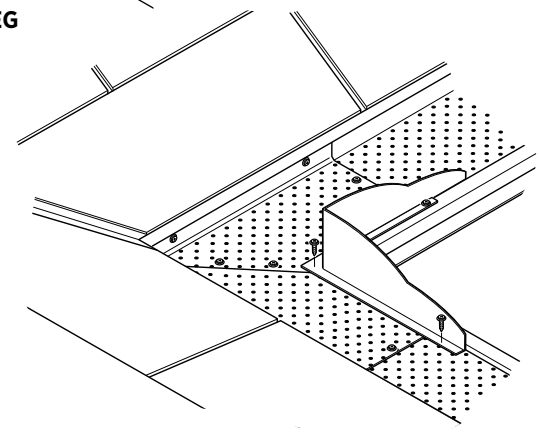


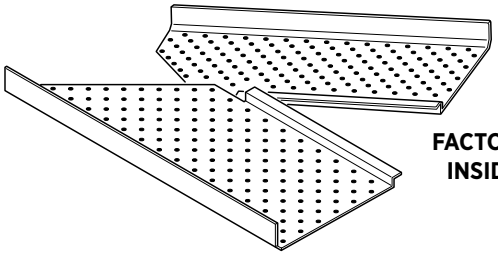
Installing Gutter

INSTALLATION OF ALL CONTINUOUS HANGER PRODUCTS









Installing gutter

- Insert the back of the gutter under the drip edge (flashing).
- Screw the back of the continuous hanger into the fascia board every 24″ using the self-sealing screws. In applications with a metal roof or heavy sliding snow, attach every 12″.

Note: Use the 1-1/2″ screws that come with the product. Use a long enough extension bar so that the screws are attached straight and level.

- Screw the back of the access panel into the fascia board at each end with self-sealing screws.

Note: All screws going into the back leg of the continuous hanger should be the included self sealing screws.

Note: 3″ x 4″ or larger downspouts are required in areas with conifer (pine) trees.

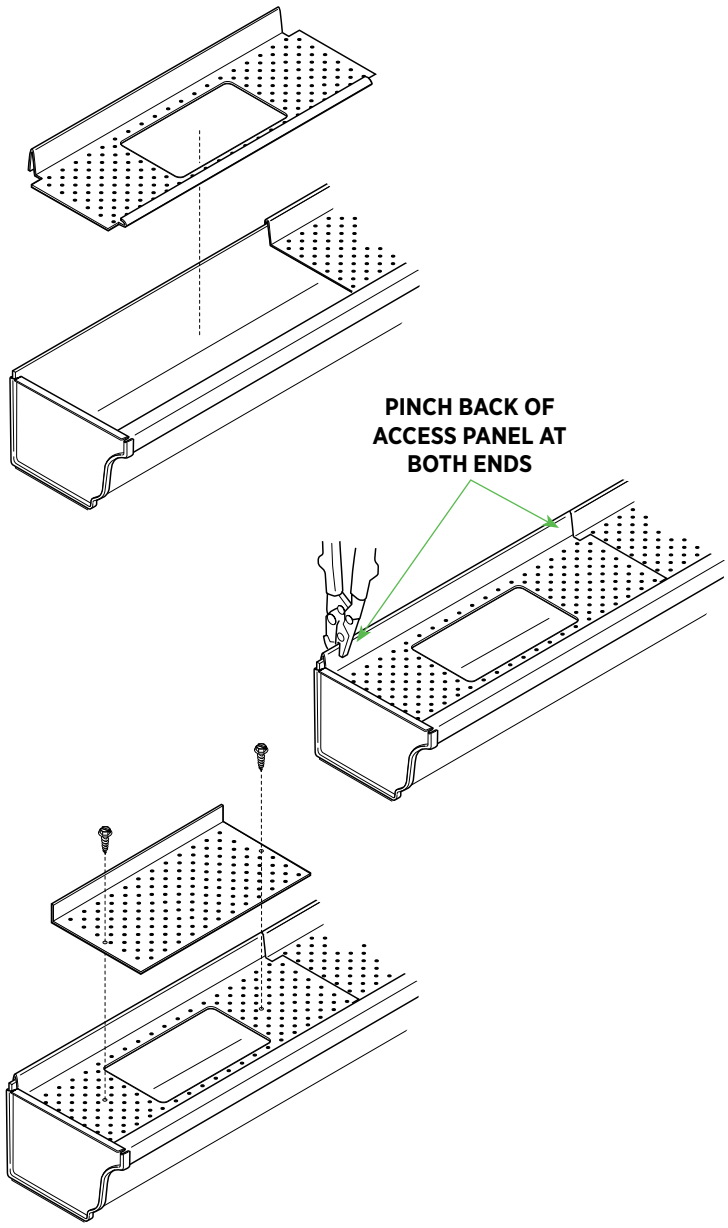
Note: The flow from high-level gutters must be transferred within downspouts directly into lower-level gutters. Seal the downspout into the lower gutter.

Installing inside/outside corners on continuous hanger product

- This product requires the use of Leaf Relief pre-fab corners.
- Ensure corner overlaps sections on both sides by 1″.
- Attach with screws as shown.
- Install water diverter directly on continuous hanger surface at inside corners and valleys with a minimum of three screws.

Access Panels for Continuous Hanger Products

INSTALLING ACCESS PANELS

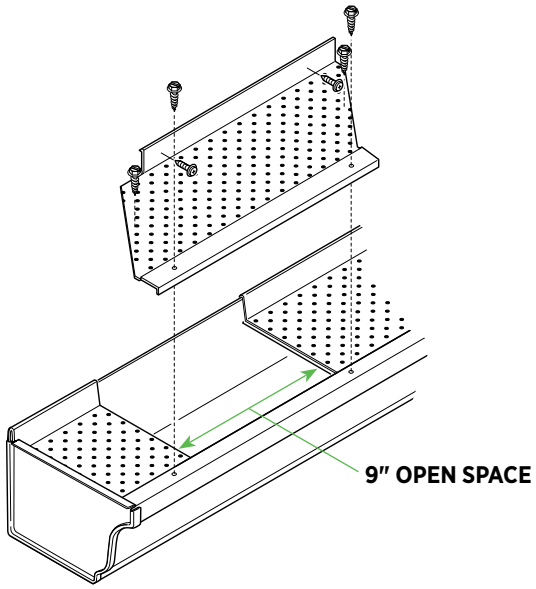


Installing Leaf Relief® continuous hanger Access Panel

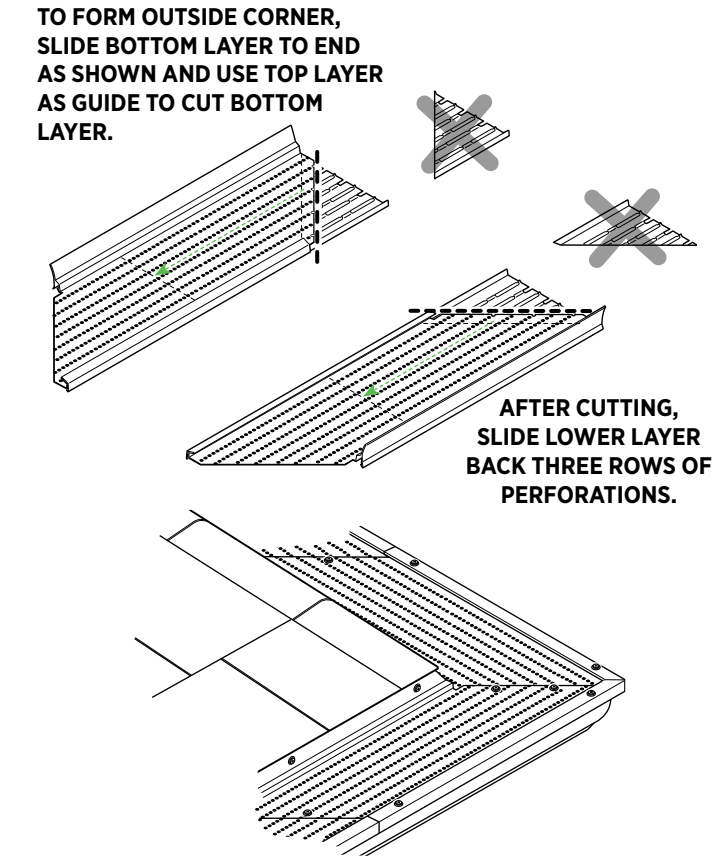
- Stop Leaf Relief continuous hanger 17″ from end cap or 8-1/2″ on each side from the center of downspout.
- Place the access panel inside the end cap to prevent water from overflowing.
- Pinch the back of the access panel and the gutter at both ends of the access panel.
- Install sliding panel above opening with one 1/2″ screw on each side. The screws need to be placed in the middle of the access panel.

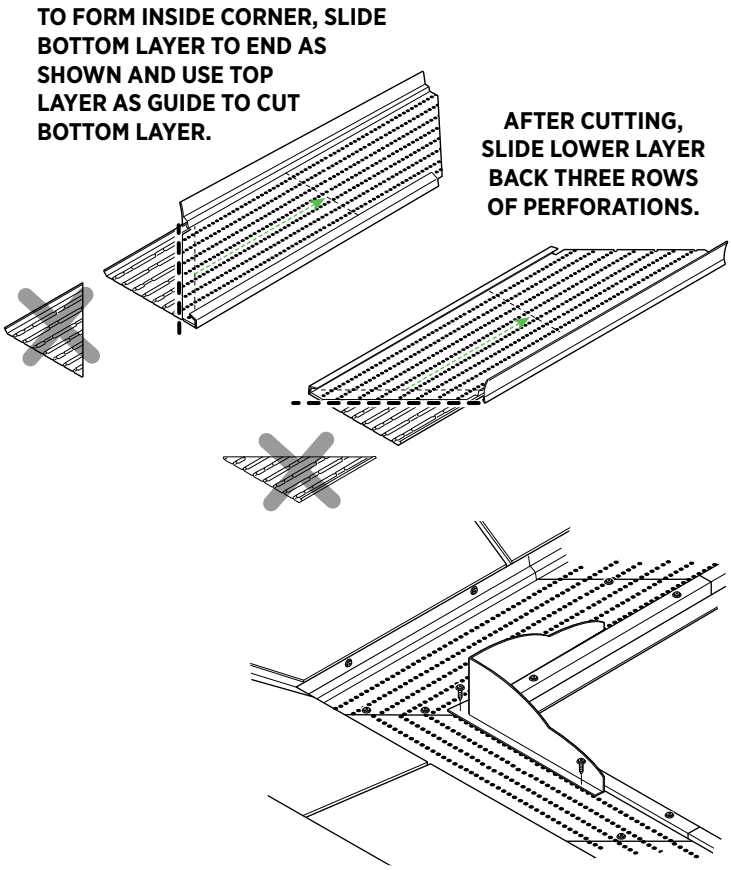
Installing DuoPro continuous hanger access panel

- Leave an open space of 9″ at all downspout locations, or 4-1/2″ each side of center.
- Attach pre-fab access cover over each opening with two 1/2″ screws on the front lip of the product and two 1/2″ at the overlaps. Use the two included self sealing screws to attach the back leg.



DuoPro Inside/Outside Corner Applications





Note: Use the DuoPro Access/Corner Kit (UA11500). Ensure prefabricated corner overlaps continuous hanger by 1″ on both sides.

Outside Corner

- Slide the bottom layer of each DuoPro prefab corner to the tip of the corner as shown. Use the prefabricated top layer as a guide to cut the bottom layer to fit into the corner.
- Slide the lower layer of each corner back three rows of perforations to allow top layers to overlap each other 1″ for installation.
- Attach prefab corners over the straight run.
- Once in place on the gutter, first screw 1/2″ screws on the front lip of each part and at the intersection of both parts then secure with self-sealing screws in the back.

Inside Corner

- Slide the bottom layer of each DuoPro prefab corner to the tip of the corner as shown. Use the prefabricated top layer as a guide to cut the bottom layer to fit into the corner.
- Slide the lower layer of each corner back three rows of perforations to allow top layers to overlap each other 1″ for installation.
- Attach prefab corners over the straight run.
- Once in place on the gutter, first screw 1/2″ screws on the front lip of each part and at the intersection of both parts then secure with self-sealing screws in the back.
- Install water diverter/deflector directly on continuous hanger at all inside corners and valleys.

Installation of All Retrofit Leaf Relief®

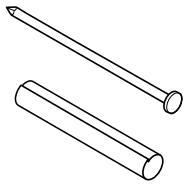
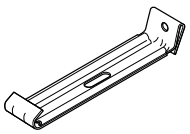
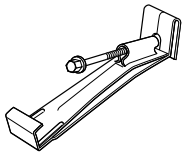
INSTALL RETROFIT LEAF RELIEF PRODUCTS OVER EXISTING HANGERS

Ply Gem's Leaf Relief retrofit leaf protection products can be used with all of the following hangers.

*Installing classic Leaf Relief on existing gutters**

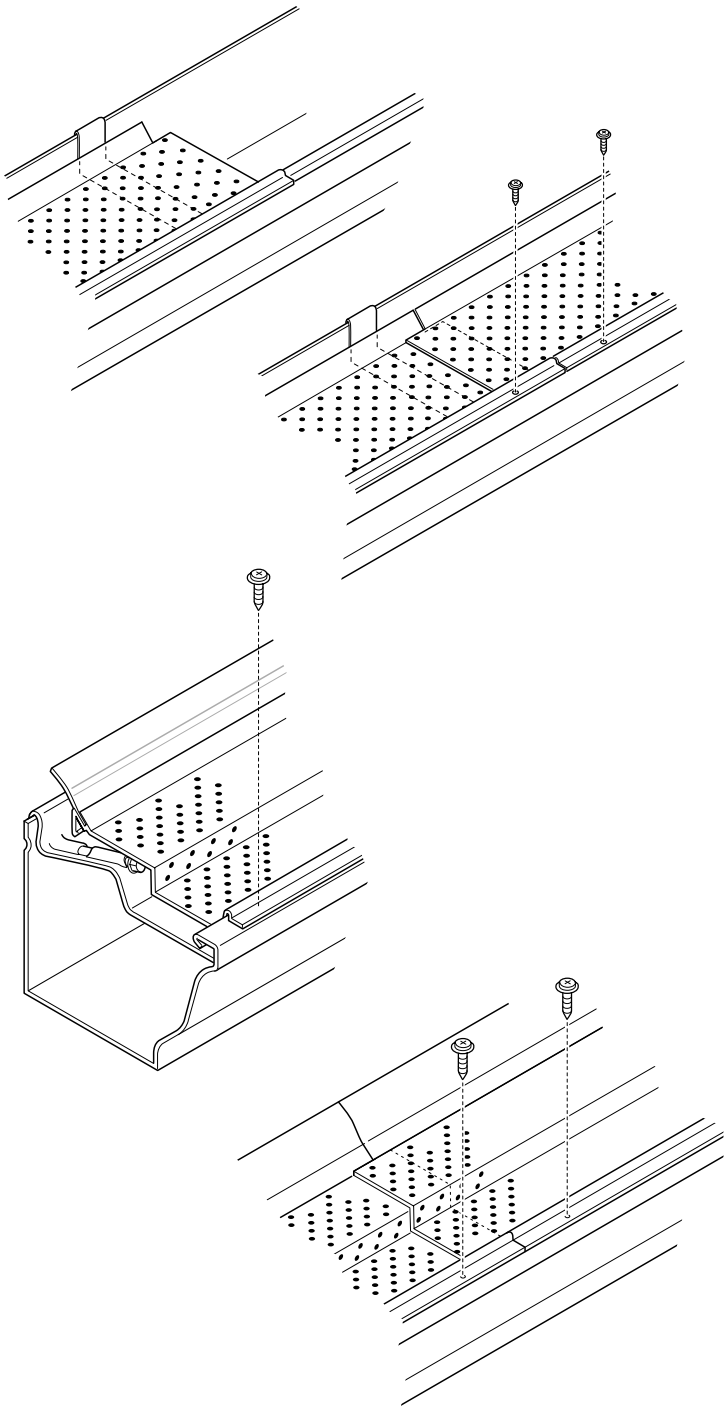
https://deephow.ai/p/A4fPr5cgqLxNwdYduhBk

Seamless Gutter

Leaf Relief	Width	 Spike / Ferrule	 Hidden Hanger Systems	 Zip Hanger Systems
TP5300	5″	✓	✓	✗
TP6300	6″	✓	✓	✗
TP5100Q/TPC5100	5″ Adjustable	✓	✓	✗
TPC6100	6″ Adjustable	✓	✓	✗
TP53ZIP	5″	✓	✓	✓
TP63ZIP	6″	✓	✓	✓

Installation of All Retrofit Leaf Relief®

INSTALLATION OF FLAT, ZIP, AND ALL "TP" LEAF RELIEF PRODUCTS



Prepare the gutter

- Clean and flush existing gutters and downspouts thoroughly with water.

Note: 3" x 4" or larger downspouts are recommended in areas with conifer (pine) trees.

Note: The flow from high-level gutters must be transferred within downspouts directly into lower-level gutters.

Install Leaf Relief® system

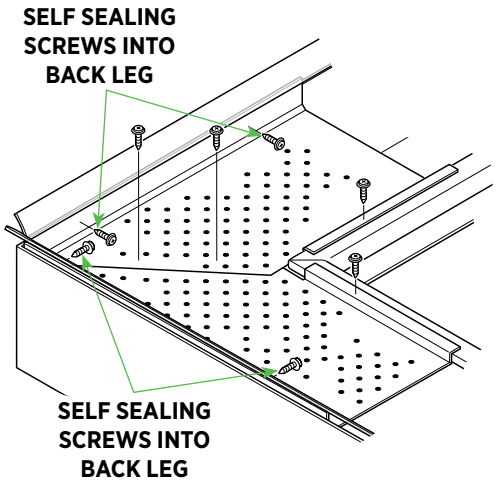
Place the Leaf Relief sections on gutter with vinyl strip against the fascia or drip edge. For proper function, Leaf Relief surface (front-to-back) must be level or have slight slope toward fascia.

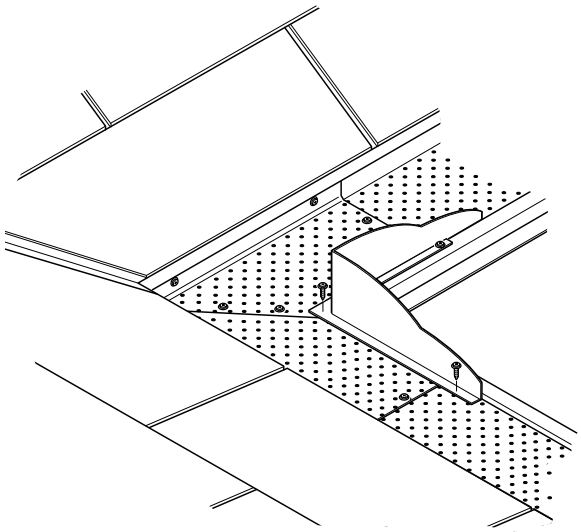
CAUTION: Do not install Leaf Relief over hangers that will result in a forward slope.

- To add rigidity, install Leaf Relief so the lower section is always closer to the nearest hanger.
- Overlap 1" using 1/2" factory notches on both ends.
- Add or replace hangers as needed for proper support (maximum support spacing is 30").
- Starting at one end, fasten front of Leaf Relief to gutter at overlaps and every 24" using #6-3/8" screws (not included with product).

Installation of All Retrofit Leaf Relief®

INSTALLATION OF FLAT, ZIP, AND ALL "TP" LEAF RELIEF PRODUCTS





Inside & outside corner options

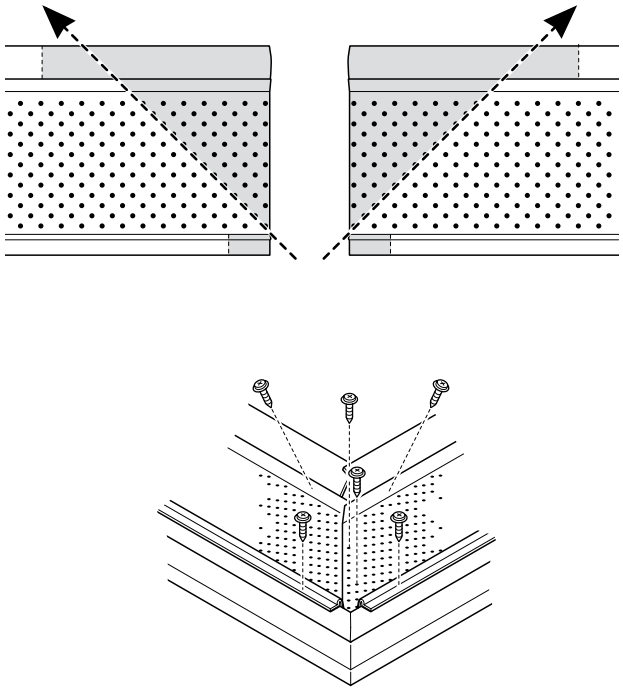
- With flat Leaf Relief products, use either factory-formed or field-formed corners. With zip products field-formed corners must be used.
- When using factory-formed corners, stop the adjacent Leaf Relief 4″ from all corners.

Install Leaf Relief corners

- Attach Leaf Relief corners using 8 screws as shown. All screws going into the back leg in the corner areas should be self sealing screws (not included).
- Install water diverter/deflector on top surface of Leaf Relief at all inside corners and valleys.

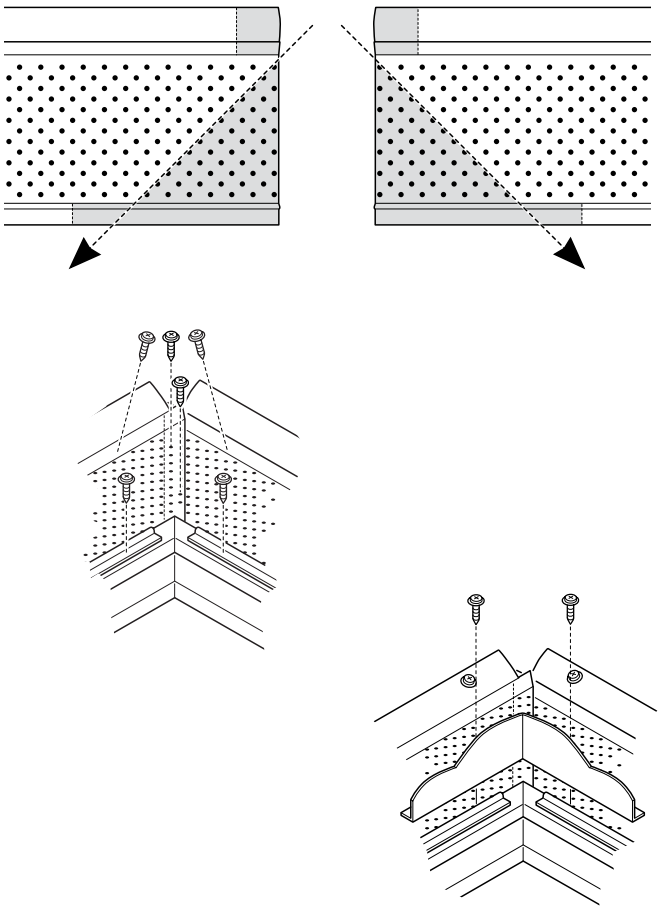
Note: Pre-fabricated corners must be at same level as Leaf Relief sections.

Field Forming and Installing Corners



Outside Corners

- Refer to hole pattern and use tin snips to cut diagonally through the panel and back plastic strip at 45° angle.
- Notch and remove 1″ of the front edge and plastic strip.
- Overlap 1″ in corner and fasten with two screws, separated at least 2″, going through both panels.
- Attach to back through the metal that retains plastic strip with screws 2″ from the corner.
- Attach to front edge of gutter 2″ from outer corner.

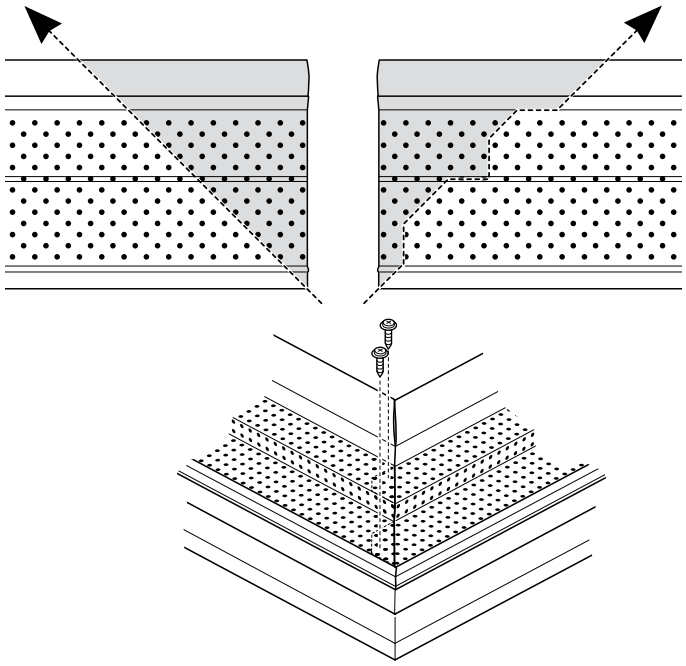


Inside Corners

- Use tin snips to cut panel diagonally, starting just inside metal that attaches plastic strip at 45° angle.
- Notch and remove one inch of the back edge and plastic strip.
- Overlap 1″ in corner and fasten with two screws, separated at least 2″, going through both panels.
- Attach to back through the metal that retains plastic strip with screws 2″ from the corner.
- Attach to front edge of gutter 2″ from outer corner.
- Install water diverter/deflector on top surface of Leaf Relief at all inside corners and valleys.

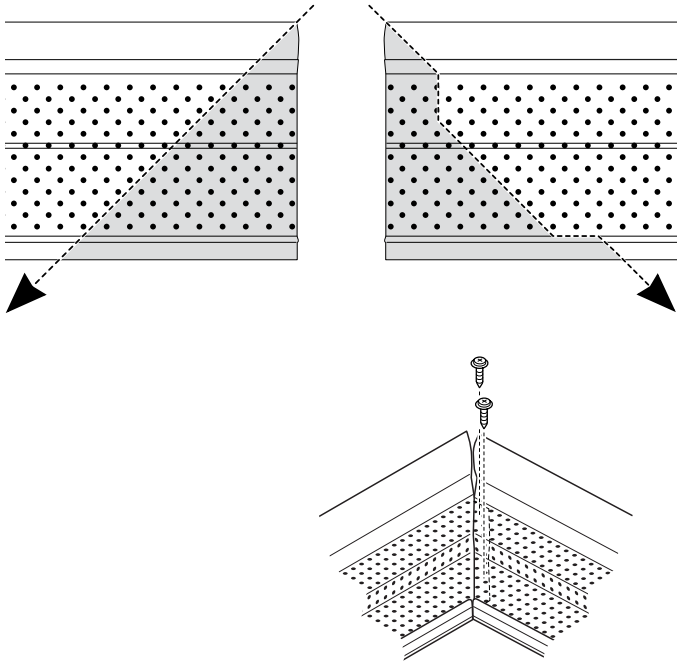
Mitered Corner Installation

INSTALLING ON ZIP PRODUCTS ONLY



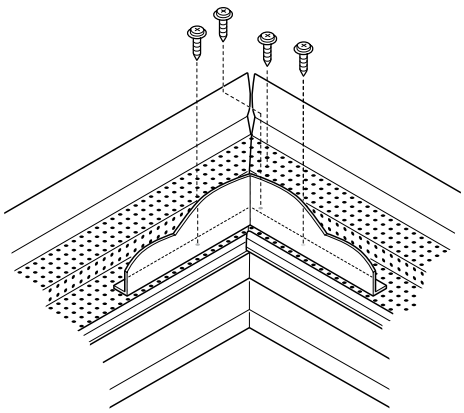
Outside Corners

- Refer to hole pattern and use tin snips to cut diagonally through one panel of Leaf Relief at 45° angle.
- Cut other panel as shown, leaving two 1″ tabs.
- Overlap sections by 1″ and attach through tabs with two #6-3/8″ stainless steel screws.



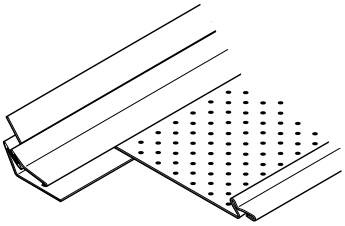
Inside Corners

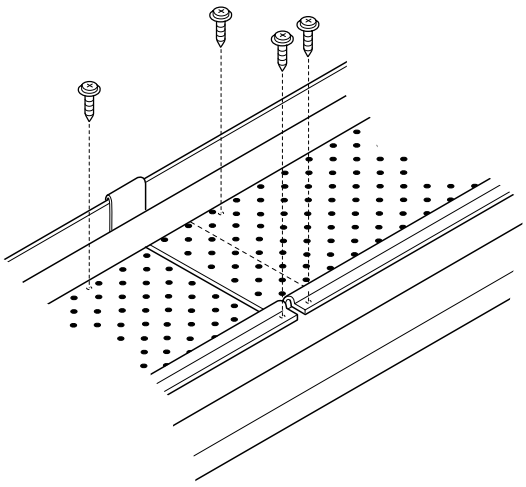
- Refer to hole pattern and use tin snips to cut diagonally through panel and back plastic strip of one panel at 45° angle.
- Cut other panel as shown, leaving a 1″ tab.
- Overlap sections by 1″ and attach with two #6-3/8″ stainless steel screws.
- Install water diverter/deflector on top surface of Leaf Relief at all inside corners and valleys.



Adjustable Leaf Relief® Installation

FLAT OR SPIKE/FERRULE HANGERS - NOT ZIP HANGERS





Install Leaf Relief System

Note: When using adjustable Leaf Relief, first slide receiver onto the Leaf Relief sections.

Place the Leaf Relief sections on gutter with vinyl strip against the fascia or drip edge. For proper function, Leaf Relief surface (front-to-back) must be level or have slight slope toward fascia.

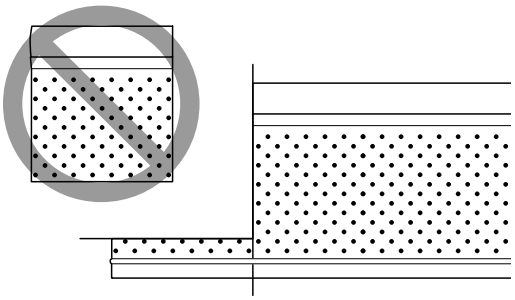
CAUTION: Do not install Leaf Relief over hangers that will result in a forward slope.

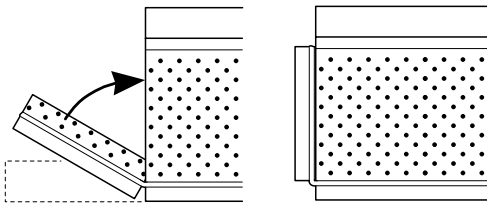
- Overlap 1″ using 1/2″ factory notches on both ends.
- Add or replace hangers as needed for proper support (maximum support spacing is 30″).
- Starting at one end, fasten front of Leaf Relief to gutter every 24″ using #6-3/8″ screws.

Note: For adjustable Leaf Relief, adjust the "J" receiver to fit the width of the gutter and extend the receiver 7″ past lap. Use #6-3/8″ screws to fasten through Leaf Relief at "J" receiver, holding it against fascia every 24″.

Special Applications

CLOSING OFF LEAF RELIEF® AT END OF RUN





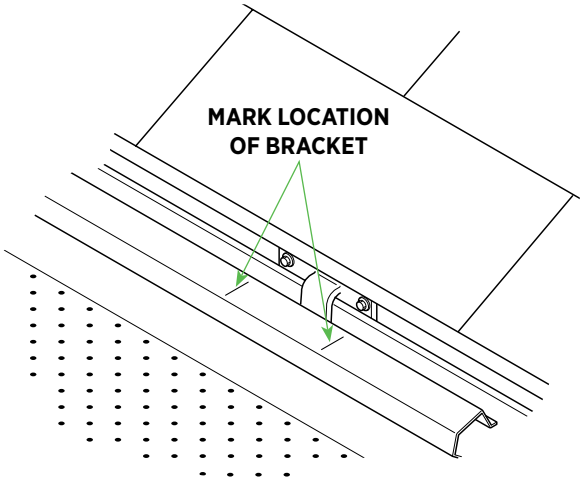
Closing Off Leaf Relief to Prevent Water Runoff

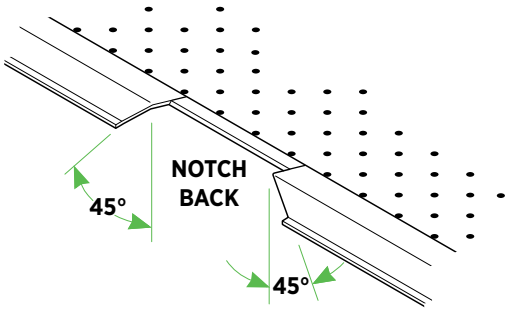
If Leaf Relief is level with end cap:

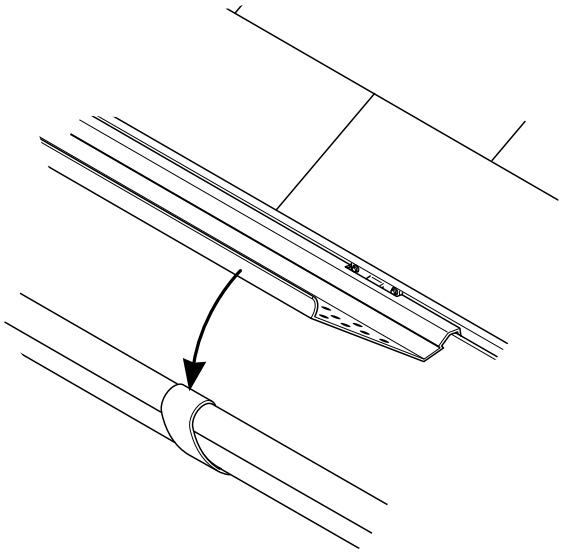
- At the end of the run, make a 4″ cut on the back of the Leaf Relief up to the lip on the front.
- Cut parallel to the front about 1/2″ from the lip.
- Make another cut 90° to the lip.
- Bend and fold under the excess material. Screw down the two layers to secure.
- Another option is to bend the gutter end cap ledge 90°.

Half-Round Leaf Relief® Product Installation

WRAP-AROUND FASCIA HANGERS

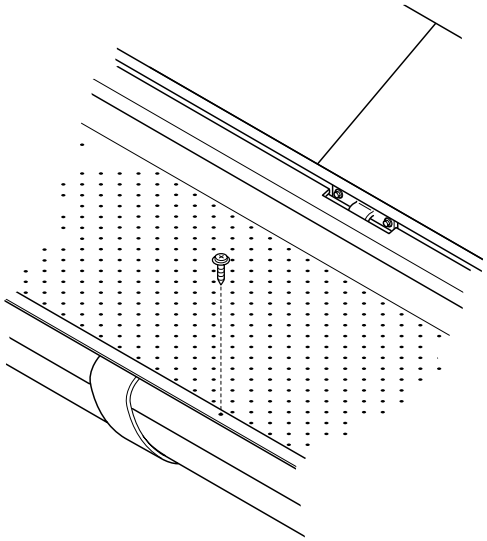






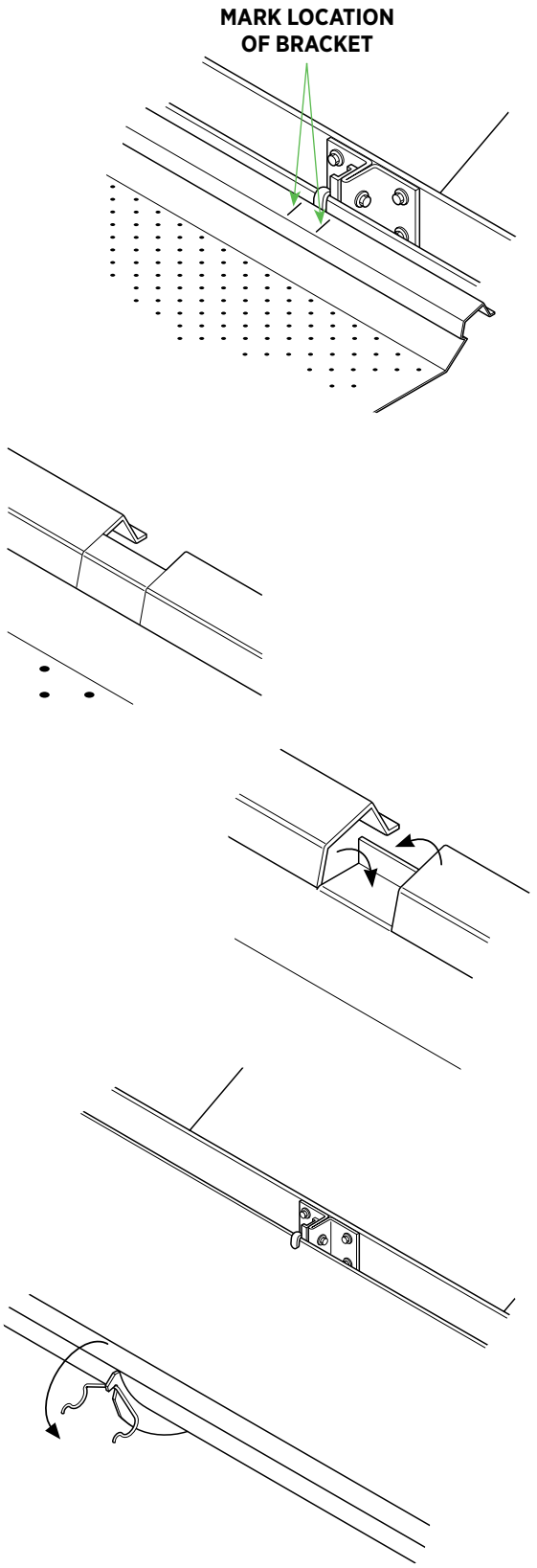
Installing on half-round gutters with wrap-around fascia hangers

- Lay Leaf Relief® on gutter in front of hanger and mark location of bracket.
- Notch back of Leaf Relief as shown.
- Firmly press back of Leaf Relief behind gutter and pivot down to rest on front lip of gutter.
- Attach with screws through Leaf Relief and front lip of gutter every 24″.
- Continue installing Leaf Relief panels. Overlap 1″ using 1/2″ factory notches on both ends.
- Screw through the overlaps in the middle to reduce sagging.



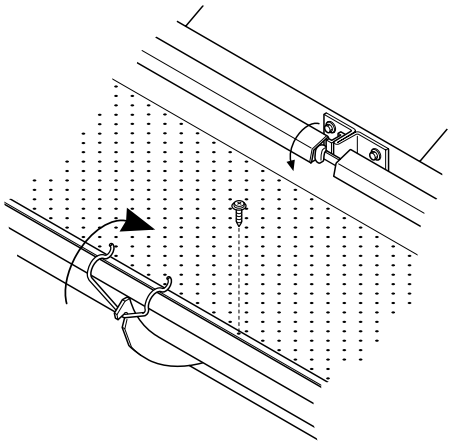
Half-Round Leaf Relief® Product Installation

SPRING CLIP BAR HANGERS



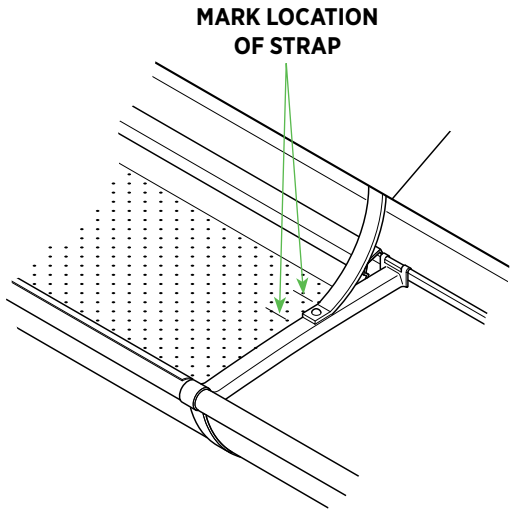
Installing on half-round gutters with spring clip bar hangers

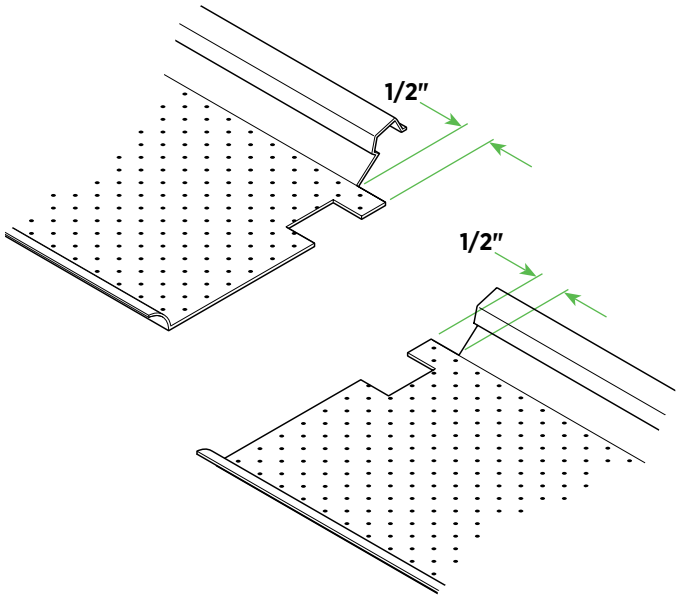
- Lay Leaf Relief® on gutter in front of hanger and mark location of bracket.
- Cut and notch Leaf Relief.
- Release spring clip on front of gutter and bend up back tab holding gutter.
- Place Leaf Relief on gutter, bend hanger tab over the back of the Leaf Relief. Fasten hanger spring clip over Leaf Relief.
- Attach with screws through Leaf Relief and front lip of gutter every 24″.
- Continue installing Leaf Relief panels. Overlap 1″ using 1/2″ factory notches on both ends.
- Screw through overlapping panels to reduce sagging.



Half-Round Leaf Relief® Product Installation

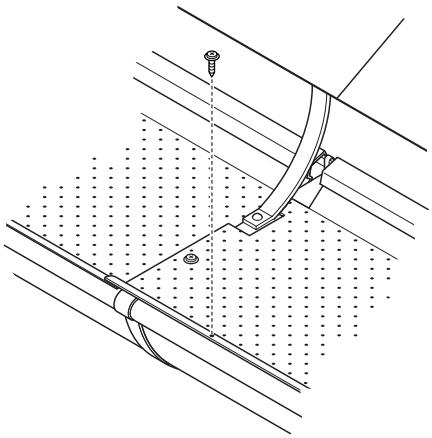
WRAP-AROUND STRAP HANGERS / EXISTING GUTTERS





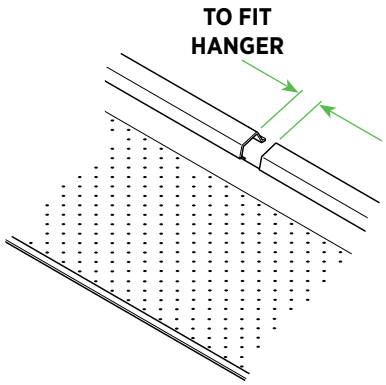
Installing on half-round gutters with wrap-around strap hangers

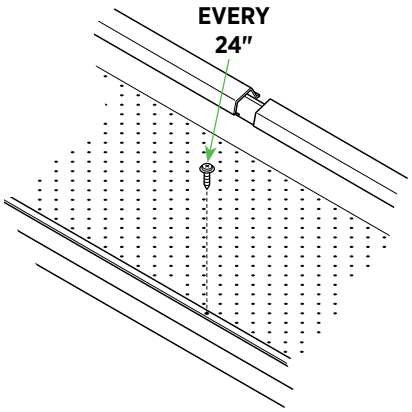
- Place Leaf Relief® panel on gutter next to hanger and mark location of strap.
- Cut and notch Leaf Relief and lay in position on gutter.
- Place next section of Leaf Relief on gutter, mark location of strap. Cut and notch as shown.
- Overlap the two pieces 1".
- Attach with screws through Leaf Relief at every hanger overlap and every 24" through the front lip of the gutter.
- Screw through overlapping panels to reduce sagging.



Half-Round Leaf Relief® Product Installation

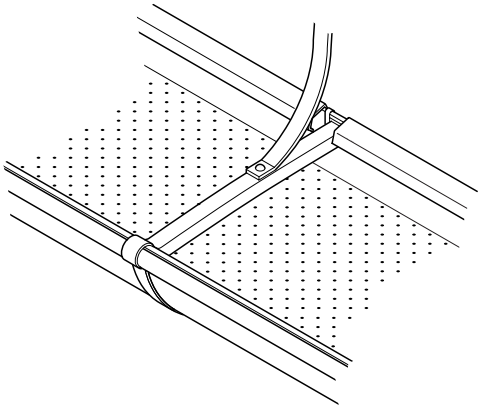
WRAP-AROUND STRAP HANGERS / NEW GUTTERS



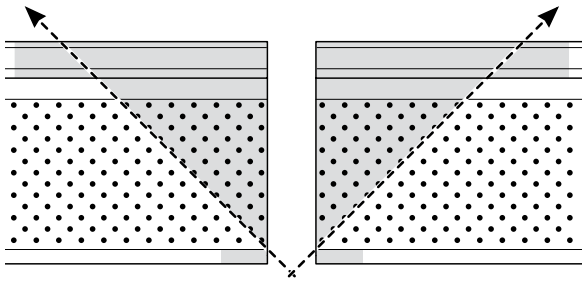


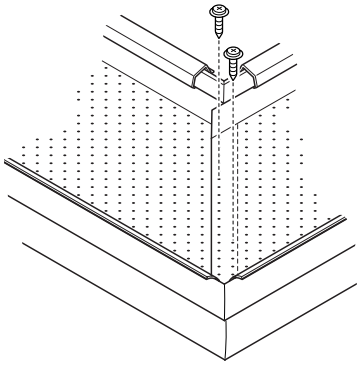
Leaf Relief® and new gutters with wrap-around strap hangers

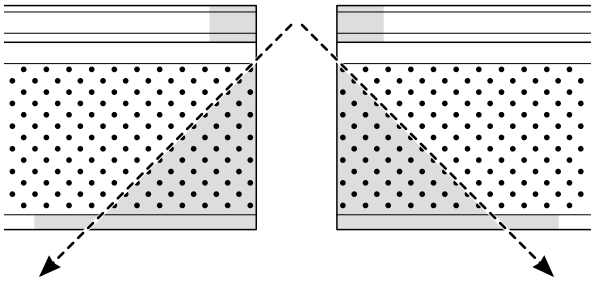
- Plan location of strap hangers and Leaf Relief panels.
- Notch Leaf Relief at each hanger.
- Overlap 1" using 1/2" factory notches on both ends.
- Attach with screws every 24" through the front lip of the gutter.
- Screw through overlapping panels to reduce sagging.
- Attach hangers over Leaf Relief to gutters.
- Install gutters to structure per manufacturer's instructions.

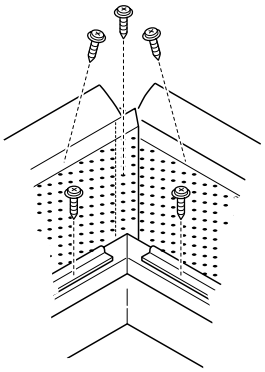


Installing Corners on Half-Round Gutters







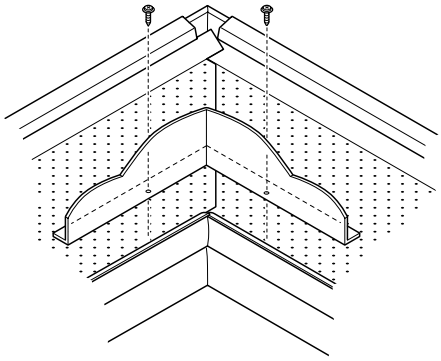


Outside Corners

- Refer to hole pattern and use tin snips to cut diagonally through the panel at 45° angle.
- Notch and remove 1″ of the front edge.
- Overlap 1″ in corner and fasten with two screws, separated at least 2″, going through both panels.

Inside Corners

- Refer to hole pattern and use tin snips to cut panel diagonally at 45° angle.
- Notch and remove 1″ of the front edge.
- Overlap 1″ in corner with screw through both panels.
- Attach to front edge of gutter 2″ from outer corner.
- Install water diverter/deflector on top surface of Leaf Relief® at all inside corners and valleys.



PVC Trim Installation

*Installing PVC trim**

https://deephow.ai/p/7SW9SBigVLosg3FhEj62

*PVC trim offerings and accessories**

https://deephow.ai/p/VWXPLyXzhUeDcCGZ9aZo

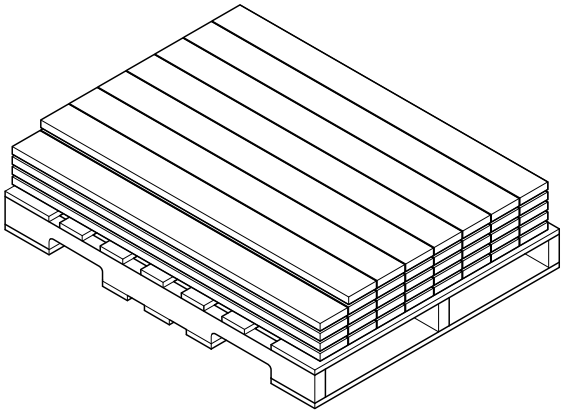
Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

PVC Trim

STORAGE AND HANDLING / CLEANING / SAFETY



*How to clean, finish & paint PVC trim**

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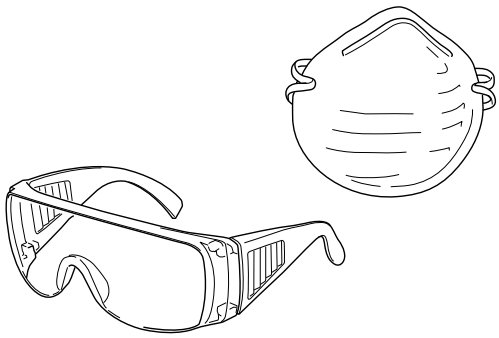


Storage and Handling

- Store on a flat level surface.
- Stack evenly and use a pallet shroud or tarp when storing outside. If product gets dirty, clean with a soft brush and mild cleaner.

Note: Do not store or place on asphalt or in areas prone to excessive heat buildup. Handle with care to avoid damage.

Units are shipped in tough film-faced plastic wrap to protect them from dirt and debris. Film facing is not meant to be a weather barrier.

Cleaning

- Clean with a soft bristle brush and a mild soap and water mixture. Test any cleaner on an inconspicuous area before you use it.
- For stubborn stains or to get dirt out of the cells, use a nylon brush.

Safety Precautions

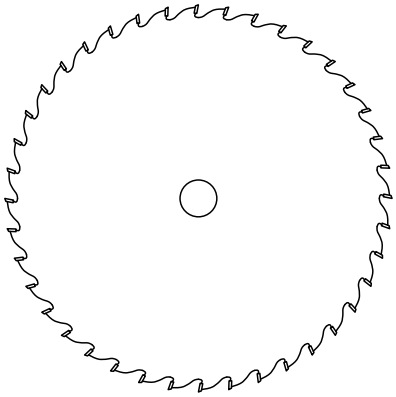
Cutting will create PVC dust and particles.

- Cut cellular PVC trim in an open, well ventilated area.
- Always wear safety glasses or goggles and a face mask when cutting.
- If cutting with power saw, wear a dust mask.
- Refer to MSDS for additional safety information.

Note: Ply Gem Trim and mouldings are not to be used as structural products in load-bearing applications. PVC boards must always be supported by wood or other structural materials.

PVC Trim

CUTTING / DRILLING / ROUTING



USE CARBIDE TIPPED BLADE
(32-TOOTH OR HIGHER)

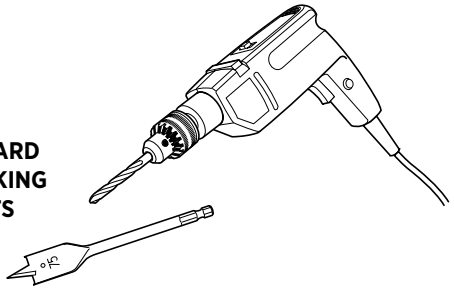
Cutting

Ply Gem Trim and Mouldings can be cut with standard carpenter's tools.

- Use carbide-tipped blades (32-tooth or higher). Avoid blades designed for plywood or metal.

Note: blade should be mounted in "normal" orientation, NOT reversed as when you are cutting vinyl siding.

- Rough edges can result from excessive friction, poor board support, worn blades or poor alignment.
- Rasp and sand to restore a smooth edge.

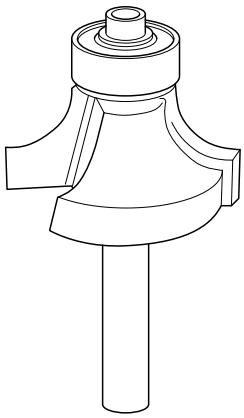


USE STANDARD
WOODWORKING
DRILL BITS

Drilling

Use standard woodworking drill bits. Do not use bits made for rigid PVC.

- To prevent heat buildup, remove excess shavings frequently.

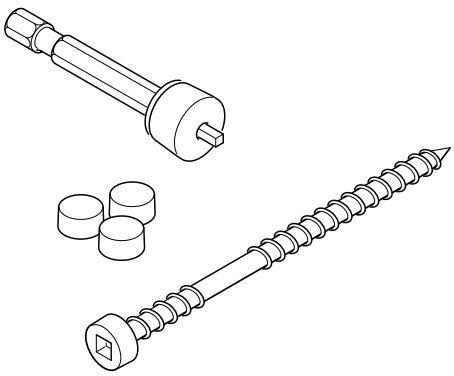


Routing

- Use a sharp carbide-tipped bit.
- Align the router guide bearing along a smooth cut.
- If necessary, go over the cut a second time to smooth the surface.
- Sand with 320 grit sandpaper.

PVC Trim

RECOMMENDED SCREWS / NAILS



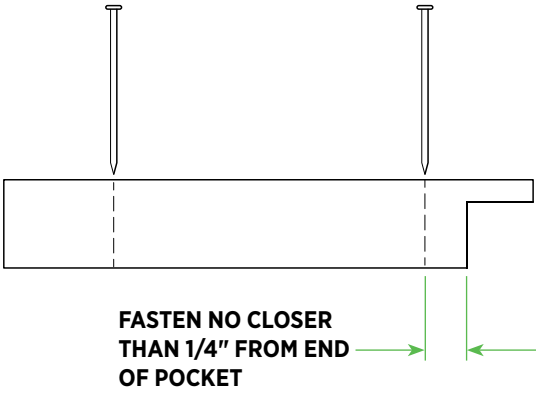
Recommended Fastener Screws

Fasten with stainless steel screws to prevent corrosion, though galvanized screws are acceptable. Do not use staples, brads, wire nails, fine-threaded wood screws or ring-shank fasteners.

Two industry-proven fasteners are:

- Cortex® Screw Plug System with plugs matching Ply Gem Trim.
- OSI® TrimTeQ System with plugs matching Ply Gem Trim.

Note: Please follow the manufacturer's recommendations as to required length of these specialty fasteners.



Recommended Fastener Nails

- Fasten with stainless steel or galvanized nails (wood siding nails, box nails, etc.). Nail guns can be used but don't over drive the nail into the trim.
- Standard nail guns work well with Ply Gem Trim and Moulding products. If using pneumatic tools, the air pressure should be regulated so fasteners slightly penetrate the surface (typically between 70psi-100psi depending on fastener and equipment being used). An in-line pressure gauge will help maintain even pressure to the nail gun.

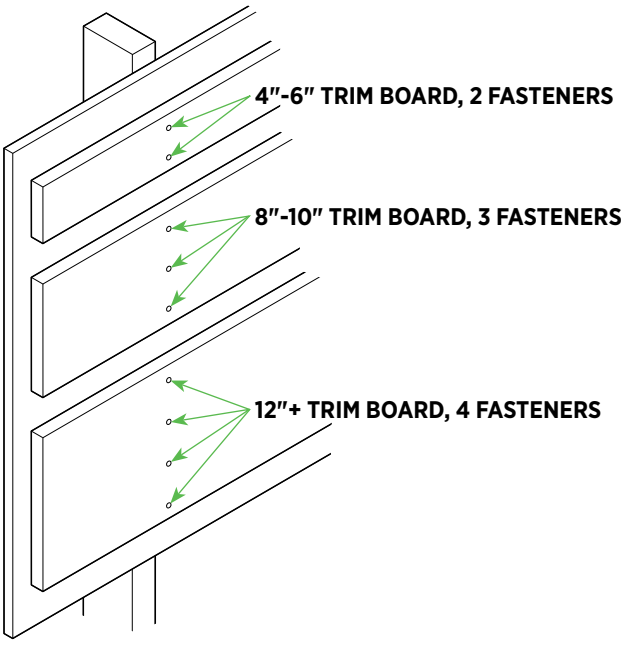
PVC Trim

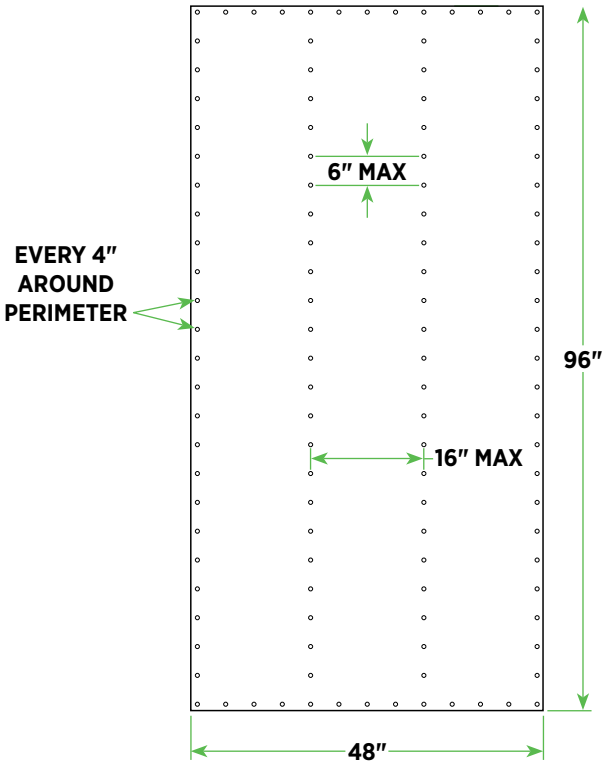
FASTENING SCHEDULE

Fastening Schedule (to be Applied Every 16″ on Center)*

Product	Actual Thickness	Board Width	Number of Fasteners Per Width	Minimum Fastener Length
Trim Boards	5/8″ or over	4″ & 6″	2	2-1/2″
	5/8″ or over	8″ & 10″	3	2-1/2″
	5/8″ or over	12″	3-4	2-1/2″
Sheets	1/2″ or less	48″	16″ on center horizontally 6″ on center vertically 4″ around perimeter of panel	2″
	5/8″ or over	48″	16″ on center horizontally 6″ on center vertically 4″ around perimeter of panel	2-1/2″
Skirt Board	1″	6″	2	2-1/2″
	1″	8″	3	2-1/2″
Beadboard	1/2″	6″	2	2″
Outside Corners	1″	4″ & 6″	2	2-1/2″
Inside Corners	1-1/2″	1-1/2″	2	3″

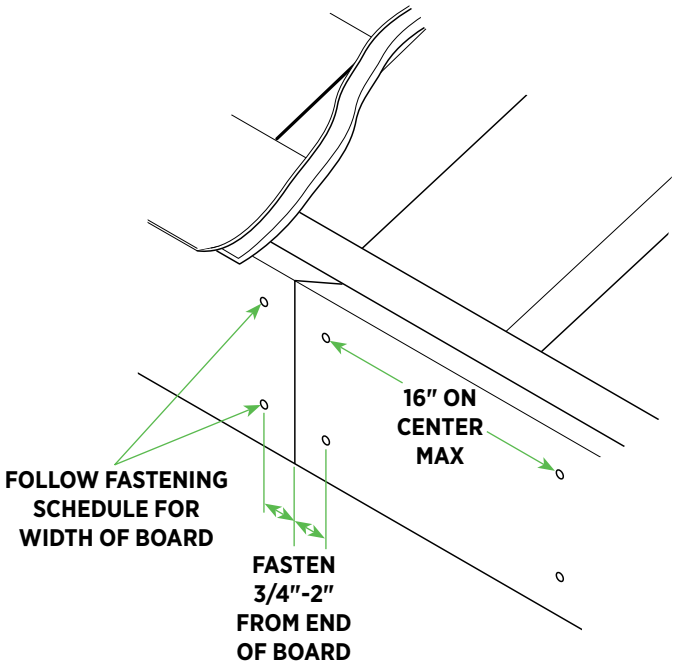
**Recommended sizes assume that product is applied over structural sheathing with a thickness of at least 1/2″ applied directly to a framing member. If non-structural sheathing is used, the fastener must penetrate through the sheathing into the framing member a minimum of 1-1/2″.*





PVC Trim

FASTENING



Fastening

- Nails should penetrate 1-1/2" into solid wood substrate. If using screws, please see "Recommended Fastener Screws."
- When covering non-structural sheathing (1/2" foam), fasteners should be long enough to penetrate solid substrate a full 1-1/2".
- When covering 1/2" OSB, fasteners need to penetrate substrate only 1".
- Fasten no closer than 3/4" from end of board and no further than 2" from end of board.
- If framing members are greater than 16" on center, provide additional bracing for fastening.
- Fastener heads should be flush with the surface of the trim or slightly indented.
- Pre-drilling typically is not required unless large fasteners are used or the temperature is below 40°F.

Fastening Mouldings

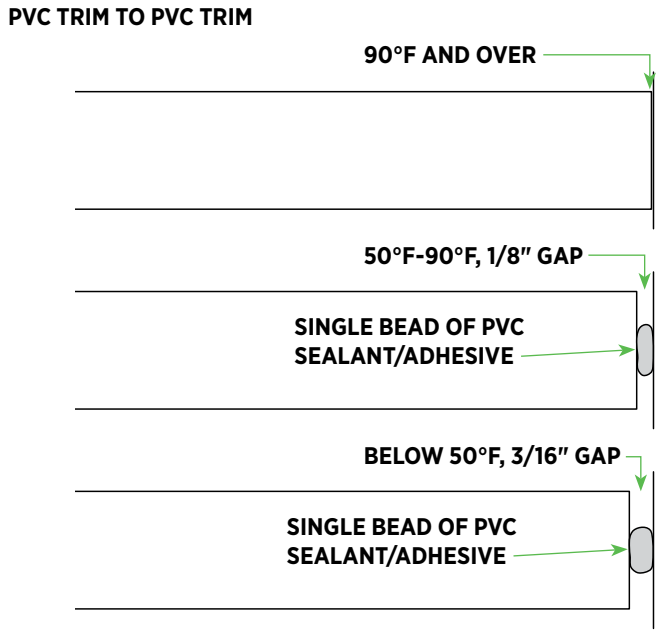
When applying smaller, lighter pieces like base cap, quarter round, head flashing or bed mould, use a smaller fastener such as a 4d finish nail. Pre-drill holes if necessary. Where greater holding power is required, use adhesive or glue.

Expansion and Contraction

Cellular PVC trim products expand in warm temperatures and contract in cool temperatures. This movement is ONLY an issue on longer runs of multiple 18′ boards. For example, on rakes, fascia or frieze. Short lengths, such as window trim, can and should be built with tight joints.

PVC Trim

EXPANSION AND CONTRACTION ON LONG RUNS



Leaving an Expansion Joint with Long Runs

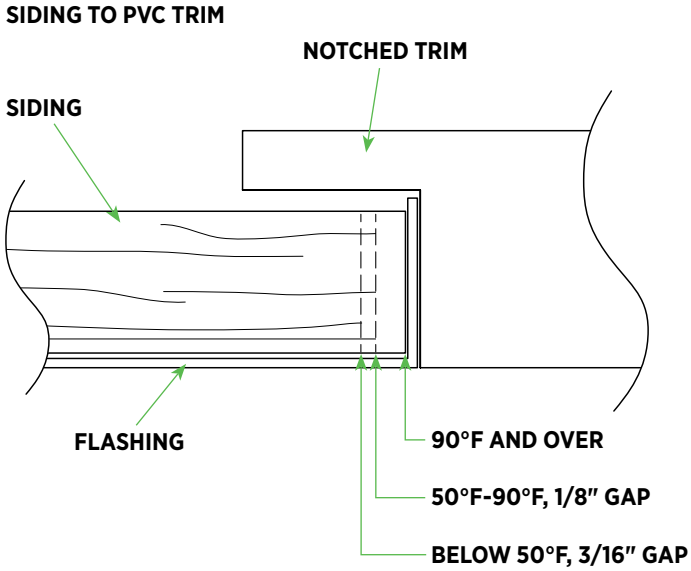
Leave a gap per 18 feet of run at ends of boards or at inconspicuous joints for expansion and contraction. Never completely fill the joint with sealant.

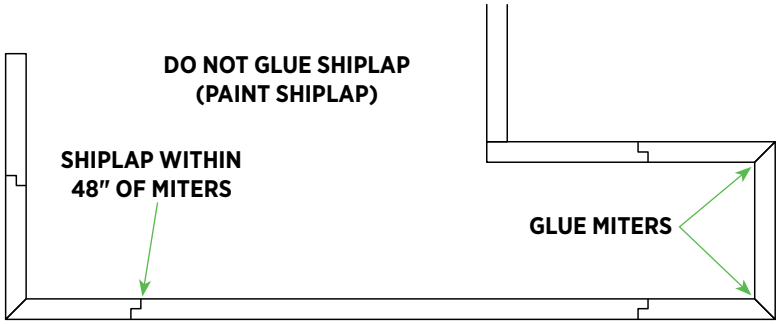
Application temperature and appropriate gapping:

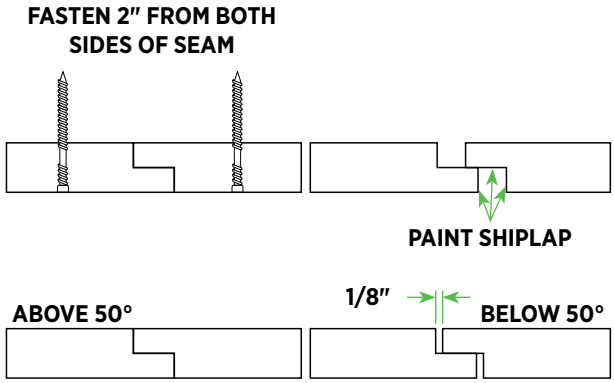
90°F & higher . . . . . Install tight

50°F to 90°F . . . . . 1/8"

50°F and below. . . . . 3/16"

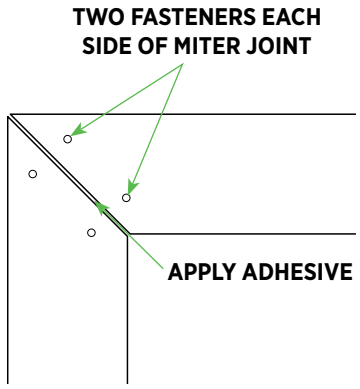


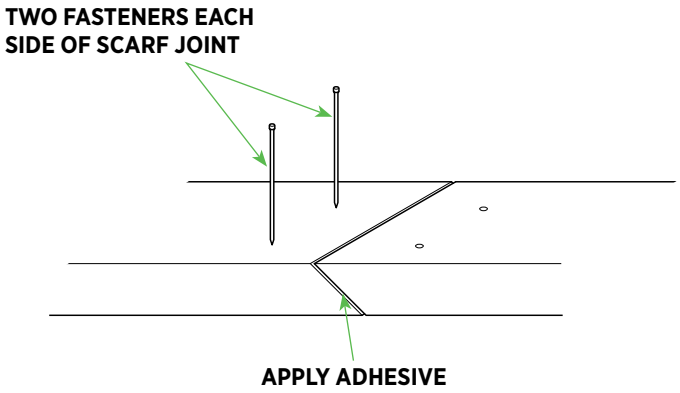




PVC Trim

SEALANTS AND ADHESIVES





Sealants and Adhesives

Two-component adhesives designed specifically for cellular PVC are readily available and provide the strongest available bond. One-part PVC cement may be used but it offers less working time and adhesive strength.

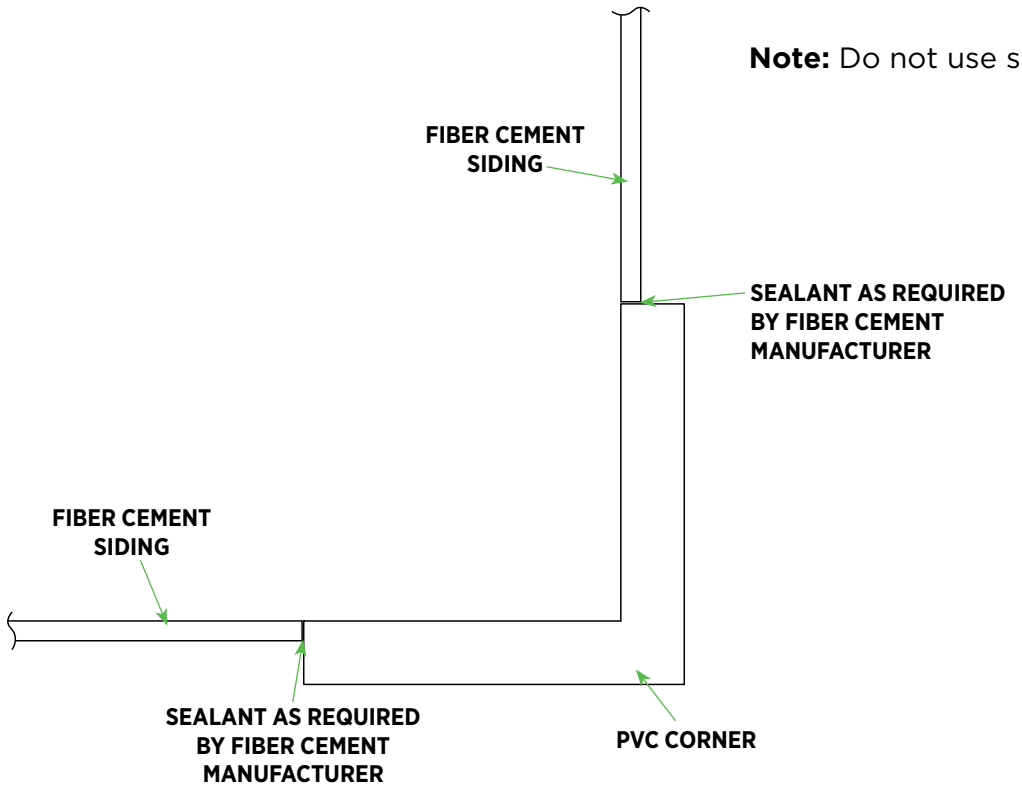
- Two industry-proven adhesives:

  Extreme Adhesive PVC TrimWelder™ Fill & Flex PVC
  (Fast Cure, Slow Cure, White Hot)

  Bond & Fill® Structural
  (Fast Cure, Slow Cure, Quick & Easy)

- Use adhesive on one board and slide the secondary board into the adhesive bead creating cohesion of the two boards.
- Bonded joints should be secured with fasteners on each side of the joint.
- Never use adhesives alone for attaching Ply Gem Trim and Mouldings to substrate.

Note: Do not use silicone.



PVC Trim

BONDING TRIM TO VARIOUS MATERIALS

Note: With all applications it is critical to use fasteners and follow the fastener spacing requirement chart.

Bonding Ply Gem Trim to Itself

- PVC TrimWelder by Extreme Adhesives

Bonding Ply Gem Trim to Wood

- Liquid Nails Subfloor or Heavy Duty Construction adhesive
- NPC Solar Seal 900
- Polyurethane based adhesives (PL's or equivalent)

Bonding Ply Gem Trim to Metal

- PVC TrimWelder two component meth acrylate by Extreme Adhesives with the use of fasteners

Bonding Ply Gem Trim to Concrete or Block

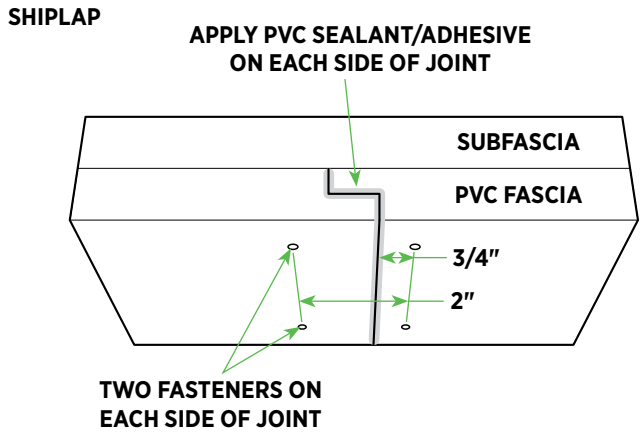
- PVC TrimWelder by Extreme Adhesives
- NPC Solar Seal 900

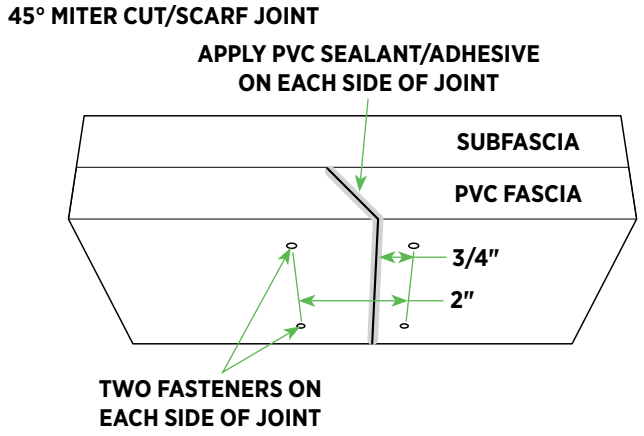
Note: Most PVC cements cure in 3–5 minutes and have a limited working time.

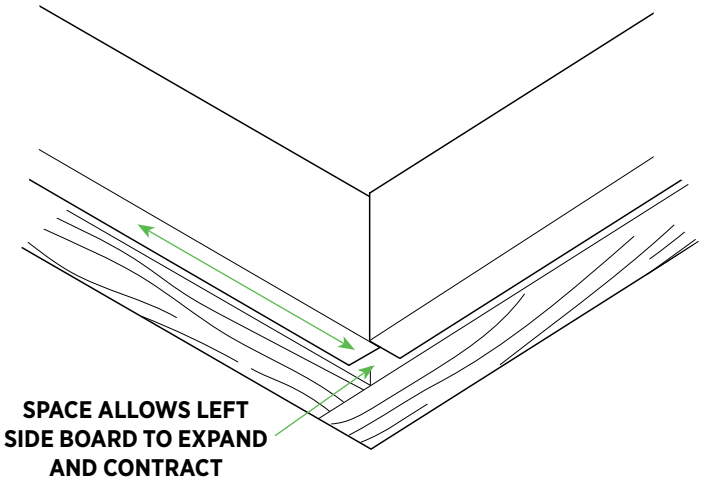
Note: Always test sealants and adhesives for compatibility before applying.

PVC Trim

CONTROL MOVEMENT AT JOINTS / HIDING EXPANSION JOINTS







HIDDEN EXPANSION TECHNIQUE

Control Movement at Board Joints

Glue the joints, using a one part PVC cement or a 2-part PVC adhesive at joints, especially in high traffic areas. Gluing the joints moves expansion and contraction out to the ends of the run.

- Join boards with shiplap or 45-degree miter joints. Do not butt joints. Glue boards together with one part PVC cement or a 2-part PVC adhesive.
- Double fasten on both sides of joint (screws work best). Use recommended number of fasteners based on width of boards (see "Fastening Schedule").
- To further restrict movement on longer runs, reduce on center fastening to 12".
- Southern exposure, or areas where product is in direct sunlight, can result in greater movement. Use more fasteners and/or wider expansion joints.
- Expansion/contraction joints should be placed at ends of run or in inconspicuous areas.
- Allow Ply Gem Trim to acclimate to outside temperature before installing. Ideally, install long runs when temperature is 60–70°F.

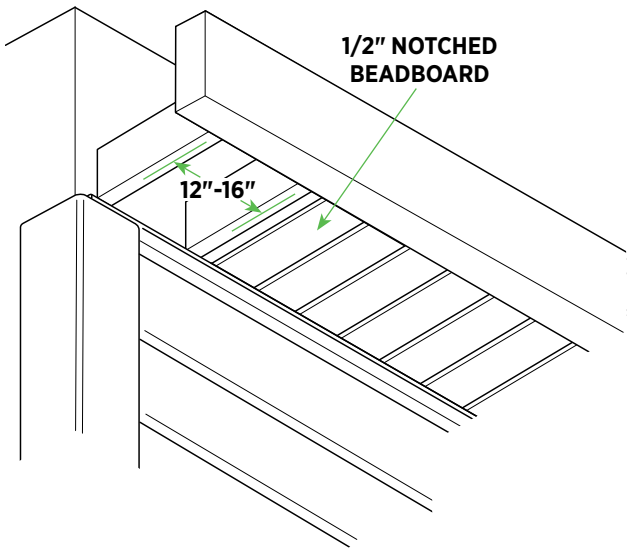
Hiding Expansion Joints in Long Runs

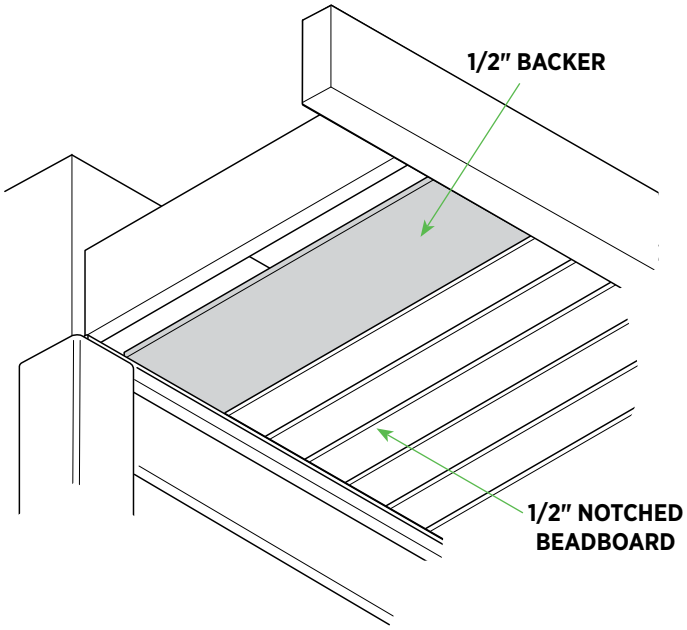
Hide expansion joint by controlling one end of the run and allowing room for expansion and contraction at the other end.

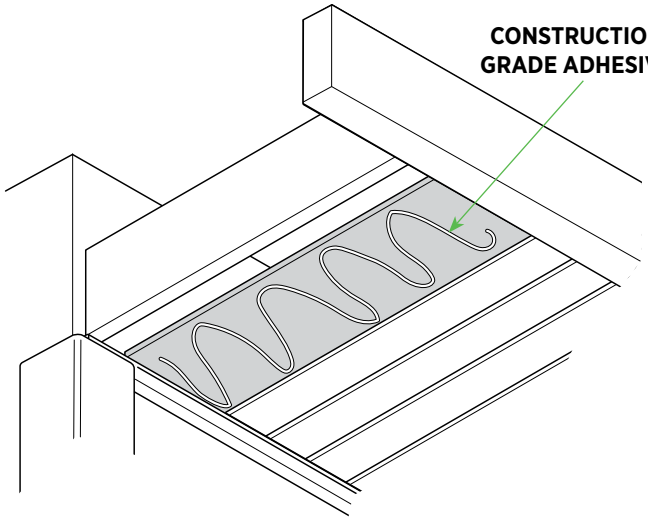
- By using this technique in the illustration, the left side board is creating a gap allowing that board to expand and contract based on temperature at the time of installation. The right board will dead end to the left board closing off the gap and not seen from the ground.

PVC Trim

SPANNED APPLICATIONS / CEILINGS AND SOFFITS







Spanned Applications

Ply Geadbead Board and Sheets are ideal for fascias, soffits, ceilings and other spanned applications. They cannot be used for load-bearing applications.

Note: A solid substrate must be installed on open rafter fascia application (use steps below).

Ceilings and Soffit

Before installing, review local building codes and regulations.

- 1/2" Notched Beadboard installed in ceiling areas should always cross ceiling joist spaced at 12" or 16" on center. Construction grade polyurethane adhesive provides additional support in hot climates. 1/2" Notched Beadboard must be painted to reduce dirt accumulation, due to the milling process required to form the beads.
- For spans greater than 16" on center, use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive. Fasten board a minimum of every 16" to reduce or eliminate joist read through. Fasteners should hit joist or framing where possible.
- In hot climates, for spans greater than 12" on center, use 1/2" Moulding Beadboard or use a minimum 1/2" backer such as plywood or OSB with construction grade adhesive. Fasten Beadboard a minimum of every 8" to reduce or eliminate joist read through. Fasteners should hit joist or framing where possible.
- If temperature is 40˚F or below at time of installation, do not span more than 12".

PVC Trim

FILLING NAIL HOLES / PAINTING

Filling Nail Holes

Use sealant designed to work with cellular PVC products. Once the product has set up, you may have to sand the area to achieve a finished appearance. If painting, caulk or glue designed for use with cellular PVC is sufficient.

- Do not use caulks containing silicone.
- Avoid “stick” type nail “putty” that may contain wax.

Painting

Ply Gem Trim and Mouldings do not require paint for protection (with the exception of 1/2″ Notched Beadboard). But because they don’t absorb moisture like wood, they hold paint much better than wood. Be sure to use 100% acrylic latex paint formulated for vinyl products and follow the paint manufacturer’s instructions.

- Apply a 100% acrylic latex paint with an Light Reflecting Value (LRV) of 55 or higher. Generally, the higher the LRV, the lighter the color.
- When painting a darker color with an LRV less than 55, use industry-proven finishes such as Sherwin-Williams® VinylSafe™ paints. They’re available in a wide range of colors and designed to protect PVC trim from heat distortion.
- As with any surface to be painted, the trim must be clean, dry and free of chalk, grease, oil, dirt, mold or mildew. To ensure good adhesion, scuff sand with 100-120 grit sandpaper or Scotch-Brite® Scrub Sponge and remove dust from the surface before you paint.
- Verify whether the paint manufacturer requires primer. Priming may not be necessary.
- For the highest quality finished appearance, use an airless sprayer or compressor/paint gun system.
- You can also use a roller or brush – a roller produces a more consistent appearance.
- If the trim is to be pre-finished before installation, follow the manufacturer’s suggested curing time before painting.

Ply Gem accepts no liability for type of paint used or the results of its use.

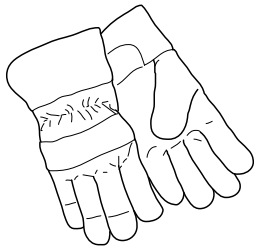
PVC Trim

USING A FIELD HEATING SOURCE

*Bending PVC trim**
https://deephow.ai/p/ZnRiV2k6PSxDEZqMYz3A

Ply Gem cellular PVC trim can be heated and shaped to form curves using heat blankets, convection ovens, strip heaters, turbo heaters or radiant heaters*. Heat guns can be used to bend small areas where appearance isn't critical. For best results, do not bend woodgrain trim or trim that is more than 6″ wide.

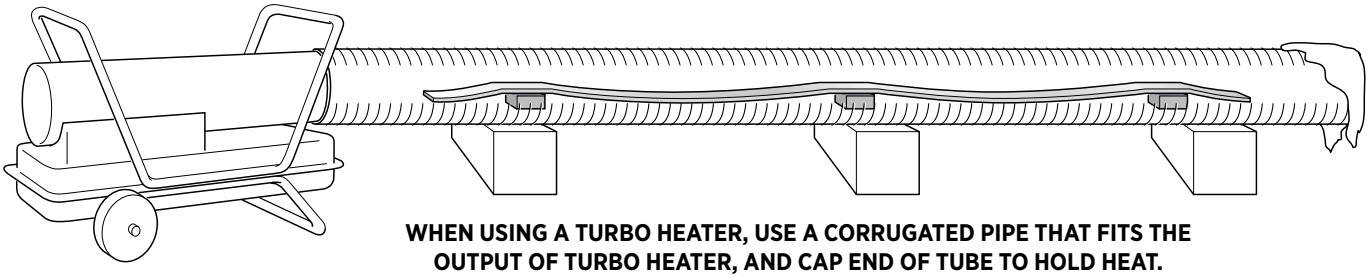
- To ensure uniformity and avoid discoloration, heat both sides of the material simultaneously — gradually increasing the temperature.
- Heating time is about 3 minutes for each 1/4″ thickness of material. When the trim's shape is irregular or the heat is not uniform, heating times may be longer.
- Apply the heat evenly until the trim becomes flexible and easy to form.
- Always wear protective gloves. Hot PVC can produce severe burns.



Note: The use of a form/jig is recommended, PVC trim can cool quicker and harden before application of the product. By using a jig, clamping, and letting the product cool will give more working time especially on two story or multi-family applications.

If you prefer not to heat bend trim boards, 4 x 8 sheets can be used to create arches and other shapes.

Note: If bending a sealed edged product, cut away 1/8″-1/4″ of the sealed edge to prevent wrinkling of the product.

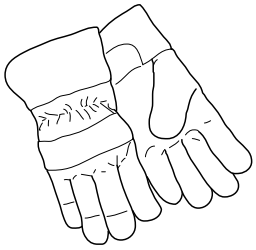


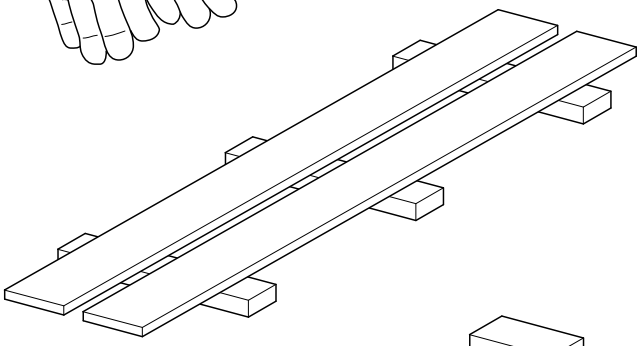
WHEN USING A TURBO HEATER, USE A CORRUGATED PIPE THAT FITS THE OUTPUT OF TURBO HEATER, AND CAP END OF TUBE TO HOLD HEAT.

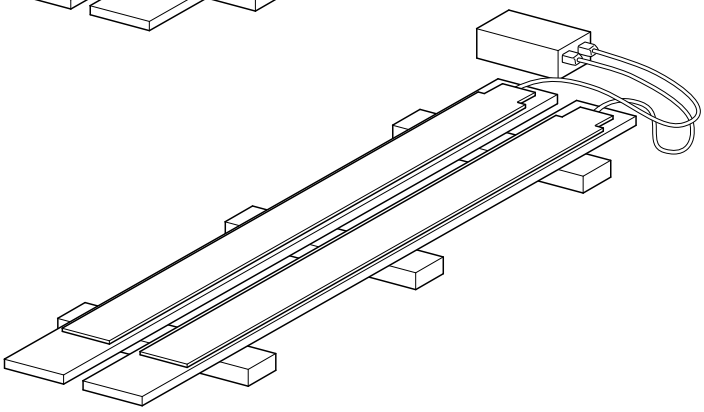
*Heatcon, Inc. in Seattle is an industry proven supplier of heat bending blankets. Call 206-575-0815.

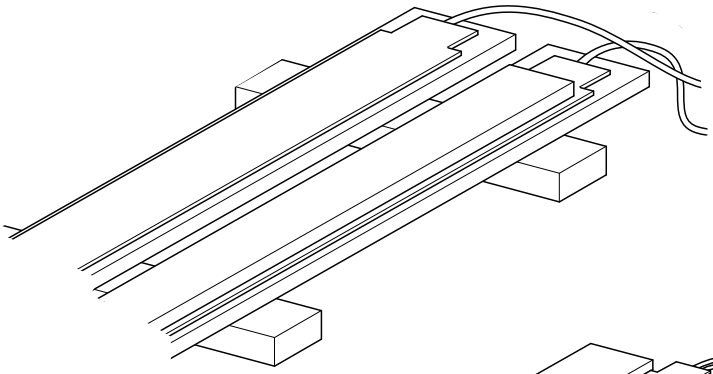
Heat Bending

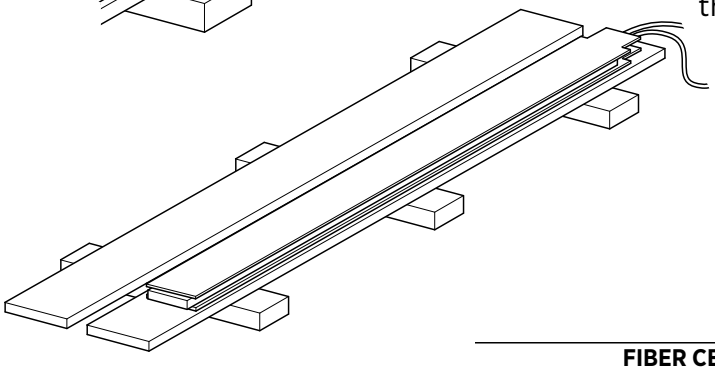
USING A HEAT BLANKET

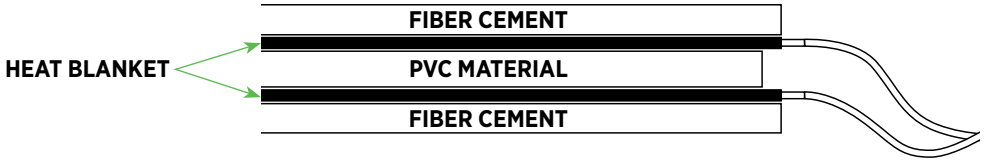












Heat Bending Using a Heat Blanket

Suggested supplies and materials:

- Template of radius to form.
- Heat resistant gloves.
- Heat forming kit.
- 8-10′ sections of fiber cement siding.
- Wood blocks (to raise cement boards).

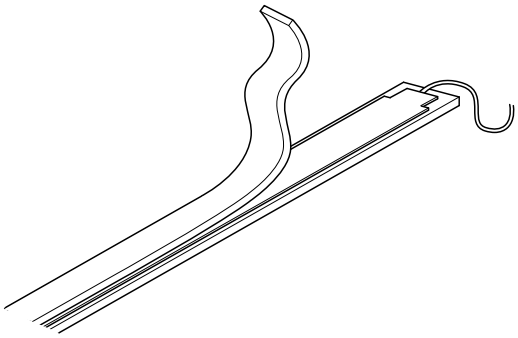
Suggested Procedure

- Place the cement boards on wooden blocks to protect work table from heat damage.
- Lay a heat blanket on each of the cement boards.
- Place the PVC material to be heated on the heat blankets.
- Lay the second heat blanket over the material.
- Lay a piece of cement board on top of the blanket. Be sure the PVC material doesn't shift.
- Follow equipment manufacturer's instructions to heat PVC to pliable stage.

Note: Make sure that the heat blankets DO NOT touch each other to prevent damage to the heating blankets.

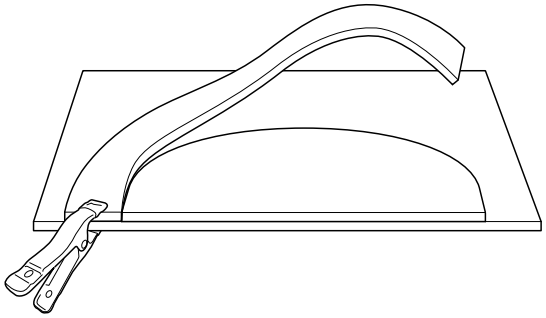
PVC Trim

HEAT BENDING USING A JIG

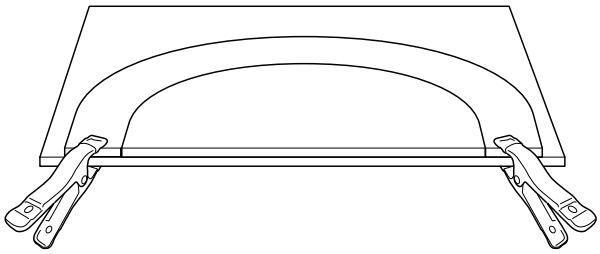


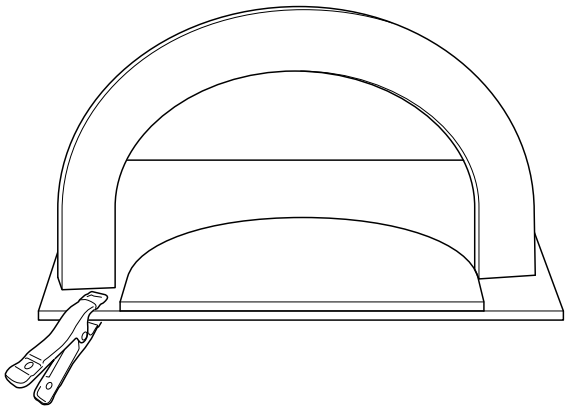
- Whether using heat blanket or other heating method, PVC material should feel like cooked spaghetti. If not, heat and test in two minute increments.
- Clamp one end of the softened material along the jig.

Note: If material wrinkles or isn't pliable enough to form, immediately straighten material and reheat.



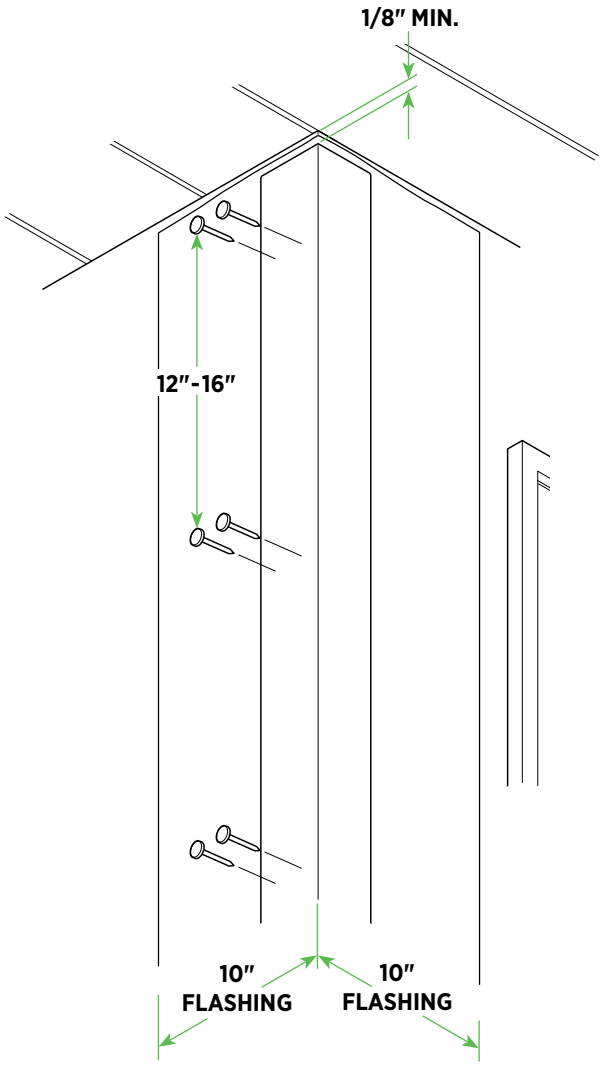
- Work PVC around jig.
- Clamp other end.
- Gently apply pressure by running gloved hands over PVC as it cools, or use a scrap piece of PVC and continue to apply pressure to smooth out the material while cooling.
- After PVC cools, remove clamps and install.





PVC Trim

NON-NOTCHED AND NOTCHED OUTSIDE CORNERS

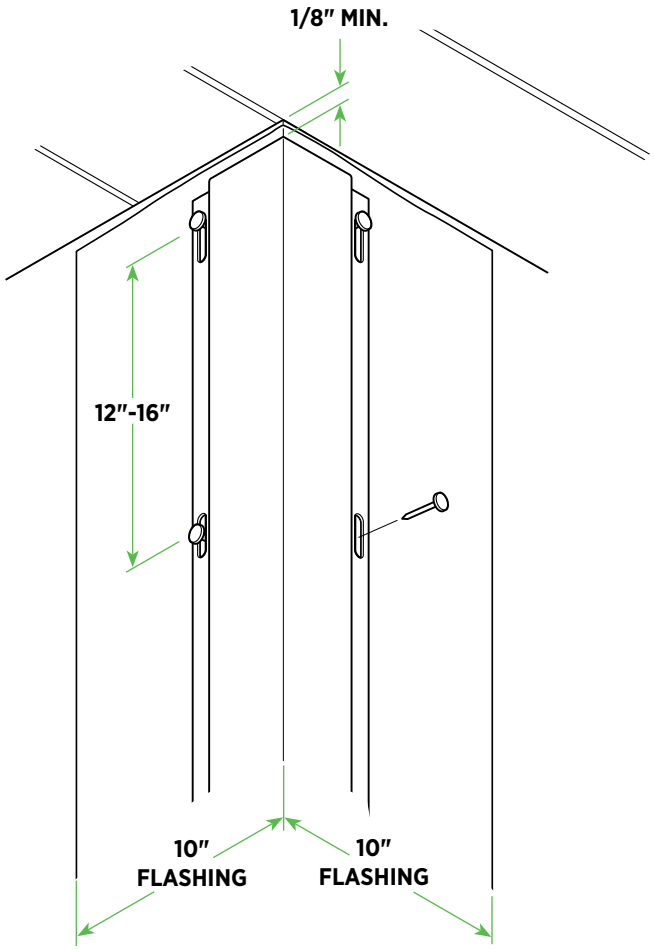


Note: A weather-resistive barrier must be applied before PVC trim is installed.

- Bend a 20" piece of trim coil 90° so you have two 10-inch-wide legs to flash the corners. Cover the entire height lapping the upper piece over the lower piece.
- Place the top of the one-piece corner at least 1/8" from the underside of the eave to allow for expansion. For longer lengths allow 1/4" gap from the eave for every 18' of corner. For vinyl siding, leave the bottom of the corner 3/4" below the starter strip.
- Make sure the post is straight and true before nailing. Do not nail through the J-notch opening.
- All fasteners should be 12"-16" max.

PVC Trim

FLANGED ONE PIECE OUTSIDE CORNERS



Note: These options eliminate the need for exposed fasteners. There are two flanged one piece corner options. One has a solid flange that can be used for any siding type. The second option is not notched and has a flexible hinged nail hem.

To install one-piece corners with attached nail hem flanges:

- Install 20" corner flashing.
- Fasteners must be noncorrosive, at least 2-1/2" long, with at least 5/16" diameter head and 1/8" diameter shaft.
- DO NOT fasten tight. Leave 1/16" between the fastener head and nail flange to allow for expansion and contraction.
- Position the uppermost screw at the top of the nail slot.
- All remaining fasteners must be positioned in the middle of nail slots.
- Install fasteners every 12" to 16".

PVC Trim

FLASHING WINDOW/CORNERS FOR NON-INSULATED VINYL SIDING

Field Forming Flashing for J-notched PVC

Application of J-pocketed PVC and any siding require these application steps be followed:

1. Bend and install the L-flashing.

2. Install the siding.

3. Install the window trim and corners.

These application steps are very important especially with short pieces of siding.

Window Applications

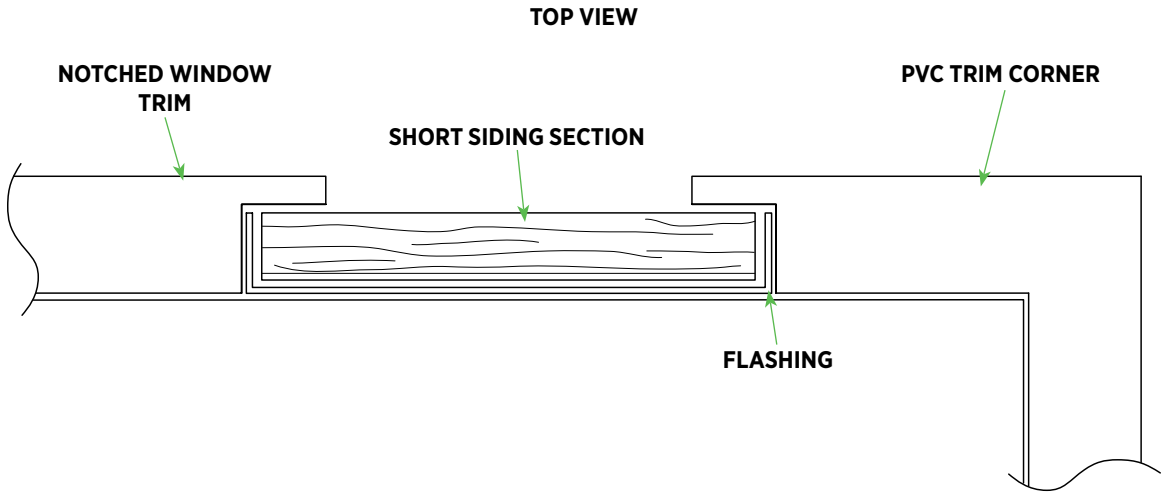
- For the bottom, cut and bend L-shaped flashing measuring 3/4″ x 6″ that extends beyond the window equal to the width of the trim. Measure the distance from the inside of the J-trim to the notch and fasten the flashing that distance below the window. Keep nails a minimum of 2-1/2″ from the opening.

Note: If windows are being installed with the PVC trim follow the window manufacturer's specifications on how to flash windows.

- For the sides, create two similar flashings the full length of the trimmed dimension of the window. Nail each flashing the same distance from the window as determined previously. Cut the 3/4″ “L” from the bottom flashing so the side flashings pass over the bottom flashing.
- Measure, cut and bend a “J-shaped” top trim flashing long enough to overlap the side trim by 6′ on each side. Cut along the back of the top “J” shape flashing so the “J” can bend down over the side “J” leg.
- Install the siding.
- Fasten the trim in place. Do not nail through the J-notch opening.

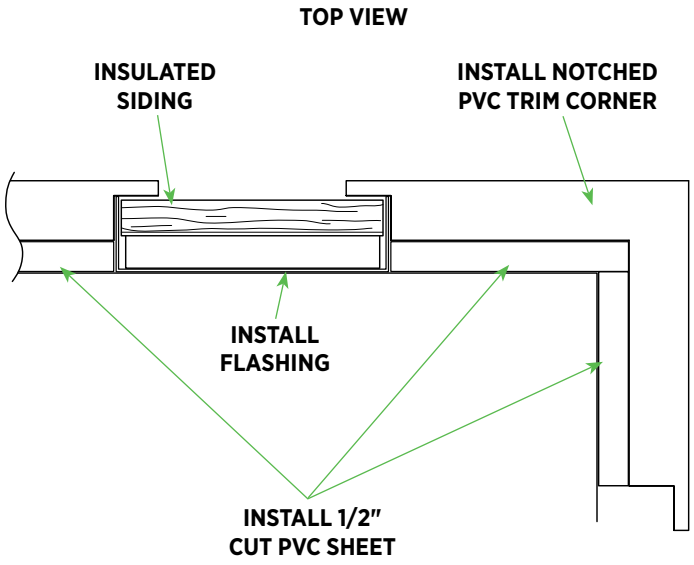
Note: When using vinyl siding, this application should never require additional caulk.

Tip: if you use coil stock matching the siding color the trim can be repainted and the interior will always match the siding color.



PVC Trim

WINDOWS/CORNERS WITH INSULATED VINYL SIDING



Because insulated siding is approximately 1-1/4" thick, you'll need to pack out trim boards to create a pocket for the siding.

- For corner boards and window trim, measure the distance from the inside of the PVC trim piece to the notch then rip enough material from sheets of 1/2" cellular PVC to match one side of the PVC trim piece.
- Fasten the ripped 1/2" thick sections onto the PVC trim piece.
- Follow the L-flashing steps on the previous page, but for insulated siding one leg will be 1-1/4". Use coil stock to create two L-shaped flashings measuring 1-1/4" x 6" x full height of corner.

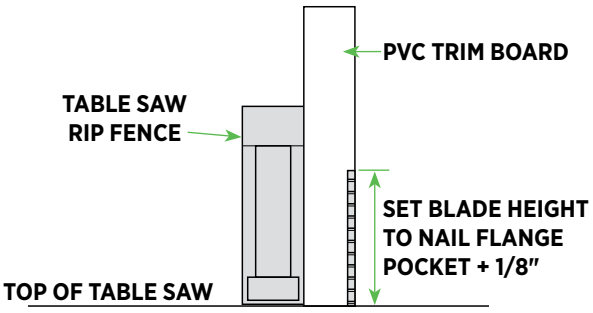
Tip: if you use coil stock matching the siding color the trim can be repainted and the interior will always match the siding color.

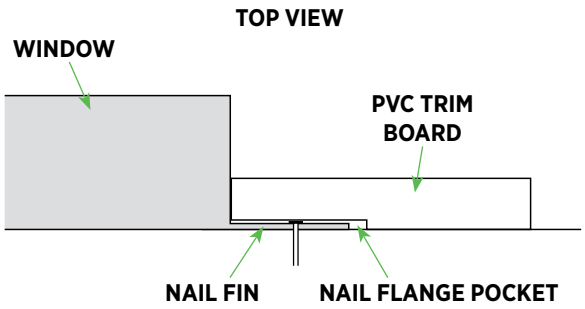
- Position each flashing against the spacers that were applied at the corner.
- Install the siding.
- Apply a continuous bead of sealant (allow curing time before installing) along the entire perimeter of the spacer boards about 1/2" from the edge.
- Fasten the corner in place. DO NOT NAIL through the J-notch opening.

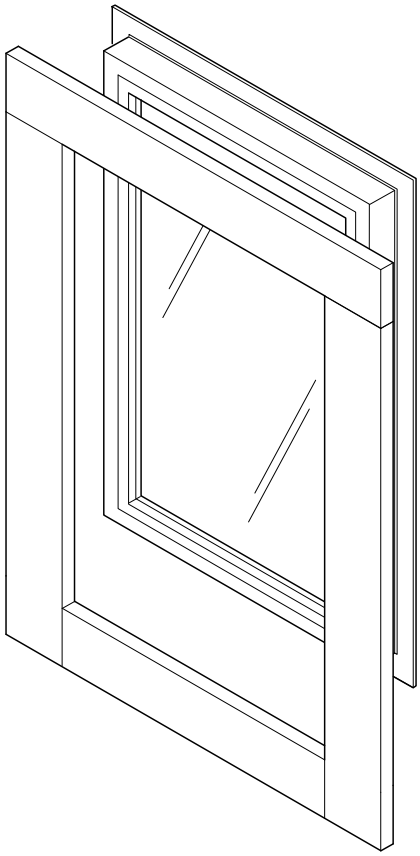
Note: When using vinyl siding, this application should never require additional caulk.

PVC Trim

WINDOW AND DOOR TRIM—WINDOW FLANGES WITH SCREW HEADS







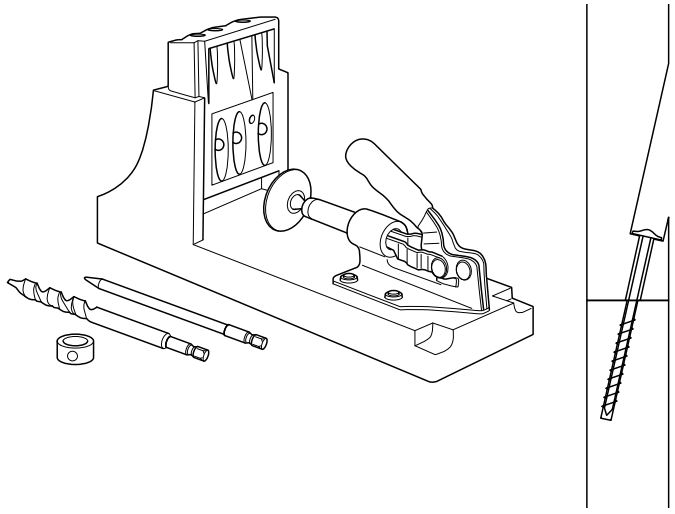
Window and Door Trim

To create a nailing flange pocket with relief cut:

- Measure the width of the nail fin where you plan to apply trim.
- Set the blade depth of table saw approximately 1/8″ higher than the width of the nail fin.
- Set the table saw fence so you are cutting away only the thickness of the saw blade from the trim board.
- Make one cut from the back side of the trim board on table saw.
- Check to be sure the trim board will lay flat against the wall and that all joints are tight prior to fastening. If the boards do not lay flat against the wall or the joints are not tight, repeat above steps.

PVC Trim

PICTURE FRAMING WINDOWS



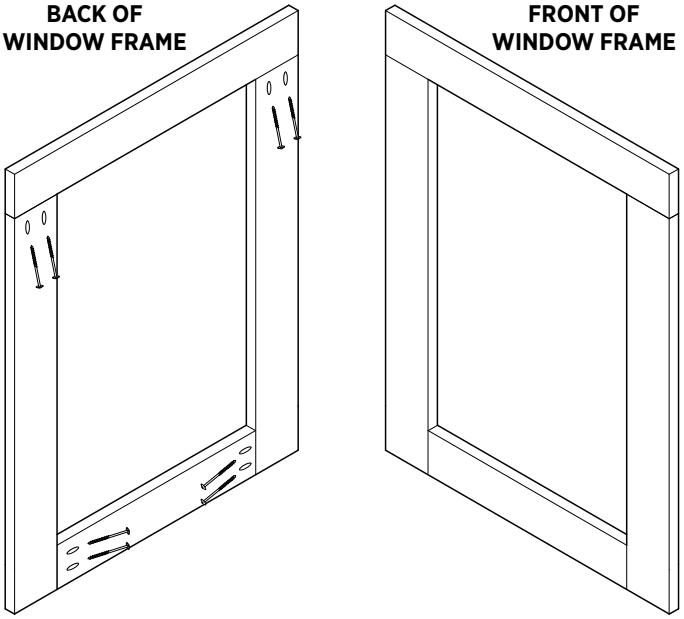
Window and Door Tip: You may wish to consider the use a Kreg jig to create a better joint.

Note: PVC trim is intended to be aesthetic and not part of the water resistant system.

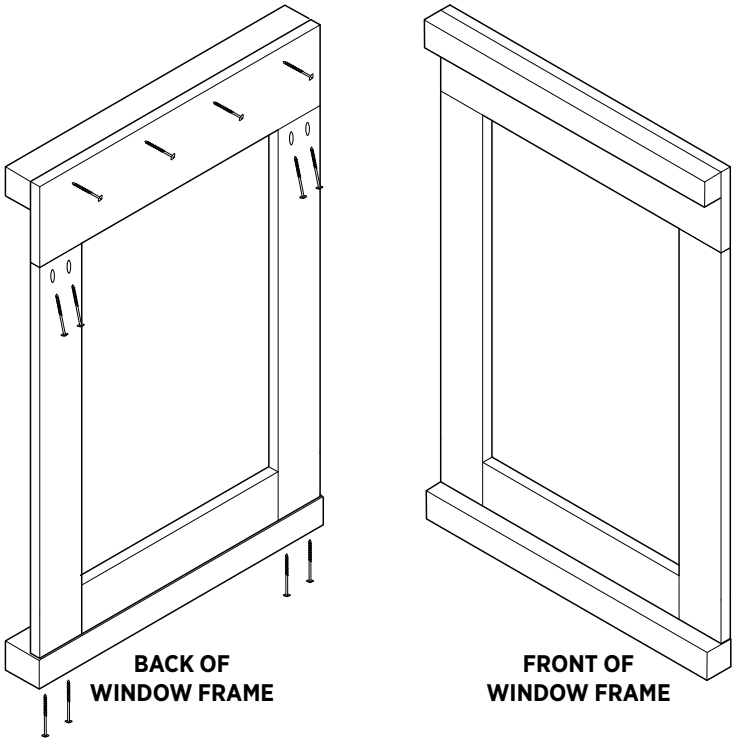
- Flash window.
- Assemble PVC window frame before installing around window. Joints should be glued and screwed together.

Tip: Use pocket screws where possible. Use only weather-resistive screws.

- Measure the width and height of the window and add 1/8" to both measurements. This will leave 1/16" space around the window to allow for expansion and contraction.
- Attach frame to wall using industry-proven fasteners.

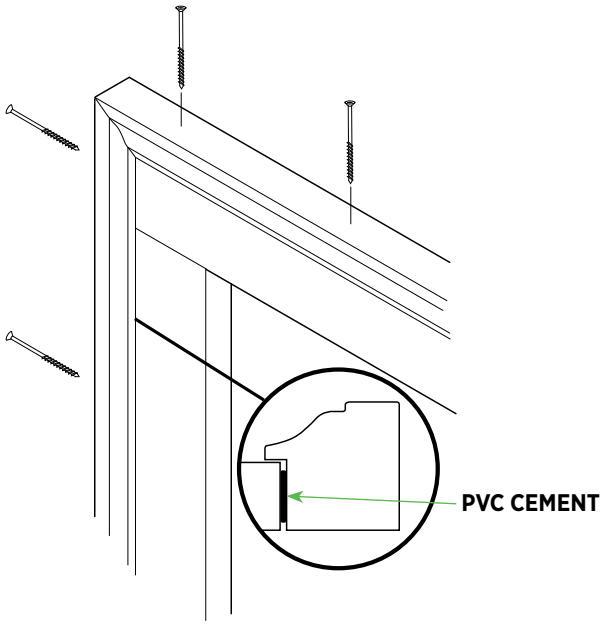


Adding Crown and Sill/Sub Nose



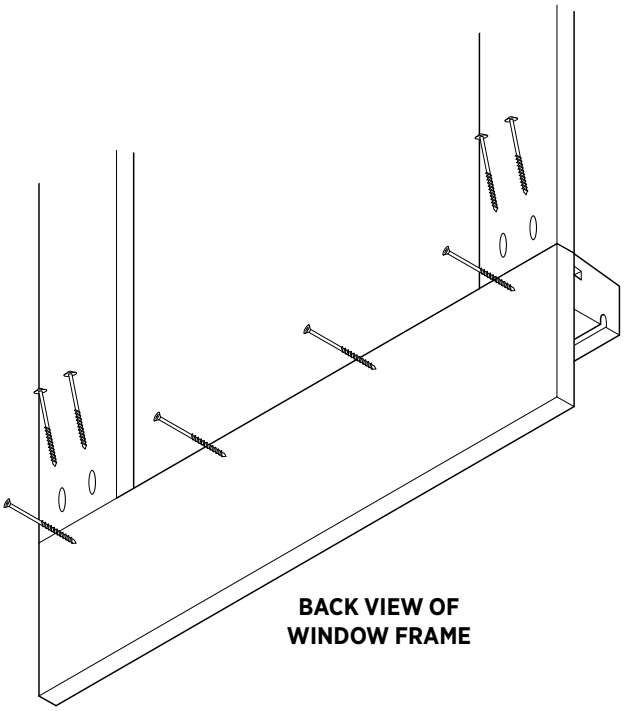
PVC Trim

PICTURE FRAMING WINDOWS — SPECIAL APPLICATIONS



Installing Inside Backband

- Run a bead of PVC cement along side edge of window trim.
- Install backband and fasten using the industry-proven fasteners.



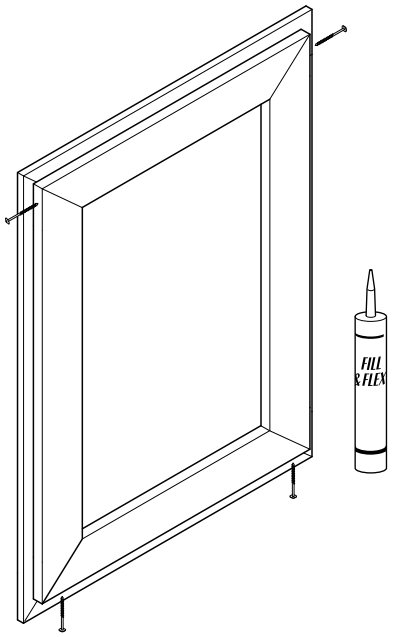
Installing an Apron

- Run a bead of PVC cement on apron where sill will be placed.
- Fasten using industry-proven fasteners.
- Use a Kreg jig for attaching these pieces.

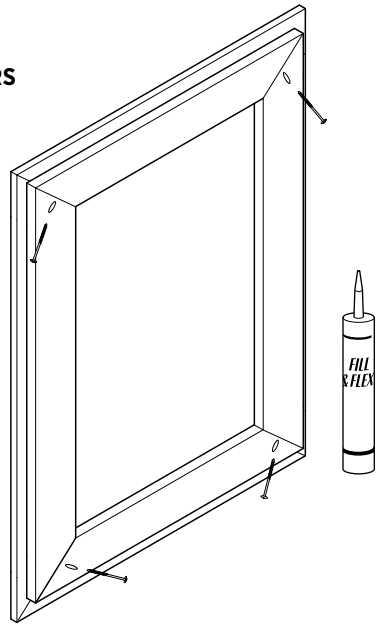
PVC Trim

PICTURE FRAMING WINDOWS — SPECIAL APPLICATIONS

METHODS FOR ASSEMBLING CONCEAL TRIM



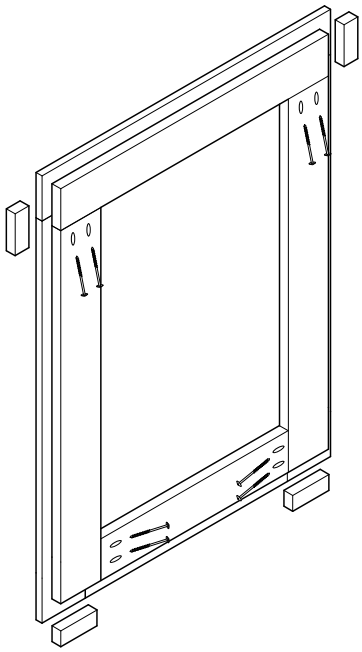
SCREWS/MITERED CORNERS



POCKET SCREWS/MITERED CORNERS

Conceal Window Trim Assembly

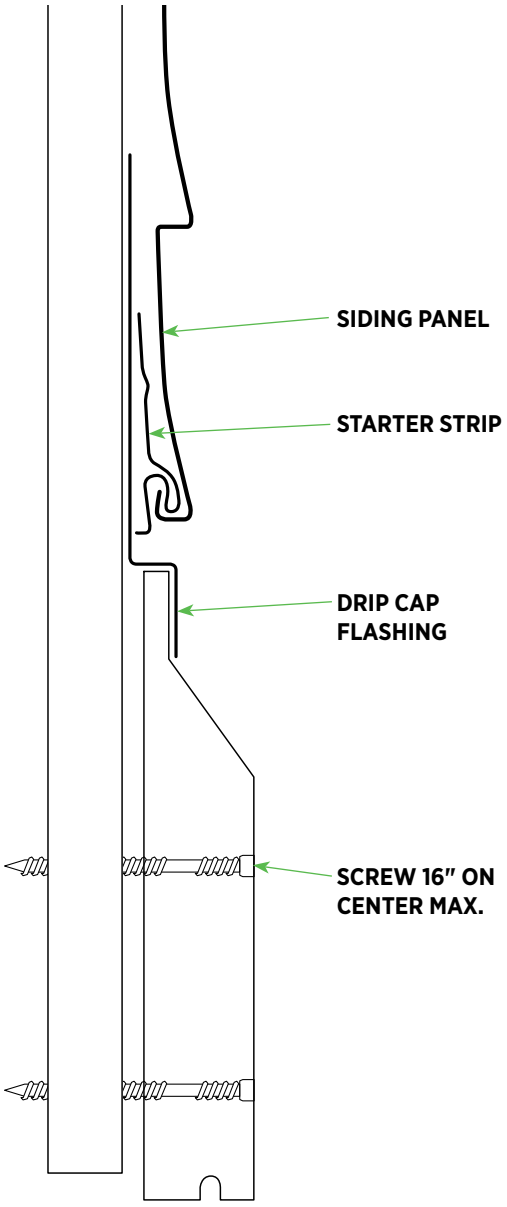
- Make sure to leave 1/16″ space on all four sides of the window for expansion and contraction of the trim.
- Assemble trim frames before installing on wall.
- For aesthetic purposes, use adhesive on all miters and squared joints around windows and doors.
- When square cutting joints, end pieces to create a continuous channel.
- When securing frame to the wall, fasteners must not penetrate through the siding pocket.
- Install head flashing inside the pocket of the header trim.



POCKET SCREWS/SQUARE CORNERS

PVC Trim

SKIRT OR FRIEZE BOARDS WITH SIDING



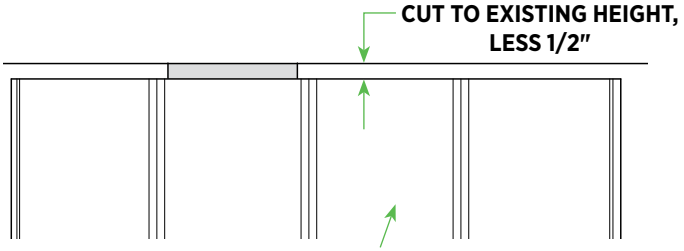
Skirt or frieze boards can make an attractive band at the bottom of walls with the application of any siding panels. Use a flat PVC trim of any size as a frieze option.

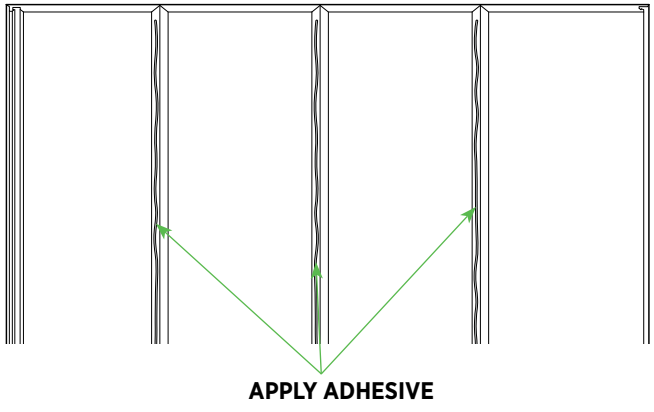
- Install skirt/frieze board where needed. Attach no more than every 16" on center. Use the board width chart for vertical fastening requirements based on width of board being used.
- Install a drip cap flashing with a minimum of 4" leg up the wall (and integrated into the weather-resistive barrier). Form the drip cap so it covers the front face of the skirt or frieze board as shown.
- Install the required starter strip onto the drip cap face. If the starter strip is a J-Channel, leave a 1/8" gap. If the starter accessory is a starter strip leave a 3/8" gap.
- Install the siding onto the starter strip. If a drip cap is used, it should be attached to skirt board with recommended adhesive.

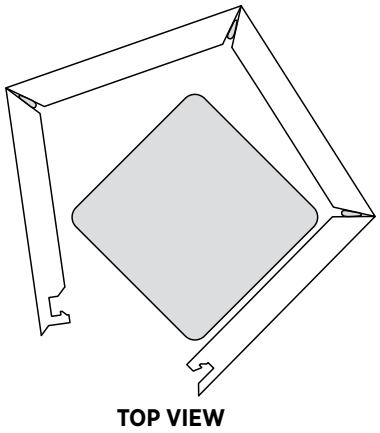
Note: If using fiber cement siding, follow that manufacturer's requirements.

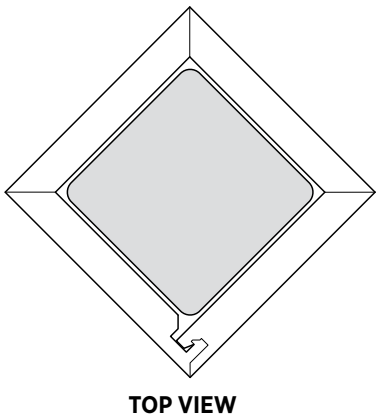
PVC Trim

POST WRAPS





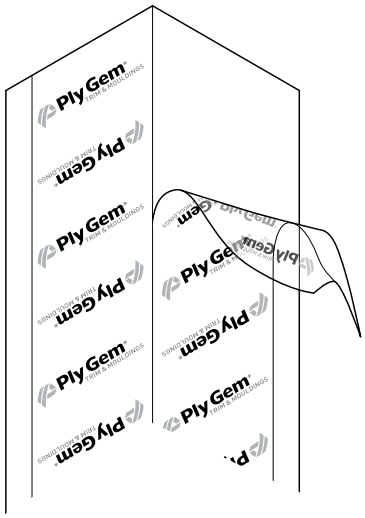




The four-piece design snaps together, requires minimal adhesive and easily fits around existing posts. These post wraps come with a protective peal-away film. Remove this film and corner tape before fastening, painting or adding molding.

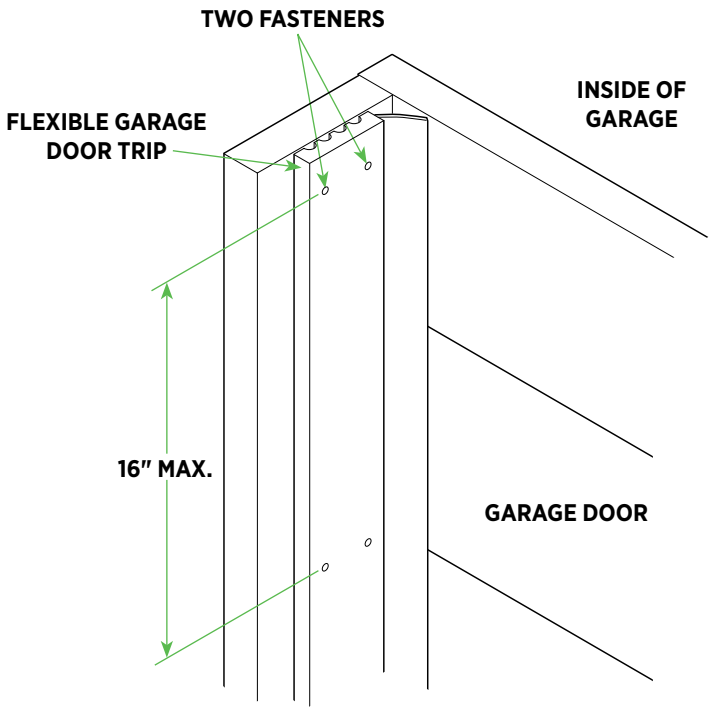
- Measure the installation site floor to ceiling, then cut the four pieces 1/2" shorter than the full height.
- Apply a bead of adhesive to the length of one side of each of the three inside angled folding surfaces.
- Snap the four pieces together around the post.
- Shim the assembled cover 1/4" off the floor and fasten each section to the post using two fasteners within 3" of the top and bottom of the assembly.
- Apply accents and mouldings as desired for added appeal.

Note: Ply Gem pre-made mould trim kits can be used. The use of these kits will allow the installer to piece together each piece of decorative trim that is pre-notched and mitered with attachment biscuits in the pack. Glue the mouldings and trim nail to secure.

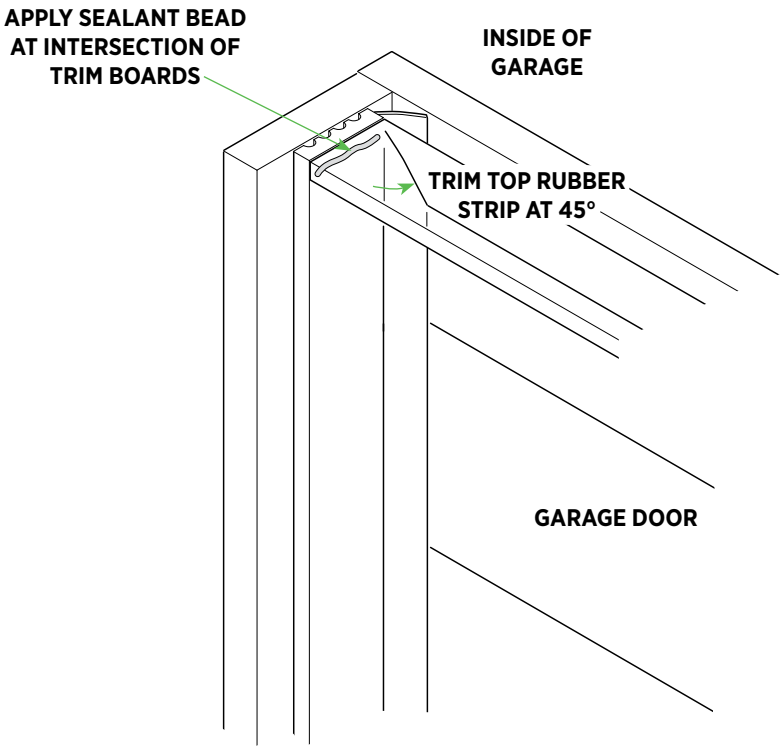


PVC Trim

GARAGE DOOR TRIM



Note: Apply 2 fasteners per width of product, fastening no more than 16" vertically as well.



Industry Terminology

GLOSSARY

Actual Dimensions — The exact measurement of a piece of trim, moulding, or trim board.

Band Board — A decorative piece of horizontal trim placed between two floors along the rim joist.

Beadboard — A flat panel or sheet good routed with a beaded detail at regular intervals. Typically used for wainscoting and porch ceiling applications.

Beaded — A narrow, half-round molding at the base of a lap siding panel.

Casing — Molding of various widths used to trim door and window openings at the jambs; also referred to as lineal, window, or door surround.

Countersink — To secure a fastener to sit flush with or below the surface of the surrounding material.

Course — A row of siding panels running the width of the wall.

Jig — Material in the radius needed; used to shape PVC building products.

Dormer — A gabled extension built out from a sloping roof to accommodate a vertical window.

Drip Cap — A horizontal flashing placed over exterior door or window frames to divert rainwater.

Eave — The overhang of a pitched roof at the bottom edge, usually consisting of a fascia board, a soffit for a closed cornice, and appropriate moldings.

Expansion — Commonly refers to building products expanding as outside temperature changes.

Expansion and Contraction — Commonly refers to construction material expanding when heated up or contracting when cooled, especially as outside temperature changes.

Expansion Joint — An assembly designed to safely absorb the heat-induced expansion and contraction of various construction materials.

Exposure — The width of the exposed face of each panel of siding; also referred to as reveal.

Face — The side of the siding, trim, or soffit that is exposed to view after the product has been installed.

Fascia — A flat, horizontal band that covers the rafter tails and runs along the bottom edge of the roof line.

Fastener — Generic term for nails, screws, bolts, and metal hardware.

Flashing — A thin, impervious material, usually metal, placed around openings to prevent water penetration or to direct the flow of water over the cladding.

Frieze — The horizontal trim board connecting the top of the siding with the soffit.

Furring/Furring Strip — Long, thin strips of wood or other materials used to build out the fastening surface of a wall; commonly used to correct imperfections in wall surfaces, to establish a rain screen, or to re-establish a structural fastening surface on the exterior of nonstructural products such as foam insulation.

Gable — The triangle formed on the side or the front of a building by a sloping roof.

Industry Terminology

GLOSSARY

Hot-dip Galvanized — The process of dipping metal into molten zinc to apply a protective coating that prevents corrosion; hot-dipped galvanized iron and steel are corrosion resistant.

IBC — International Building Code

IRC — International Residential Code

Light Reflecting Value (LRV) — A measure of the amount of light that is reflected off a surface. Generally, the higher the LRV, the lighter the color.

Lineal — Molding of various widths used to trim door and window openings at the jambs; also referred to as casing, window, or door surround.

Mechanically Fasten — The joining of two or more materials using fasteners such as nails, or screws.

Miter Cut — A beveled cut, usually 45°, made at the end of a piece of molding or board that is used to form a mitered joint.

Nominal Dimensions — The identifying dimensions of a piece of lumber; for example, a 2 x 4 is the name for a rough-cut piece of about 2 in. x 4 in.; nominal dimensions are usually larger than actual dimensions.

Pneumatic Nailer — A nail gun or nailer is a type of tool used to drive nails into wood or other material. It is usually driven by compressed air.

On Center (O.C.) — A measurement of the distance between the centers of two repeating members in a structure, usually studs.

OSB — Oriented Strand Board.

Panel Projection — The distance that the bottom edge of the siding projects from the wall.

Profile — The contour or outline of a trim piece as viewed from the side.

PVC Trim — Trim stock made of polyvinyl chloride.

Rake — Trim members of a gable roof that run parallel to the roof slope from the eave to the ridge.

Recommended Span — The distance a building material can safely traverse without being supported underneath.

Rigid Sheathing — Plywood, OSB, or foam sheathing.

Rim Joist — The board that the rest of the joists are nailed to. It runs the entire perimeter of the house.

Rip Cut — A cut made lengthwise on a piece of siding or trim.

Scarf Joint — A scarf joint (also known as a scarph joint) is a method of joining two members end to end. The scarf joint is used when the material being joined is not available in the length required.

Sheathing — Sheets of plywood, exterior gypsum board, or other material nailed to the outside face of studs as a base for exterior siding.

Shim — A building material, usually wood used to even a surface.

Skirtboard — Treated lumber or PVC trim board installed horizontally; used as a transition from foundation to siding or as a starter strip.

Industry Terminology

GLOSSARY

Soffit — The underside of an overhanging eave.

Square — Unit of measure for siding; equal to 100 square feet of exposure (e.g. a 10-ft. by 10-ft. wall section = 100 square feet = 1 Square).

Span — The distance between supports.

Starter Strip — An accessory used to engage the locking leg of the first course of siding.

Structural Member — A support that is a constituent part of any structure or building.

Structural Sheathing — The layer of boards, wood or fiber materials applied to the outer studs, joists, and rafters of a building to strengthen the structure and serve as a base for an exterior cladding.

Substrate — A layer of material applied over the studs at the exterior walls of a building.

Weathering — Photochemical degradation of the surface of a material caused by the combination of sunlight (UV radiation), water, and abrasion by wind-blown sand, dirt, or other particulates. In wood and other building materials, weathering is characterized by color change.

Excessive weathering of unfinished wood can cause checking, cracking, and splintering.

Weather-Resistive Barrier — A building membrane that protects building materials from exterior wind and water penetration.

Note: The actual measurements are the final size. If your project calls for precise measurements, be sure to check with manufacturer for guidance:

Nominal Size	Actual Size
1×2	3/4″ × 1-1/2″
1×3	3/4″ × 2-1/2″
1×4	3/4″ × 3-1/2″
1×6	3/4″ × 5-1/2″
1×8	3/4″ × 7-1/4″
1×10	3/4″ × 9-1/4″
1×12	3/4″ × 11-1/4″
2×2	1-1/2″ × 1-1/2″
2×3	1-1/2″ × 2-1/2″
2×4	1-1/2″ × 3-1/2″
2×6	1-1/2″ × 5-1/2″
2×8	1-1/2″ × 7-1/4″
2×10	1-1/2″ × 9-1/4″
2×12	1-1/2″ × 11-1/4″
4×4	3-1/2″ × 3-1/2″
4×6	3-1/2″ × 5-1/2″
6×6	5-1/2″ × 5-1/2″

NOTES

Steel Siding Installation

*Introduction to steel siding**

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Steel Siding

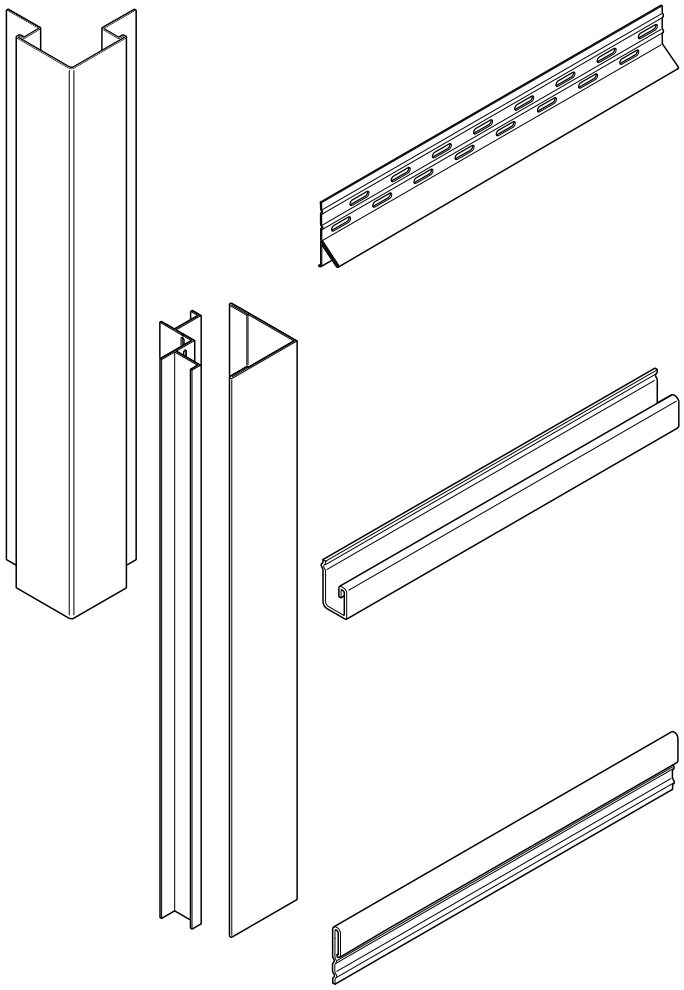
Navigating This Manual

To go directly to your desired section, click on the subject in the Table of Contents.

NOTES

Steel Siding

ACCESSORIES AND TOOLS



Accessories

Steel Starter Strip

The steel starter strip will secure the first row of siding to the wall. Nail 12″ on center.

J-Channel

Used around sides and tops of windows/ doors, at the eaves and gables, and in other areas where siding must be cut or notched. Primarily used to hide cut edges of siding. Nail every 12″.

Outside Corner Posts

Installed at the outside corner of the wall. There are both one piece and two piece corner options. Allows siding to be inserted into it on both sides. Both nail flanges should be nailed 12″ on center.

Utility Trim

Used to cover cuts on siding under windows and at the eave line. Also used for inside corner and at window casing for vertical siding. Nailed 12″ on center.

Tools and Equipment

- Hammer
- Level
- Tape measure
- Steel siding shear (guillotine)
- Utility knife
- Safety goggles
- Steel snips
- Flathead screwdriver
- Caulk gun
- Speed square
- Nose pliers
- Cut resistant gloves
- Nail punch
- Snaplock punch
- Other Items:
  Trim coil, touch up paint, 1-1/2″ to 2-1/2″ galvanized siding nails, 1″ to 1-3/4″ painted steel trim nails.

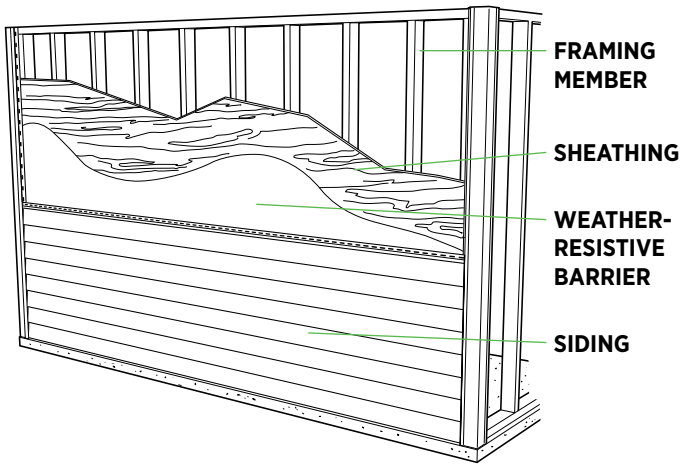
Ladder and Scaffolds

The most common system used by siding professionals are extension ladders and ladder jacks. These are portable and cost effective.

Contact your local OSHA office for specifications on proper scaffolding for your specific need.

Steel Siding

PREPARATION



Sheathing/Backerboard

Siding should be applied over a sheathing that provides a smooth, flat, stable surface. Consult local building codes for sheathing requirements. Siding should never be applied directly to studs without sheathing.

All sheathing materials must have weather-resistive barrier installed before accessories and siding are installed.

Flashing

Flashing, such as aluminum coil or roofing felt, should be applied around windows, doors, other openings, and the intersection of walls and roofing to prevent water infiltration.

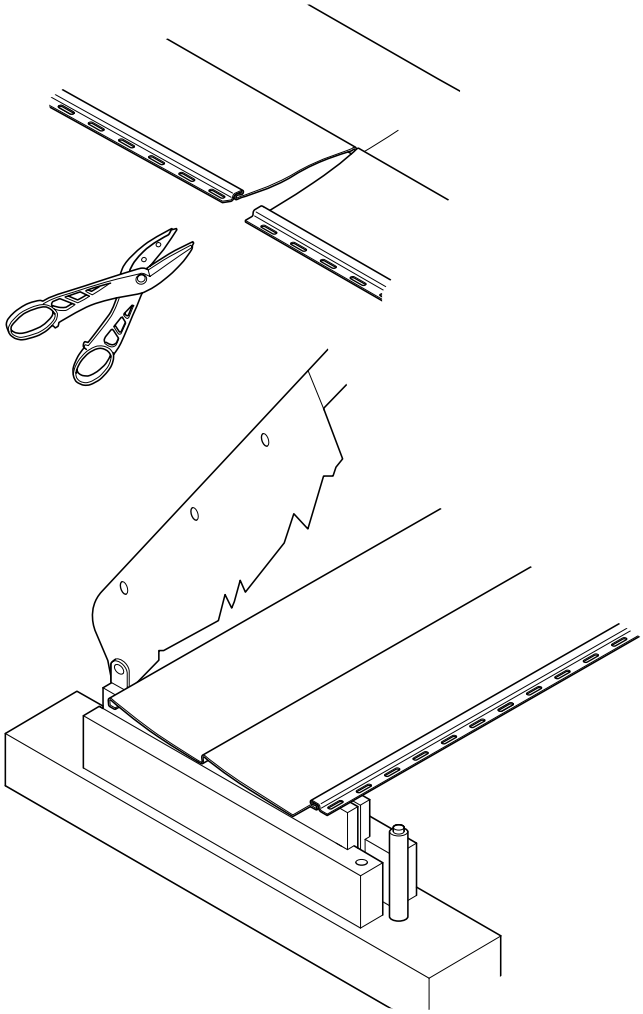
Surface Preparation

Remove and replace any rotted or damaged boards. Check for waves in the wall and shim out if necessary. Nail or screw down any loose boards or trim. Scrape away any old caulking. Pay extra attention to areas that may interfere with the new trim pieces. Apply new caulking where old caulking was removed and ensure all air leaks are sealed. Remove or loosen objects such as downspouts, cables, planters, shutters, and other items that may be in the way of new siding. Always contact a professional to remove meter boxes or power lines.

Note: Best practice is to remove the old siding before installing steel siding.

Steel Siding

CUTTING STEEL SIDING



Cutting Steel Siding

Steel Snips

Steel snips are an effective way of cutting both siding and siding accessories. Start by drawing a straight line on the siding with a speed square. Start with the nail hem edge and work downward. Carefully cut through the middle butt, continuing downward, snip through and around the bottom lock. Use a screwdriver to reopen the top locking edge and bottom locking edge that may have pinched together when cut.

Steel Siding Shear (Guillotine)

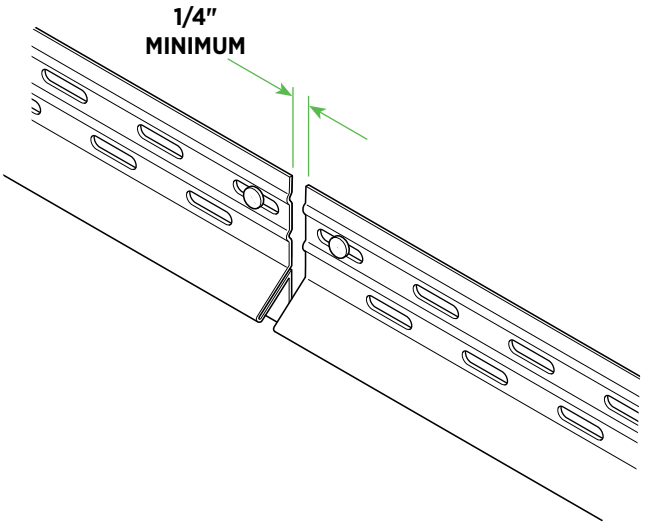
To achieve straight cuts that do not damage the coating, use a steel siding shear. These tools have blades designed for a variety of steel siding profiles.

Circular Saw

A low RPM circular saw can be used. Contact blade manufacturer for appropriate blade.

Accessory Installation

INSTALLING STARTER STRIP



Positioning Starter Strip

Before steel siding can be installed, a number of accessories must be installed, including starter strip, corner posts, window flashing, trim, and J-Channel.

Note: The starter strip at the bottom of the wall must be level.

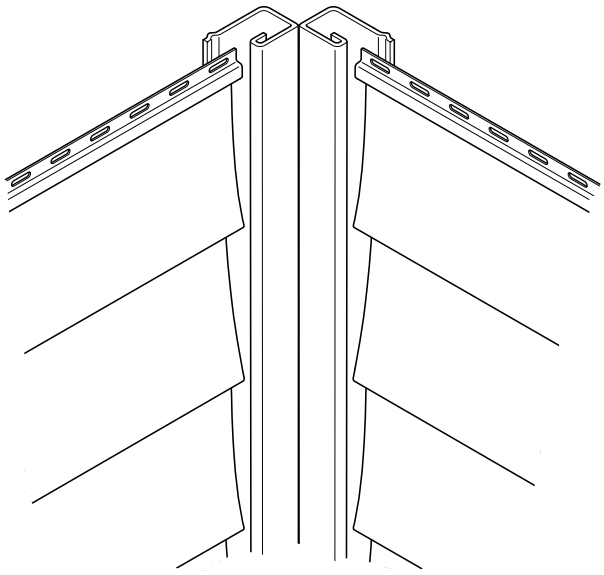
- Locate starting chalkline so it represents the top of the starter strip.
- Chalklines are normally established from lowest corner of house. In situations where ground at corner of the house is not level, chalklines must be measured from soffit to assure a uniform panel at top of walls.
- To attach a chalkline, go to the next corner and pull the line taut. Snap the chalkline and repeat procedure around entire house.
- Use chalkline as guide, install top edge of starter strip along the chalkline, and nail every 12". Allow space for accessories (corner posts, J-Channel, etc).
- Keep the ends of the starter strips at least 1/4" apart to allow for expansion.
- Nail in center of starter strip nail slots.
- Starter strip fasteners should be driven just flush in the center of the slots to take out starter looseness but should not be overdriven to where it indents the starter.

Alternative Starting Methods

Starter strip may not work in all situations. J-Channel may work better in starting rows of siding, especially over decks, concrete porches, brick sills, retaining walls, garage doors, and other instances.

Accessory Installation

INSIDE AND OUTSIDE CORNERS

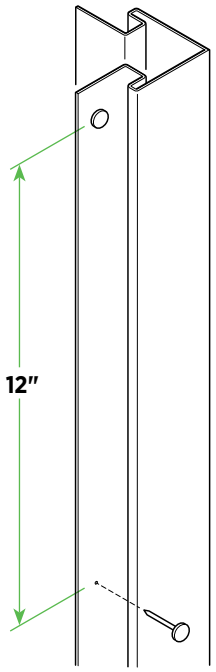


Inside Corners

Two pieces of J-Channel must be used for inside corner. Install J-Channel along full height of corner. J-Channel should run from soffit area and extend down 1/2″ past bottom of starter strip. If an additional piece is needed to reach eave or gable trim, overlap bottom piece with top piece. Nail J-Channel flanges every 12″. Flanges should be nailed securely, but do not overdrive nails as this may cause distortion to occur in the J-Channel.

Outside Corner Post

To close off the bottom of the outside corner post, create a cap by cutting away the J portion of the corner, then bend the remaining flaps over so that they close the bottom of the corner. Top corners may be capped using the same method.

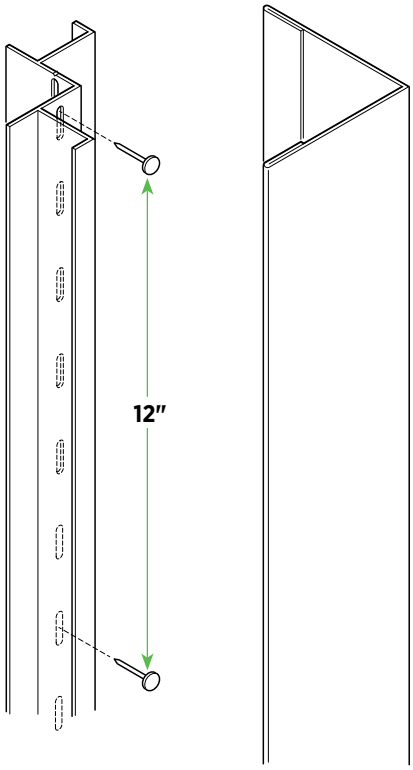


One-Piece Outside Corner Post:

The corner post should run from the soffit area and extend down 1/2″ past the bottom of the starter strip. If a longer corner post is needed to reach the desired height, overlap the bottom corner post with the top corner post. Nail every 12″ on both nail flanges. To prevent distortion, avoid driving nails too tight. Install corners square to the wall to improve the final look.

Accessory Installation

OUTSIDE CORNERS



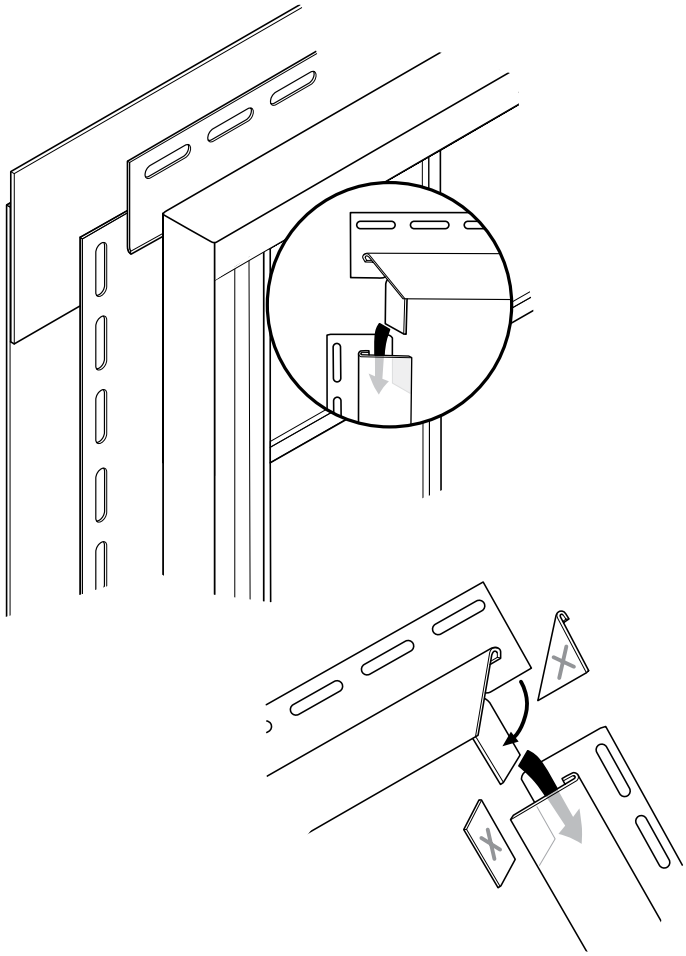
Two-Piece Outside Corner Post:

Set the base piece onto the existing corner. Make sure to square the corner base before attaching. The base should be attached so it sits about 1/2" below the adjacent starter strip. Make sure to nail no greater than 12" on center into the nail slots in the base on both sides. If the height of the corner requires 2 corner posts, then make sure to overlap the top base and cap over the lower pieces (overlap both pieces by 1/2"). Do not drive nails too tight. Install the siding into both sides of the base making sure to leave a 1/8" gap into the base.

After the siding is installed, attach one full side of the cap onto the base and snap the other side of the cap onto the base. Make sure that the cap matches the location of the base.

Accessory Installation

INSTALLING J-CHANNEL



J-Channel is designed to receive the siding panels and must be installed around all windows, doors, other large openings, and in the gables and eaves where built-in J-Channel are not present. J-Channel can be installed over old wood casing leaving the old window casing exposed.

- Water diversion can also be accomplished by making a series of notches and tabs in the J-Channel.
- Install J-Channel in this order: bottom, sides, then top.
- Miter J-Channel at corners to prevent gaps and allow for proper water drainage.

Window & Door Trim Options

As an alternative to J-Channel and standard corner post, cellular PVC trim can be used to give a bolder finish to trim areas.

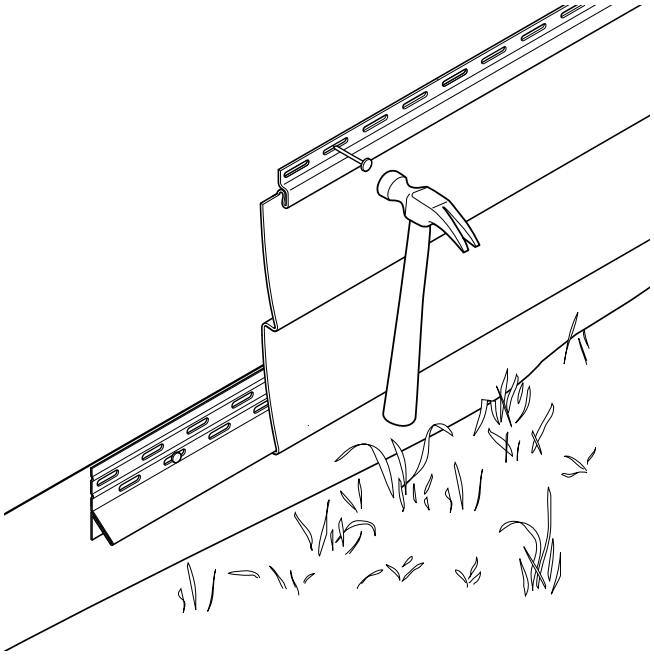
Additional Tips

To aid in short panel siding installation, it may be helpful to leave J-Channel or corner posts loose around openings. In some cases, you may need to leave J-Channel off to get short pieces in and then slip a J-Channel in after installation. If leaving J-Channel loose, bow out ends and slip into J-Channel then lock together. To secure the J-Channel, nail through the backside of the J-Channel at every other row into the casing that it is butted up against. A nail punch will help in this procedure to set your nails into the wood.

Note: Install flashing per window manufacturer instructions.

Horizontal Panel Installation

IMPORTANT INFORMATION



Note: A 6″ minimum clearance should be given between ground and bottom of the first row. If there is a wave in the wall, use shims to straighten out the wall. This will help to smooth out uneven surfaces.

It is critical to carefully install the first row of siding as it is the basis for installing all remaining panels. Start by installing the starter strip or J-Channel. Begin installing the first panel of siding at the lowest wall area. Snap the bottom panel lock into the bottom edge of the starter strip along its full length. While applying upward pressure, slide the end of the panel into the corner post. The siding locks onto the steel starter strip. To prevent panel distortion, avoid forceful pulling or jamming when nailing. When installing panels at inside and outside corners, make sure that the siding panel butts align at the corners on both walls.

Nails

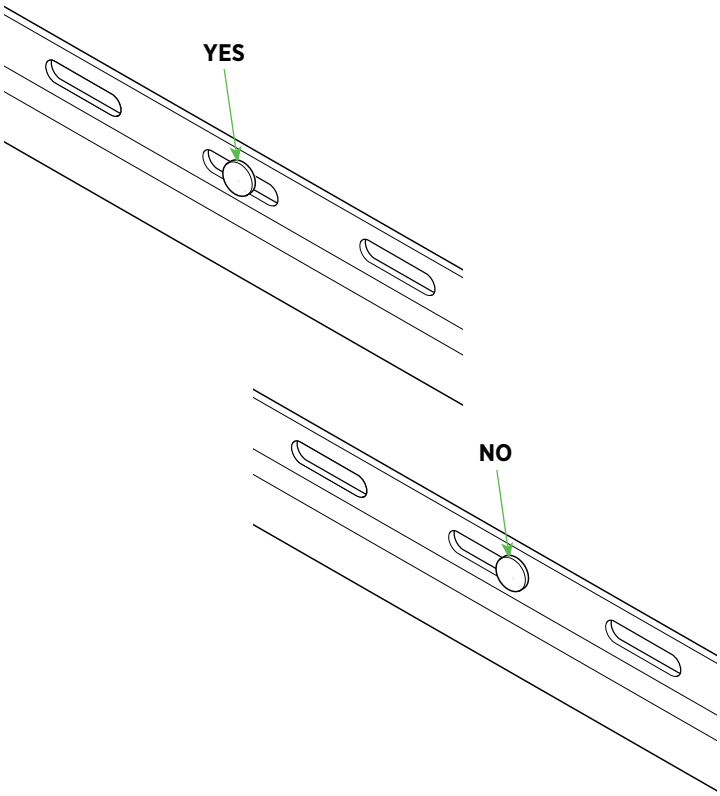
For installation, when attaching through a wood substrate, nails must be long enough to penetrate the studs at least 3/4″. If stud is not available, the nail must extend past the back of the wood sheathing at least 3/4″. Drive the nail straight through the center of the factory-slotted hole, making sure the nail is snug but not tight. This allows the siding to expand and contract as well as prevent any waiving or buckling. Never slant nails up or down as this may cause the siding to buckle. When a trim nail head will be visible, color match it to the siding or accessory colors. Follow these same techniques when using power nailers and make necessary pressure adjustments.

Horizontal Panel Installation

NAIL SPACING

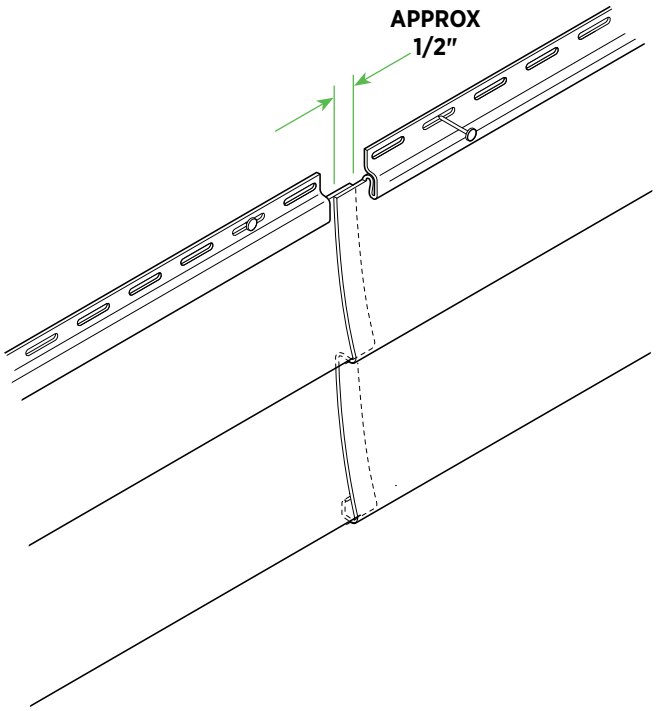
Nail Spacing

Nails must be attached in the middle of all nail slots for horizontal siding. Nails should be placed approximately 16″ on center, no closer than 8″ from the end of the panels. If you encounter uneven spots on the wall, place the nails on each side of the spot and let the panel hang over it, or use shims to level out the wall. This maintains a level appearance.



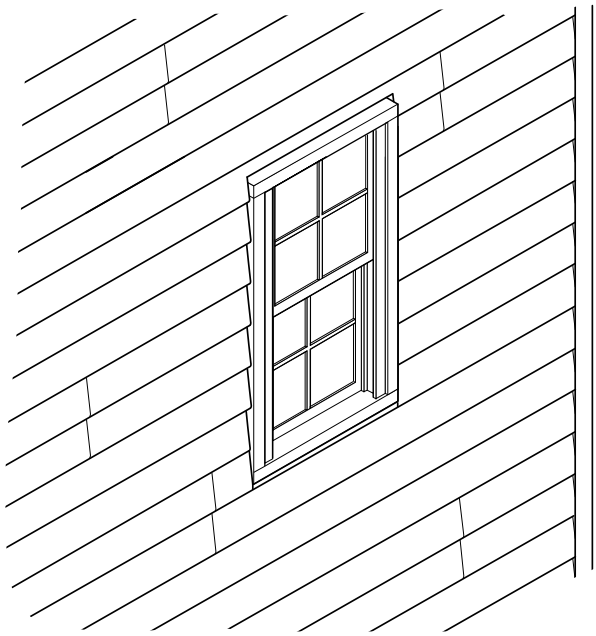
Horizontal Panel Installation

EXPANSION AND CONTRACTION / MINIMIZING SEAMS



Expansion and Contraction

To allow for expansion and contraction, panels should overlap each other by approximately 1/2". A minimal amount of expansion and contraction will occur during hot or cold temperatures. The normal rate of expansion and contraction is 1/16" per 12" panel over a 100°F temperature change. In some regions, panel temperatures can swing 100°F in a single day. Therefore, it is critical to leave a 1/16" gap at the end of the panel into all channels and corner posts to prevent waving and buckling.



Minimizing Seams

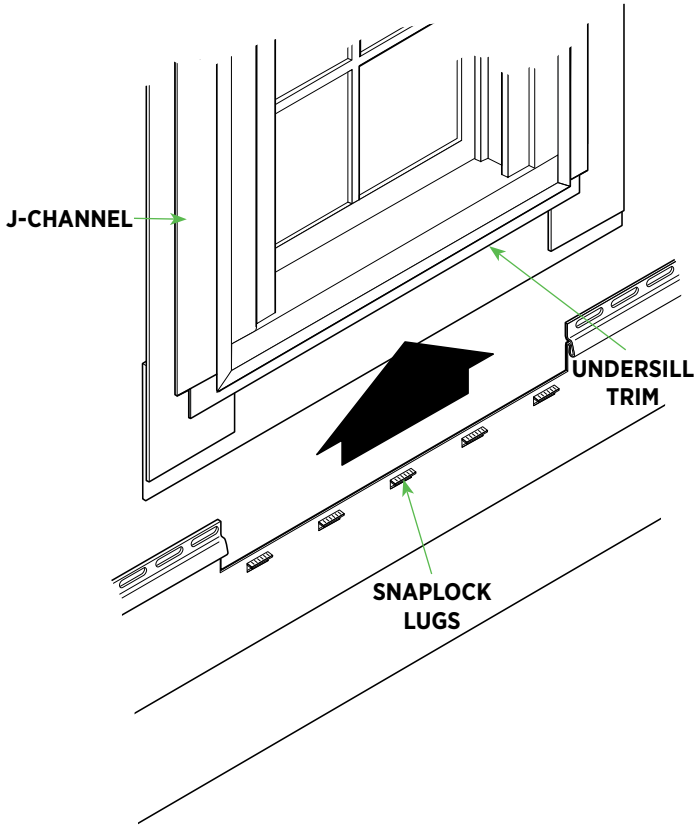
To diminish the visibility of seams, start installing panels away from entrances and work towards them. On the side of the structure, begin at the rear corner and work towards the front to make lapping less noticeable.

Random Seam Staggering

To achieve attractive installation, strategically stagger seams between panels of siding. Plan to have a minimum of 24" distance between seams. For seams that line up vertically, have a minimum of two rows of siding between them. Avoid panel arrangements that call attention to seams such as stair stepping. Instead, use a random pattern.

Horizontal Panel Installation

INTERSECTIONS AT OPENINGS / UNDER SILLS AND EAVES



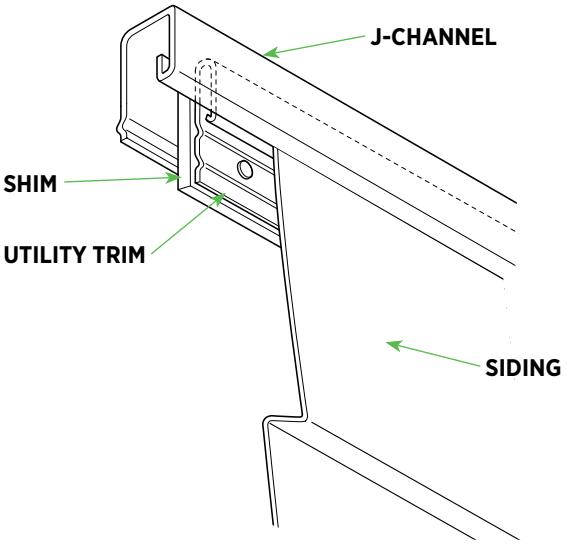
Bottom of Windows

First, determine the width of the window or opening. Position the panel in place against the window. Mark the panel where it needs to be cut on both sides of the opening. Determine how deep to cut the panel by measuring from the nail flange of the previous row of siding to 1/4″ from the bottom of the windowsill. Finally, measure from the bottom and mark the distance to be trimmed onto the panel to be cut. Undersill trim must be used under all windows.

Note: Use a snaplock punch to create lugs spaced 16″ on center and facing outward.

Tops of Doors and Windows

Cut the panels to fit around the top of doors and windows, the same as the bottom of the window. Place the panel and mark the width of the opening. Then measure from the bottom of the nail flange of the previous row of siding to a 1/4″ above the top of the window. Mark the panel to be trimmed with this measured distance from panel bottom.



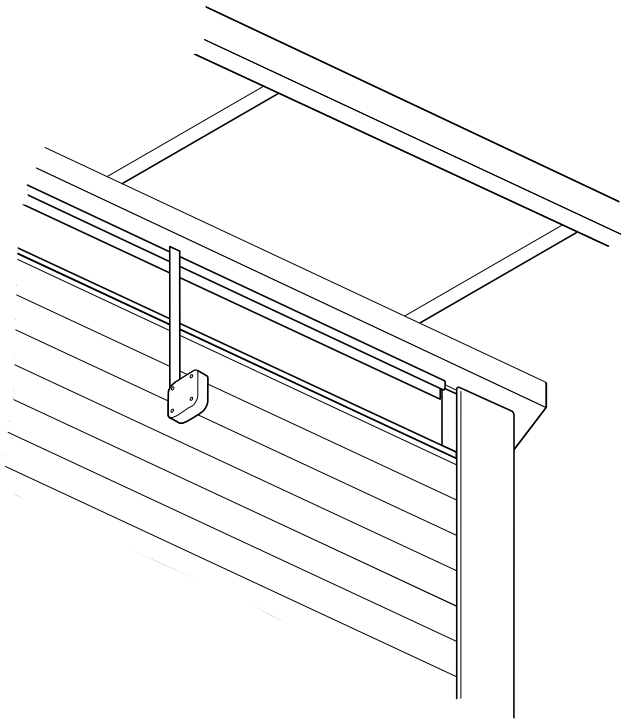
Bottom of Windows and Under Eaves

Utility trim should be used under all openings and for the last cut course in the eave. Shims may be needed to keep the angle of the last course consistent in the eaves. Shims should be nailed behind the utility trim that will be receiving the cut end of the panels. Shims may also be needed with the piece below the windows. Shims can be wood or foam sheathing.

Note: Use a snaplock punch to create lugs spaced 16″ on center and facing outward.

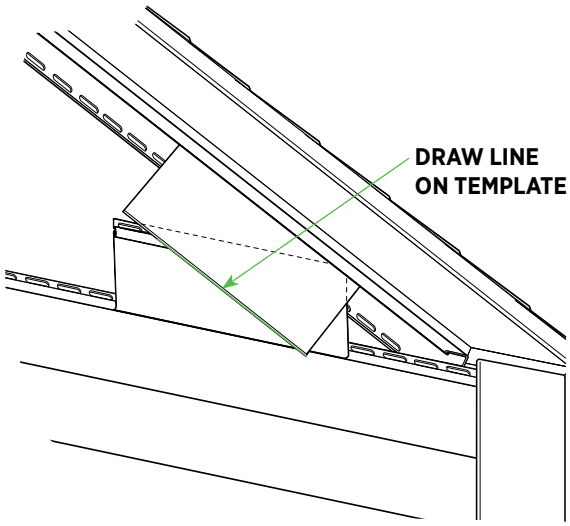
Horizontal Panel Installation

FINAL EAVE COURSE AND GABLE APPLICATIONS



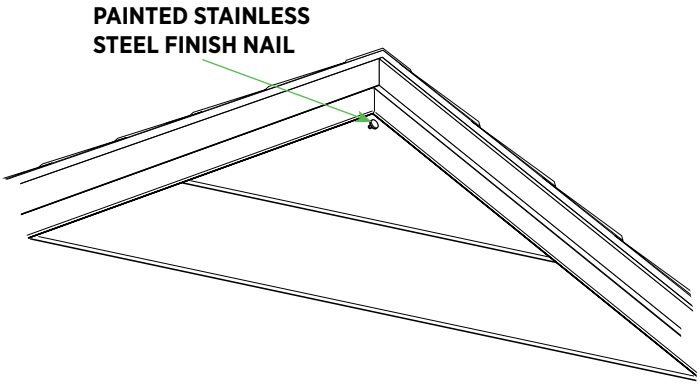
Final Row of Siding in Eaves

The final row of siding under an eave will likely need trimming to fit. To do this, measure from the nail flange of the previous row of siding to 1/4" from the eave. Mark this line on the final panel and cut. Use a snaplock punch to create lugs spaced 16" on center and facing outward. Install J-Channel and a utility trim or just utility trim in the eave area to receive the last cut course of siding. Check to see if shims are needed to keep slope angel correct. If needed, install shims. Install utility trim flush with the eave along the entire length of the wall. The siding can then be inserted into the utility trim and locked into the lower row of siding.



Gable End Measuring and Cutting

Develop a pattern to cut the gable end panels. Start with two small pieces of siding and lock one piece onto the panel below the start of the gable. Hold the other piece into the eave line. At the bottom of the second piece, follow the angle and draw a line on the first piece. Cut along this line. Make angle cuts on siding in gable sidewalls using this pattern. Check your angle often to ensure all gable slopes are straight. Any roof slope can be handled in this manner.

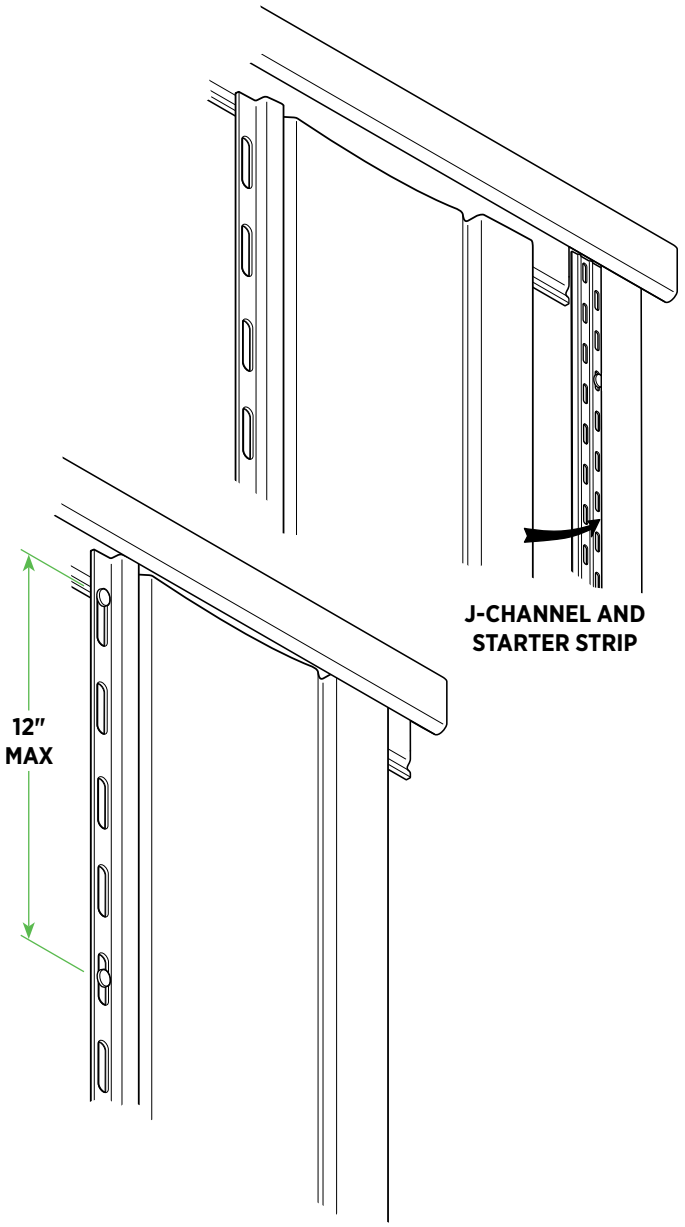


Installing in Gables

First install the angled end of the siding into J-Channel, then lock the butt end of the siding into the lower row of siding. Maintain the proper allowance for expansion and contraction. When you have reached the final row at the peak, nail through the face of the siding with a trim nail that matches siding color.

Vertical Panel Installation

BOARD AND BATTEN



Door and Window Cuts

Cuts are made in the same manner as horizontal siding. To hide any visible cut edges, install utility trim on vertical cuts (side of windows and doors only — not top and bottoms of any openings). Shims may be necessary to build out the panel so it lays flat like the rest of the wall. Nail shims on first, then nail on utility trim. This technique should also be used for the final panels of the outside or inside corner posts.

Accessories and Starter

Install all corner posts and J-Channel. The top and bottom starter accessory is J-Channel. The vertical starter accessory should be J-Channel or corner post with utility trim if you have a cut panel. If starting with full panel, you will use starter strip for the full panel. If partial panel, measure as required.

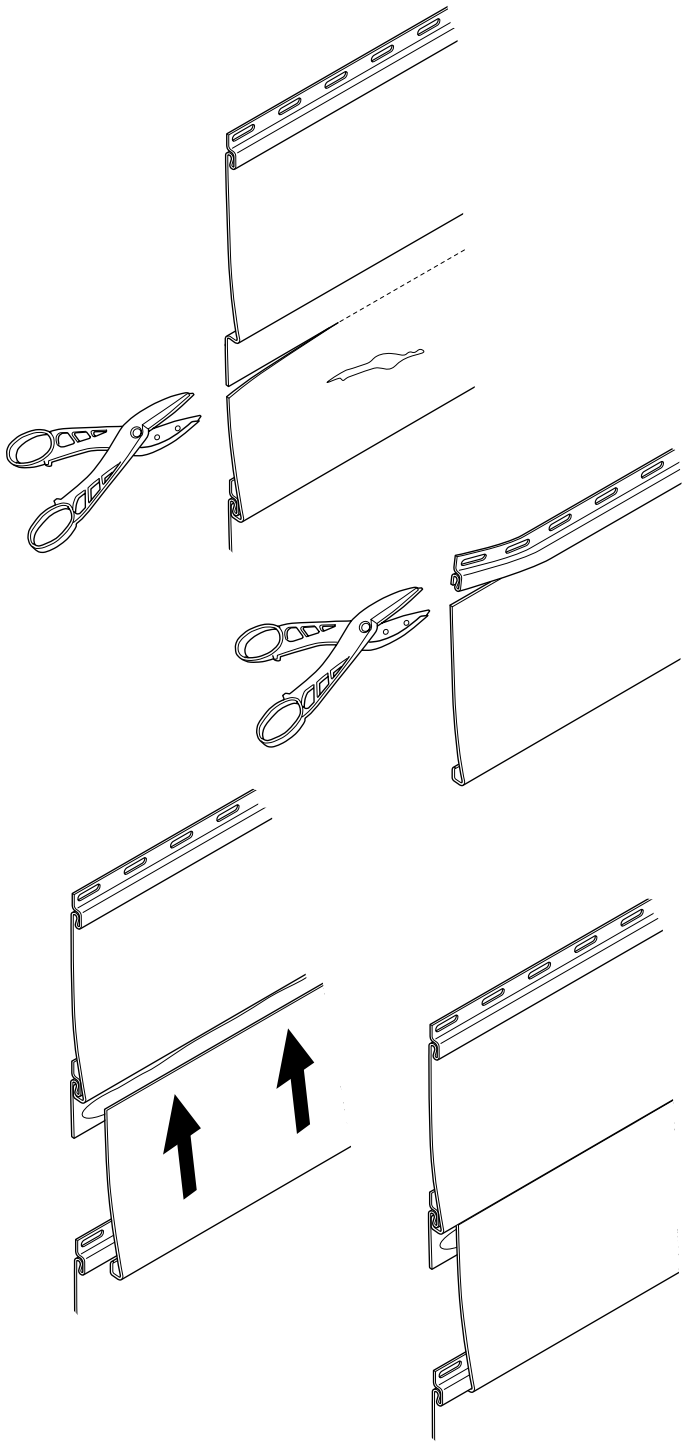
Installing Board and Batten Panels

Board and Batten can be used as an accent or for an entire installation. Most of the techniques used for horizontal siding are the same for Board and Batten. Start wall with full panel or a cut panel (if you are balancing a wall). With partial panels, do not cut the panels tight. Leave a 1/16" gap. When installing more than one course of vertical siding, always install a "Z" flashing between the courses. NEVER overlap panels.

Lock your first piece of Board and Batten into the starter strip or utility trim and nail. The first nail should be placed at the top of the first nail slot. All other nails must be in the center of the nail slots at no greater than 12" on center. Continue to lock and nail the subsequent courses.

Note: An alternative to installing in one direction is to start in the center of the wall and work out from the center. This will result in a more balanced appearance.

Clean up and Repair



Clean Up

Use a soft cloth or sponge with soap and water for clean up. Avoid rubbing too hard as this may cause damage to the surface. Never use harsh abrasives. Mineral spirits may be used sparingly to remove grease or asphalt stains.

Job Site

Reinstall all fixtures and wires removed for the installation. All scrap pieces, siding boxes, nails debris, etc. should be removed daily.

Replacing Damaged Panel

- Cut the damaged panel just above the center. Remove the bottom section of the damaged panel. Do not remove remaining siding panel.
- Remove the top lock of the replacement panel as high under the lock as possible. Remove any burrs or imperfections that may have occurred while cutting. Slip the new piece of siding under the old lock. Open gap with a flat screwdriver if this lock is too tight.
- Apply adhesive caulk along the full length of the old panel 1/2" to 3/4" under the old lock.
- Carefully install the new piece of siding over the top of the caulk and into the old lock. Press the new panel into the caulk ensuring that it makes contact down the full width of siding. Do not nail this panel into place. Use this procedure for all replacements. Nail stainless steel trim nails through weep hole to hold the panel in place.

NOTES

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