

basic installation manual

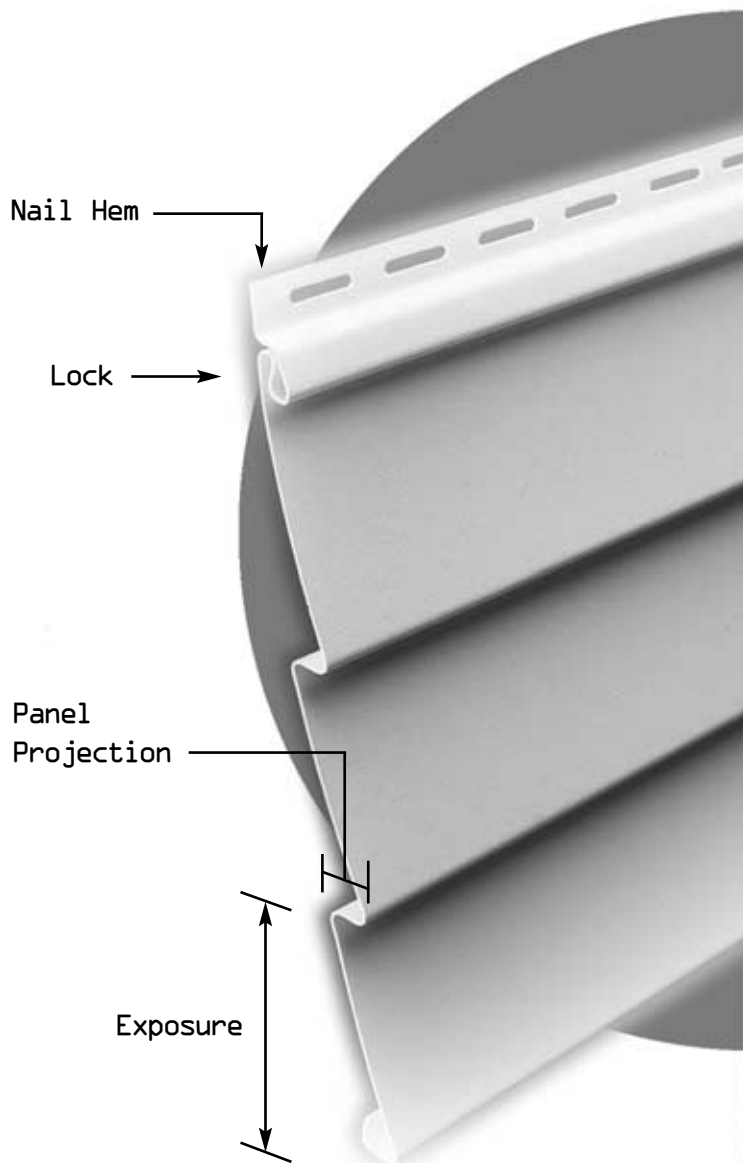


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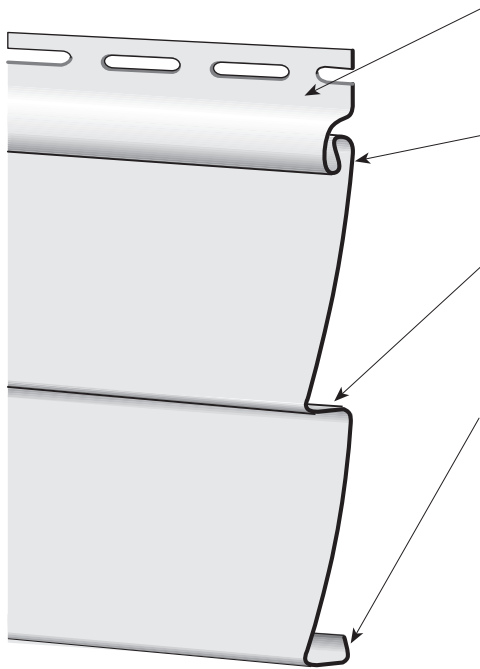
This manual shows the basic guidelines for installation. It is based on ASTM* D4756, the standard practice for installation of vinyl siding and soffit. Additionally, it is recommended that local building codes be reviewed. CertainTeed shall not be responsible if any failure to comply with these instructions results in the siding failing to perform the purpose intended.

*American Society for Testing and Materials

SECTION 1

COMMON BUILDING TERMS

Siding Terminology



Nail Flange

Common to most vinyl siding products (includes horizontal and vertical sidings, soffits and most accessories).

Lock

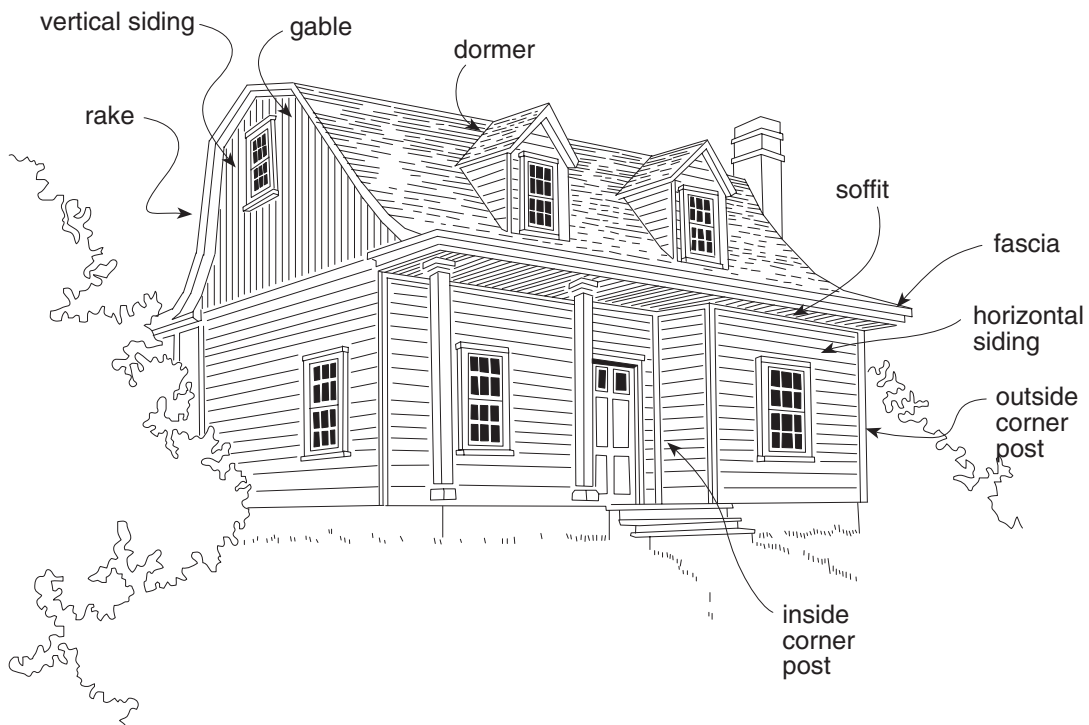
Common to most vinyl siding products (includes horizontal and vertical sidings, soffits and some accessories).

Panel Projection

Common to products with multiple faces (i.e. double 4 or triple 3). It is the dimension required for the proper selection of receiving channels (i.e. J-channels and corner pieces).

Locking Leg

Common to most vinyl siding products (includes horizontal and vertical sidings and soffits and some accessories).



S E C T I O N 2

BASIC INFORMATION AND TOOLS

BASIC RULES OF VINYL SIDING APPLICATION

- 1) Do not nail tightly. Allow a minimum of 1/16" between the back of the nail head and the nailing strip. Nails should be placed approximately 12" to 16" apart. All panels should slide free, horizontally, after nailing.
- 2) Always nail in the center of the slot. **WARNING:** Do not nail at the end of a slot! Doing so will cause the siding panel to be permanently damaged. If you must nail near the end of a slot to hit a stud, etc., extend the length of the slot with a nail slot punch tool.
- 3) **DO NOT FACE NAIL.**
- 4) Leave a minimum of 1/4" clearance at all openings and accessory channel stops to allow for normal expansion and contraction. In cold weather (below freezing) leave 3/8" minimum clearance.
- 5) Do not stretch horizontal siding panels upward when applying: Instead, push upward on the bottom of the panel you are installing, until the locks fully engage. Nail in place. Panels should hang without strain after nailing. Stretching the panel upward pulls the natural radius out of the panel and increases friction of the locks.
- 6) When installing shutters, cable mounts, etc., make sure the screw hole in the siding is 1/4" larger than the attachment screw diameter (example: an 1/8" screw requires a 3/8" hole in the siding). This will allow panel to still expand and/or contract.

SHEATHING

In new construction, apply sheathing first, then nail accessories over it.

In home improvement projects, you can apply sheathing first, as described above, or you can apply accessories first, then fit sheathing and siding into accessory recesses.

NAILS

Use only corrosion-resistant nails (aluminum nails or galvanized roofing nails) with a minimum head diameter of 3/8".

To determine length of nail required, measure thickness of sheathing material. Then add 1" to sheathing thickness. The minimum nail size should be 1 1/2".

REQUIRED TOOLS

Standard tools

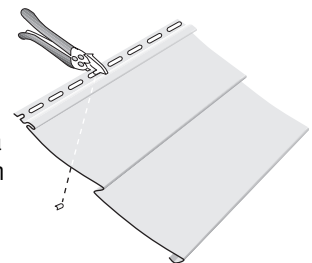
Hammer
Tin snips
Tape measure
Square
Chalk line
Level
Utility knife
Hacksaw
Shears
Power circular saw with sharp, fine-tooth plywood blade mounted in reverse direction.

Ladders and scaffolds

NOTE: If you will be using an extension ladder during installation, be sure to cushion the upper side rails to prevent damage to installed siding.

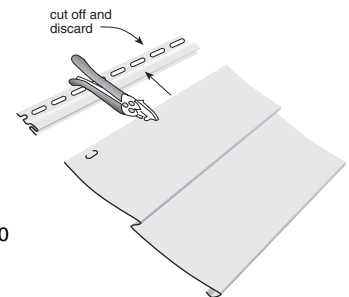
Nail slot punch

Punches elongated holes to allow nailing the cut edge of a panel. Also used to enlarge an existing hole to allow proper nailing.



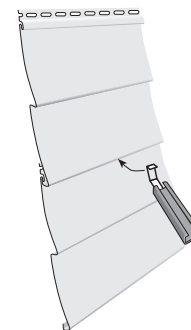
Snap lock punch

Punches tabs in the cut edge of a panel used as a finishing course at top of wall or underneath window. The tabs lock into undersill trim.



Unlocking (zip) tool

"Unlocks" installed panel so it can be removed from wall.

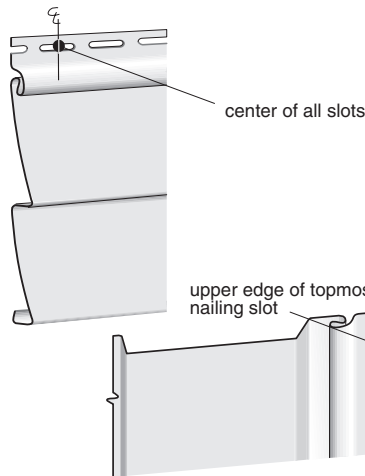


SECTION 3

INSTALLATION

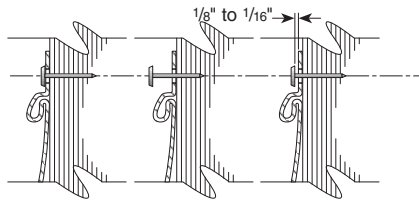
NAILING METHODS

With horizontal accessories and panels, position nails in center of elongated nailing slots to allow for expansion and contraction. Never nail through panel surface.



With vertical accessories and panels, position the **first nail** at the **upper edge of the topmost nailing slot**. This allows a panel to hang from the nail. Position the remaining nails in the center of the nailing slots. Allow for $\frac{1}{3}$ of the total expansion at the top of and $\frac{2}{3}$ of the total expansion at the bottom.

Do not nail too tightly. To permit expansion and contraction, panels should hang freely from nails. This allows panels to move as the temperature changes. Drive nails until there is $\frac{1}{8}$ " to $\frac{1}{16}$ " of space between nail head and nailing flange. Do not overcompensate, however, and nail too loosely. The nail head should not extend beyond the locking hem.



Drive nails straight in. Do not angle nail.

For all sidings except Monogram, (which can be spaced up to 24"*) nails must be spaced a maximum of 16" apart. (In new construction, nail to studs on 16" centers. Do not skip studs.) Elongate factory nail slots if necessary to hit a stud. Per the ASTM specification for vinyl siding installation (04756), proper nail penetration is at least $\frac{3}{4}$ ", in most cases, that requires anchoring to studs.

*Check with your local building code official for special requirements.

EXPANSION AND CONTRACTION

It's normal for vinyl building products to expand and contract with temperature changes. To assure a successful siding installation, you must allow for this movement during application.

Use the following guidelines to determine space required for expansion and contraction between siding and trim:

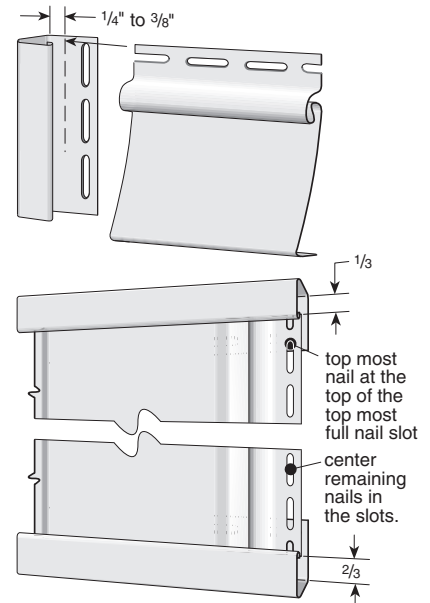
$\frac{1}{4}$ " at both ends of the panel when the temperature is above 40°F at time of application.

$\frac{3}{8}$ " at both ends of the panel when the temperature is 40°F or below at time of application.

In a horizontal siding installation a vinyl panel tends to expand equally in both directions.

In a vertical siding installation, on the other hand, most of the expansion is downward. So instead of allowing equal space for expansion at both ends of a vertical panel, leave more space at the lower end: allow for $\frac{1}{3}$ of the total expansion is allowed at the top of a panel and $\frac{2}{3}$ of the total expansion is allowed at the bottom.

For example, if the temperature is below 40°F, total expansion equals $\frac{3}{4}$ " ($\frac{3}{8}$ " + $\frac{3}{8}$ "), so you allow $\frac{1}{4}$ " at top and $\frac{1}{2}$ " at the bottom.



CUTTING PANELS

To cut panels to size, follow these procedures:

Cross cuts

1) For a precise cut, use a power circular saw equipped with a sharp, fine-tooth plywood blade. For best results, reverse blade direction.

2) Cut one or two panels at a time, carefully advancing the saw through the vinyl. A rule of thumb: The lower the temperature, the slower the feed rate.

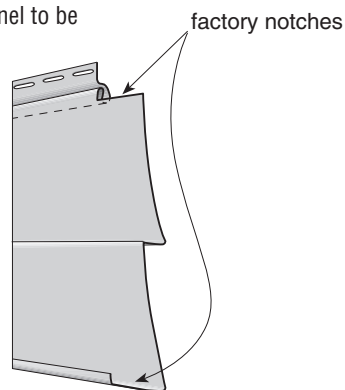
3) Panels can also be cut with snips. Use square to mark cut line. Start cut at top lock and continue to bottom of panel.

NOTE: Whenever you cross cut a panel to be used in an overlap area, you also have to duplicate the factory notch at the cut end.

Rip cuts

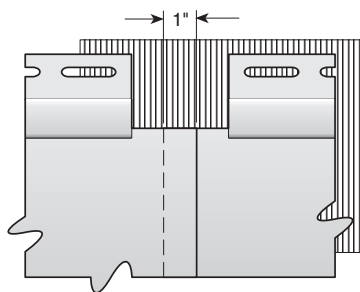
1) Use a utility knife to score panel along cut line. Bend panel back and forth along score line until it snaps apart cleanly.

2) Use a combination of tin snips and utility knife to cut panels to fit around windows and doors.



OVERLAPPING PANELS

When lapping horizontal panels, overlap the ends 1".



PREPARATION FOR HORIZONTAL SIDING

NEW CONSTRUCTION

1) Make sure all studs are straight and true. Correct any bowed studs.

NOTE: Vinyl siding must be applied over a rigid sheathing that provides a smooth, flat surface or an underlayment (such as wood, wood composition, rigid foam or fiber sheathing) that is no more than 1" thick. Vinyl siding cannot be applied directly to studs.

NOTE: As a general rule, CertainTeed does not recommend the use of drop-in backers with vinyl siding. In limited cases, however, drop-in backers may be used if you follow specific material and installation guidelines. Those guidelines are printed at the end of this book.

2) Make sure sheathing is fastened securely to studs.

3) Cover incidental holes placed in sheathing or underlayment during construction with duct tape or foil-faced tape.

4) If you're planning to use a conventional house wrap or building felt, apply according to the manufacturer's recommendations. In all cases, however, install the products so they are secured firmly to the substrate so that they provide a smooth, even surface for the final siding installation.

5) Before applying siding make certain substrate is watertight.

(In order to be properly protected from precipitation, the substrate may need to be properly flashed around areas such as windows, doors, other openings and corners so as to shed water to the exterior. The siding alone is not meant to be a watertight barrier.)

HOME IMPROVEMENT PROJECTS

You can prepare your current siding surface to receive vinyl siding in one of three ways:

1) Strip off old siding and level wall. If felt paper covers the wall, you have two alternatives: either strip it off completely or staple or nail it to create a smooth surface. If there is no solid sheathing under the old siding, you must apply it as described in the instructions for NEW CONSTRUCTION, above.

2) Apply rigid sheathing to existing siding to provide a smooth surface. Nail securely to old siding. Nail evenly to bridge low spots.

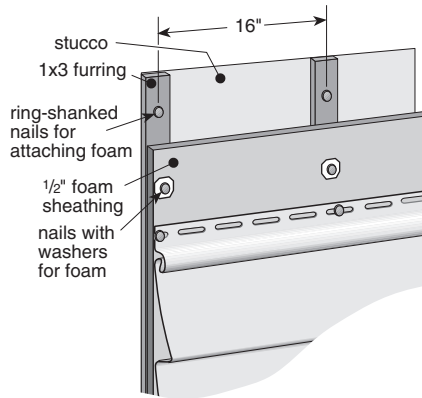
NOTE: Failure to establish a smooth, solid surface constitutes misapplication under the terms of the warranty.

3) Apply vertical furring to old siding to straighten noticeable surface unevenness. Then apply rigid sheathing following instructions presented under NEW CONSTRUCTION.

Applying over stucco

When applying vinyl siding over stucco, you first have to be sure you're working on an even surface. To create that surface, you may have to knock down high spots where furring strips will be applied. Use caution when chipping off these spots – you don't want to crack or damage the remaining stucco.

Apply 1"x3" furring to the stucco, using ring-shanked nails or screws. Stucco will not hold fasteners tightly, so be sure nails or screws are anchored securely to studs. Furring strips should be spaced 16" on center.



Applying rigid foam sheathing to furring

Install sheathing according to manufacturers instructions. Do not apply siding directly to furring strips.

INSTALLING ACCESSORIES

Snapping a chalk line

If the house is reasonably level, find the lowest point of old siding (or sheathing if working on new construction). Partially drive a nail at one corner, 2 1/4" above lowest corner. Attach chalk line. Go to other corner and pull chalk line taut. Stretch the chalk line from this nail to the opposite corner of the house. Make sure the line is level using a line level or 2' (minimum) level. Snap chalk line and repeat procedure around entire house.

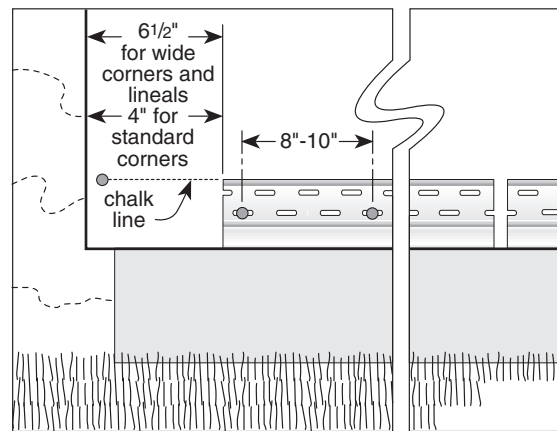
A water level, a long clear plastic tube 90% filled with water, is useful in marking level points around the house and on opposite sides of openings such as doors. Water will always seek a level state, assuring the markings will always be at the same level.

NOTE: If after establishing a chalk line you find that your starter strip will be positioned below an easily nailed surface, you may have to apply a nailable base. Alternatively, a 5" tall metal starter strip is available that can help ensure the nail slots are over a solid surface.

Installing the starter strip

Position starter strip with the top edge on the chalk line and the ends 6 1/2" away from the outside and inside corners when using lineal systems or wide corners, 4" if using standard one piece corners. Nail to wall following previously mentioned nailing instructions. When hollows occur in the wall surface, shim out the starter strip to avoid a wavy appearance in the finished siding job.

As you add starter strip sections, be sure to leave 1/4" space between them for expansion.



Installing outside corner posts

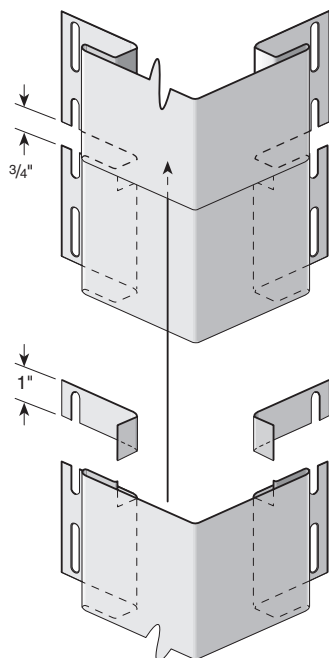
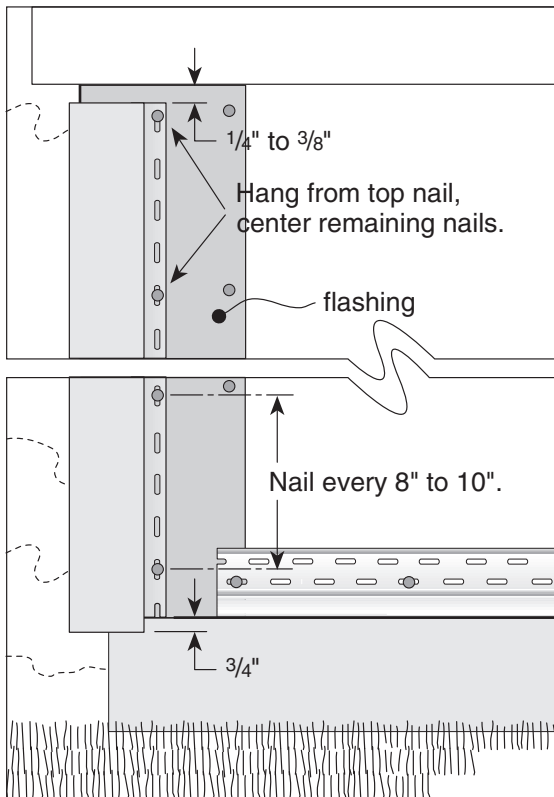
Flash the corners of the home by bending a 10" wide piece of aluminum rim coil 90° so you have two 5" legs. Cover the entire length of the corner lapping the upper pieces over the lower pieces.

Position outside corner post with the top of the post 1/4" from the underside of the eave and the bottom of the corner post 3/4" below the starter strip. Remove the bottom 3/4" of the nailing flange so it will not show below the siding when installed.

Make sure posts are straight and true before nailing.

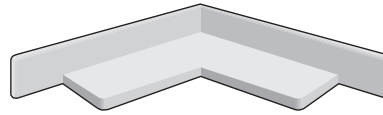
Hang corner posts by first positioning a nail at the top of the topmost nail slot. Position all remaining nails in the center of nail slots a maximum of every 16". This nailing pattern is to be followed on both nail flanges of each post.

If posts must be spliced for high walls, cut 1" off the nailing flanges and back from the bottom portion of the upper post. Then lap 3/4" of the upper post over the lower post, allowing 1/4" for expansion. This method will provide an obvious joint between the two posts, but will allow water to flow over the joint, reducing the chance of water infiltration (shown below).



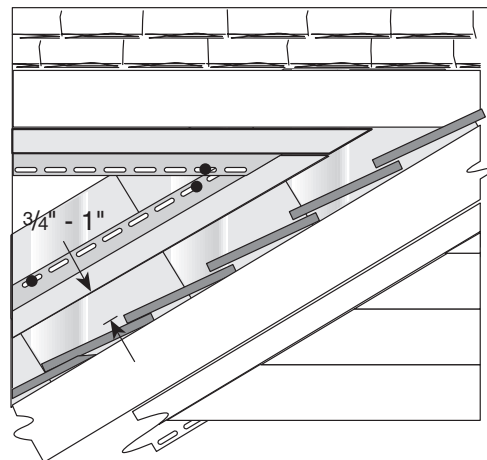
Capping an outside corner post

A CertaPlug can be used to close the end of an outside corner post and provide a finished appearance. Use silicone caulk to hold the CertaPlug in place.



Installing trim at roof line

At points where vinyl siding and accessories will meet at a roof line such as areas where a gable dormer or a second-story side wall intersect with the roof – it's best to position the J-channel so it's 3/4" to 1" away from the roof line. Placing the J-channel directly on the roof line would subject it to a build-up of heat, which could result in excessive expansion. To prevent water infiltration along the intersection of roof and wall, install flashing before installing J-channel.



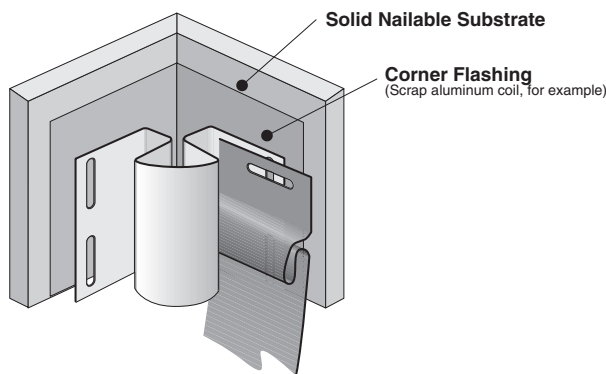
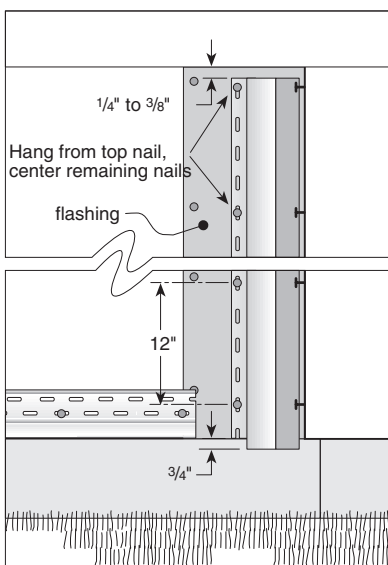
NOTE: If you use more than one length of J-channel to span a wall surface, be sure to overlap J-channels 3/4".

INSIDE CORNER OPTIONS

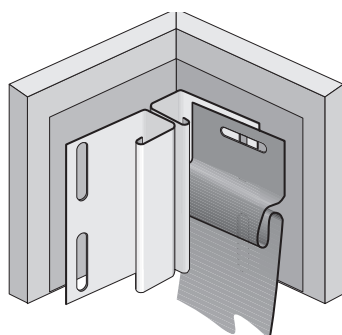
Installing inside corner posts

Position inside corner post or J-channel with the top $\frac{3}{16}$ " from the underside of the eave and the bottom of the corner post $\frac{3}{4}$ " below the starter strip. Remove the bottom $\frac{3}{4}$ " of the nailing flange so it will not show below the siding when installed.

NOTE: Two lengths of J-channel, applied to adjacent walls, can be used in place of an inside corner post. To ensure a dry corner, install a 6"x6" "L" corner fabricated from aluminum coil stock.



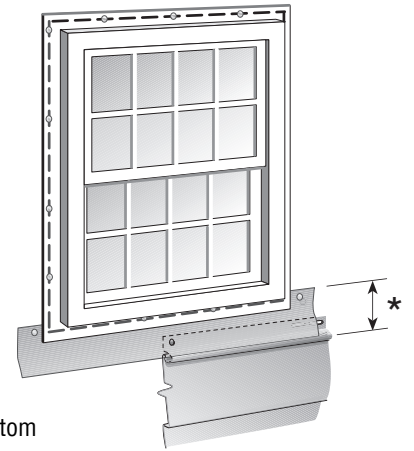
Standard Inside Corner Post



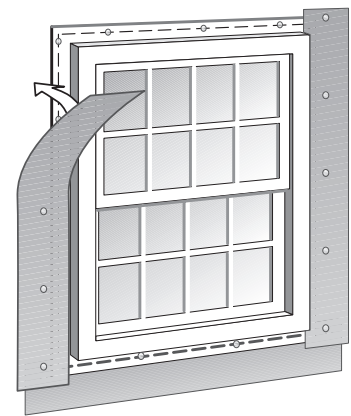
Two J-channels

WINDOW FLASHING

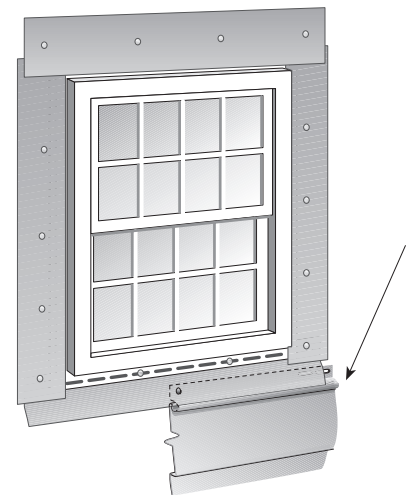
1) The width of all flashings is determined by the type of accessory surrounding the window and where the final complete course of siding stops below the window (in the case of the flashing under the window). The flashing should extend past the nail flanges of the accessory. The width of the flashing under the window must allow for the diversion of water. Also the flashing must be secured under the bottom window flange to divert water.



2) Apply the vertical flashings by overlapping the previously secured bottom flashing. As noted in step 1, the length and width of the flashings will be determined by the type of accessories used.



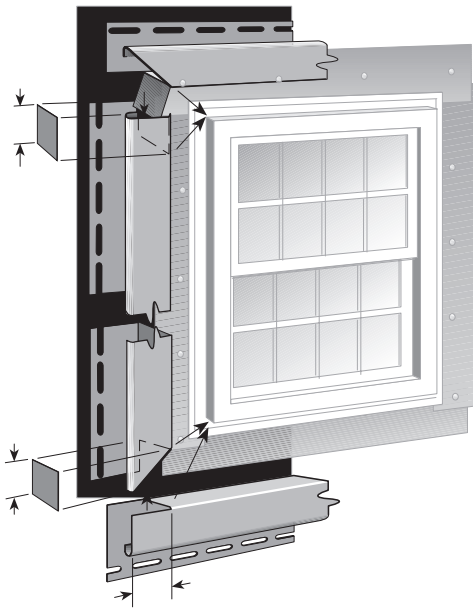
3) Secure top flashing. NOTE: The flashing is long enough to direct water over the nail flange of the last course of complete siding panels.



INSTALLING WINDOW AND DOOR TRIM

Install J-channel along top and sides of door casings and around windows. (For best results, use aviation snips when cutting J-channel.)

NOTE: When installing J-channel around replacement windows that do not have nail flanges, add flashing for greater protection against water infiltration.



To Miter Cut Corners

For best results, make sure you cut all J-channels to proper length, leaving the proper allowance for the width of the face of the J-channel.

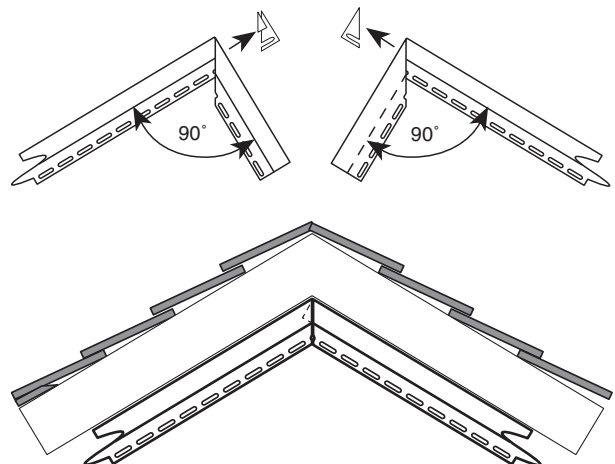
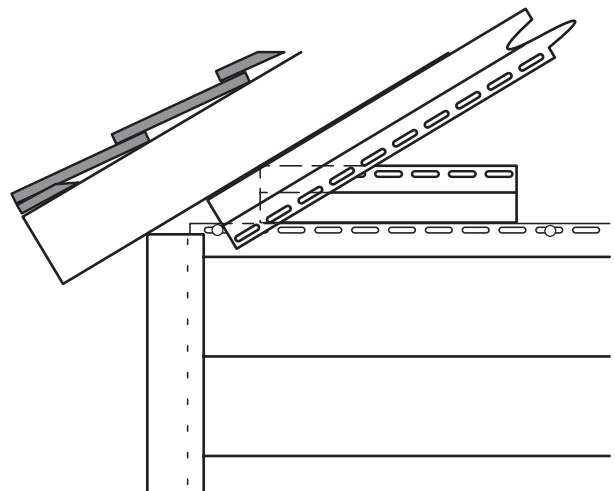
- 1) Square cut bottom J-channel so that its ends extend beyond the window casing to the width of the face of the side J-channels. Notch ends for clearance. Position and nail.
- 2) Measure side J-channels, adding width of both the top and bottom J-channels. Miter cut (45° angle) lower ends of both side J-channels. Notch channel, position and nail.
- 3) Mark top J-channel so its ends extend beyond the casing to the width of the side J-channels. Miter cut (45° angle) ends. Cut and bend water tabs. Position and nail.

INSTALLING GABLE END TRIM

Install J-channel to receive siding at gable ends, as shown in illustration. To create a clean, professional look, follow these steps:

- 1) To create an angle template, hold a piece of J-channel against the slope while transferring the angle to another J-channel with a pencil.
- 2) Next, transfer angle of template to the end of a length of J-channel. Be sure to extend line onto nail flange. Cut away channel face and nail flange.
- 3) Turn pattern over and transfer opposite angle to second J-channel, being sure to extend line onto nail flange. Cut away nail flange and return lip, but do not cut J-channel face.
- 4) Insert the full-faced J-channel into the mitered J-channel. If the nail flange or return lips butt and prevent a tight fit, trim off additional material from the second J-channel.

NOTE: For a more decorative appearance, you also can use 3 1/2" or 5" lineals to trim gable ends.



INSTALLING HORIZONTAL SIDING

Installing the First Course

It's important to work with care and planning as you install siding panels. This is especially true when you're installing the first course of siding.

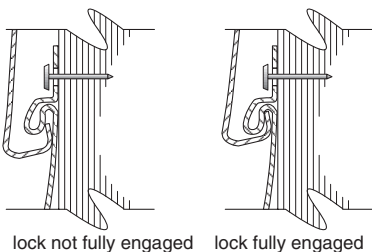
For best results, follow these guidelines:

1) The key to creating a visually attractive installation is to lap away from areas where people normally walk or gather. For example, on the front wall, work from the corners to the entrance door (so overlaps face away from door). On side walls, work from the rear corners toward the front. This approach minimizes the effect of lapping and produces the best appearance. Keep lap appearance in mind throughout installation.

NOTE: Lap appearance is also improved when you avoid using panels less than 3' long.

2) Slide the first panel into the corner post recess. Leave room for expansion.

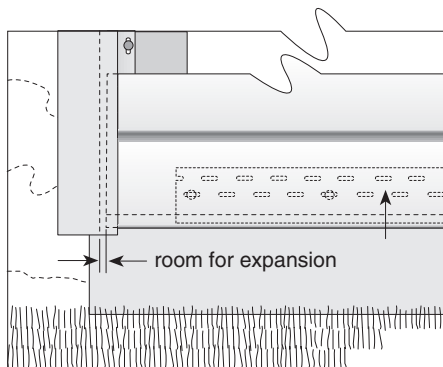
3) Hook the bottom lock of the panel into the interlock bead of the starter strip by applying upward pressure.



4) Before nailing, double check to make certain you've locked panel along its entire length. A slight upward pressure may be required to snap the interlock securely. Don't force the lock too tightly, however, you may distort your laps. Also make certain the panel can slide freely. Nail properly. Start at the center of the panel and work out. Nails should be spaced 16" apart and penetrate wood 3/4", which in most cases requires fastening to studs.

5) Install remaining starter course panels, overlapping panel ends 1". The last nail should be at least 4" from the end of the panel to allow for a neat lap.

6) Remember to leave room for expansion when fitting panels into remaining inside and outside corner posts.



Installing remaining courses

To assure best appearance, plan positioning to avoid unsightly joint patterns. The illustration below shows a well-planned staggering of panel joints. Follow these guidelines:

- 1) Separate joints by at least two courses.
- 2) Avoid joints above and below windows.
- 3) Leave at least 3' separating joints on successive courses.
- 4) Use short cutoff lengths for fitting at narrow openings between windows.
- 5) Follow the planned pattern when applying the next courses of siding.

