EXTERIORS
VINYL SIDING

Vinyl siding is made from extruded PVC (polyvinyl chloride), a durable lightweight plastic. It doesn't dent, rot, or corrode, and is impervious to water. Older formulations may be quite brittle from extended exposure to ultraviolet light, however, these days most formulations are a co-extrusion of a UV-resistant capstock and a resilient substrate.

VINYL SIDING COVERAGE

When estimating vinyl siding quantities, add up square footage, and add 10% for waste. As with wood siding estimates, do not deduct the area of windows and doors. This will provide an allowance for waste. If the window and door areas are over 50 sq. ft. (such as garage doors or sliding glass doors), deduct 75% of the total openings. For dormers and gable-end walls, add 1 ft. in height to the original measurements to allow for waste.

Estimating Siding Accessories

Add up lin. feet of outside and inside corners needed, and add 10% for waste. Include other trim accessories, as shown in the figure below.

FIGURE: ESTIMATING SIDING ACCESSORIES

	Amt. Required per 1,000 sq. ft. of Siding
Starter Strip	100 lin. ft.
J-Trim[1]	200 lin. ft.
Utility trim[1]	30 lin. ft.
H-Trim[2], 12 in.	60 pieces
H-Trim[2], 9 3/8 in.	80 pieces

Vinyl, metal, and hardboard siding require trim accessories, such as those listed in this table. Check with the siding manufacturer for its suggested siding trim package.

Notes: 1: Typically available in 12-ft. lengths, **2:** Available to cover butt joints between hardboard panels (see Hardboard Siding Checklist).

VINYL SIDING TYPES

Typically, vinyl siding is available in horizontally applied panels that simulate lap siding — with one, two, or three siding courses per panel.

V-groove and board-and-batten panels are the most popular forms of vertical vinyl siding. Usually, they are used in combination with horizontal siding on gable ends.

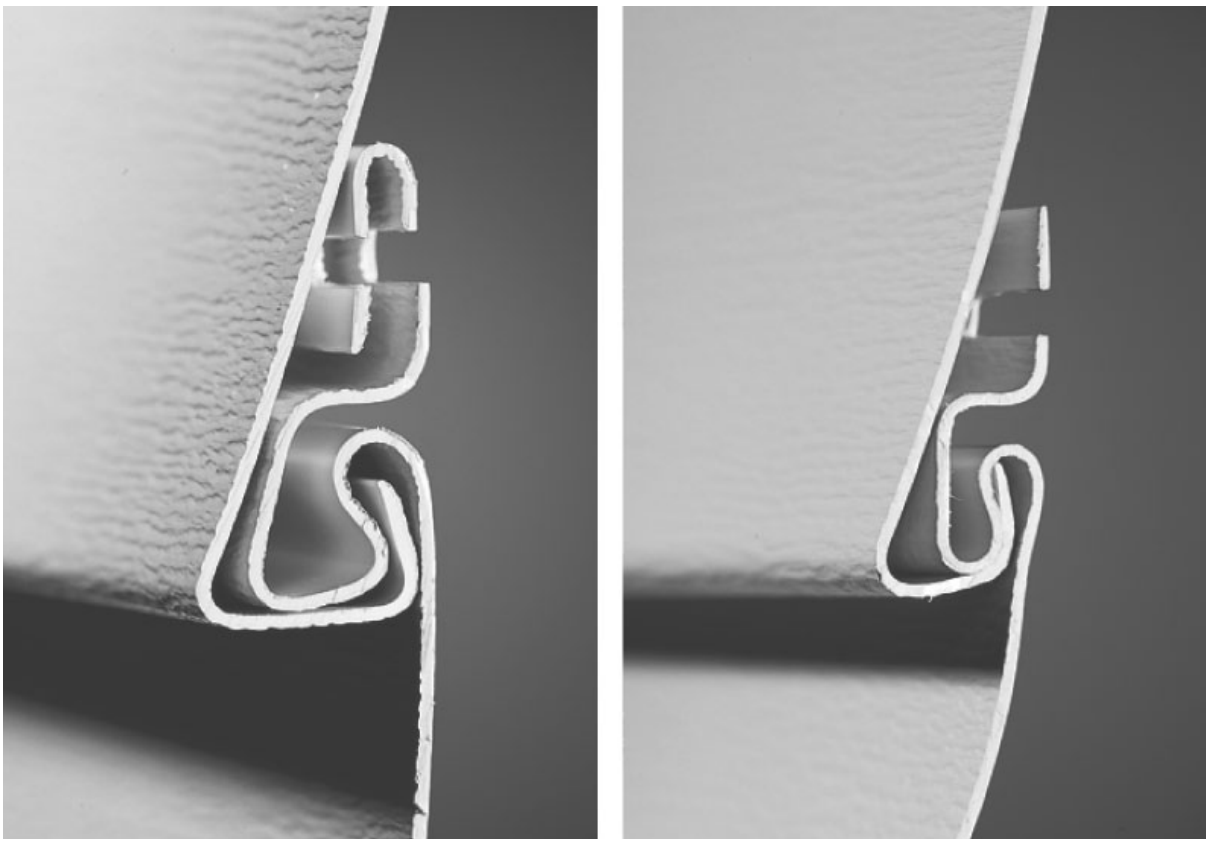
Panel Stiffness

Vinyl thickness varies from about .035 in. (the minimum thickness allowed to comply with the ASTM D3679 standard) to .055 in. While thicker panels are less likely to droop and wave in hot

weather, they are not necessarily the best choice, as overlaps between panel lengths are more noticeable with thicker panels. Most installers prefer a "midrange" panel thickness of .042 to .044 in.

The stiffness of panels depends much more on the shape of the panel than on the thickness of the vinyl. The thicker the butt at the locking edge, the stiffer the panel will be and the less likely it will be to droop or wave (**below**).

FIGURE: LOCKING EDGE



The stiffness of a vinyl panel is more affected by the butt dimension and the lock profile than by the gauge of the vinyl. A square butt (near right) will stay straighter and droop less than a post-formed edge (far right).

Color Choices

While advances in materials science have improved the performance and durability of darker shades of vinyl siding, vinyl is typically available in light colors to reduce surface temperatures. If vinyl gets too hot, it can droop. Also, vinyl chalks as it oxidizes, particularly in humid climates. The white film is more noticeable on darker panels. White siding will be the least likely to show any staining from oxidation.

Wind Resistance

Because vinyl siding must be applied loosely, it may be susceptible to blow-offs. Panels with reinforced nail hems are less likely to be torn off in a storm (**below**).

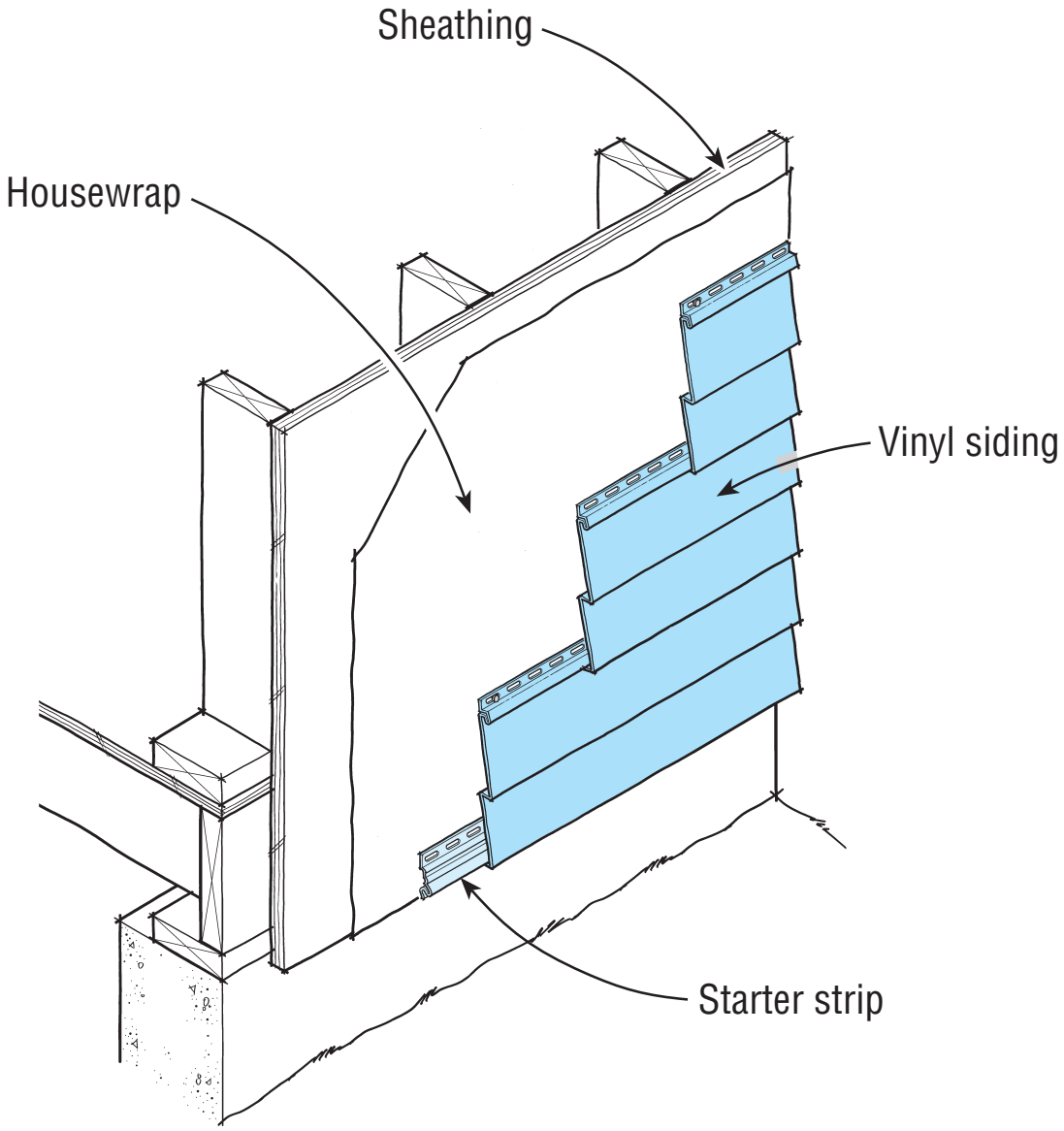
FIGURE: NAIL HEM

A double-thickness nail hem like the one on the left is less likely to rip in a windstorm.

DRAINAGE PLANE

Of all the siding choices available, vinyl is the only one that does not need extra work to create a drainage gap. Properly nailed, it should hang loosely over the wall, allowing water that gets through to drain down and out (**Drainage Plane for Vinyl Siding**, below). However, because vinyl must be installed loosely to accommodate expansion, it's critical to flash and wrap walls carefully.

FIGURE: DRAINAGE PLANE FOR VINYL SIDING



If vinyl siding is nailed loosely (as it should be to accommodate expansion), water that gets behind the siding will be able to drain. Well-detailed sheathing wrap and flashings behind the siding protect the wall from water.

Drainage Plane

Trim for Vinyl Siding

TRIM FOR VINYL SIDING

Aluminum covered trim has become the norm in the vinyl siding business. It offers a virtually maintenance-free finish, but how good it looks depends entirely on the skill of the installer.

Trim Coil

Trim is typically bent from two types of aluminum — smooth and striated. Smooth trim coil is a thin aluminum flashing finished with polyester or acrylic paint. Striated coil has a textured finish made with a vinyl paint that forms striated patterns as it dries. Vinyl-coated coil marks up a little easier, requiring a bit more care, but in general the difference is largely a matter of personal preference.

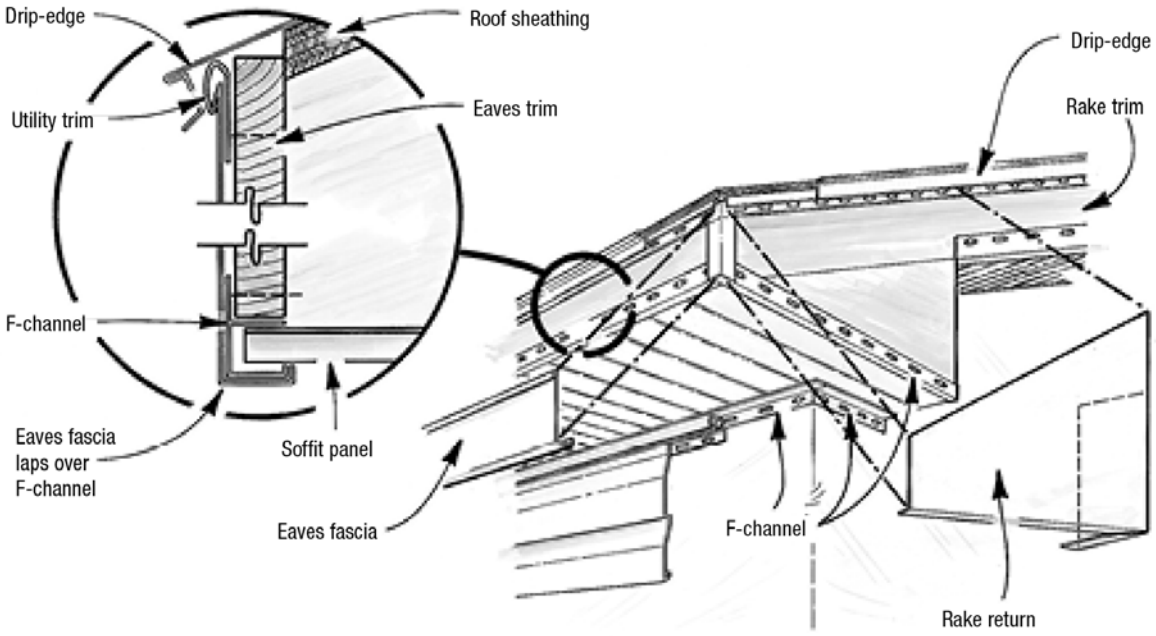
Trim for Vinyl Siding

The gauge of almost all aluminum trim coil, whether smooth or striated, is a "nominal" 0.019 in., which can be as thin as .0175 in. and still meet spec. Less common, and about 20% more expensive, is a heavier gauge coil with a nominal measurement of 0.022- to 0.024-in.

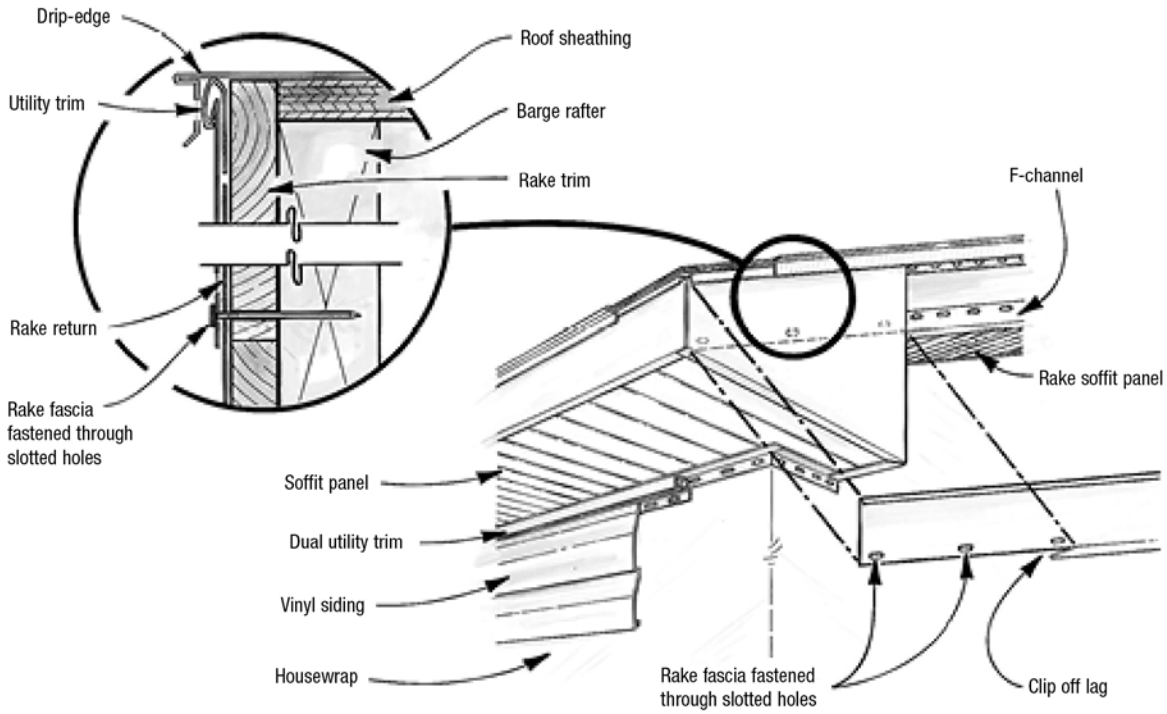
Trim coil can ripple as it expands in warm weather. This is a problem only if it is face-nailed in cold weather. In addition to limiting face-nailing, try the following to avoid ripples:

- Don't nail too snugly.
- Hem or crease the material to stiffen it.
- Drill or punch an oversized hole in the aluminum before nailing.
- Avoid nailing long fascia and rake pieces. Instead, hold them in place with utility trim and F-channel (**Aluminum Soffit and Fascia Details**, below).
- On rakes and fascias, install a 1x2 at the top of the trim to provide a stepped profile. This stiffens the trim and limits rippling (**Aluminum Fascia Alternatives**, below).
- To avoid face-nailing a fascia, insert the top of the trim coil under the drip-edge or into a piece of undersill trim and make a 11/4-in. bend at the bottom toward the soffit. Nail up through the bottom leg every 18- to 24-in.

FIGURE: ALUMINUM SOFFIT AND FASCIA DETAILS

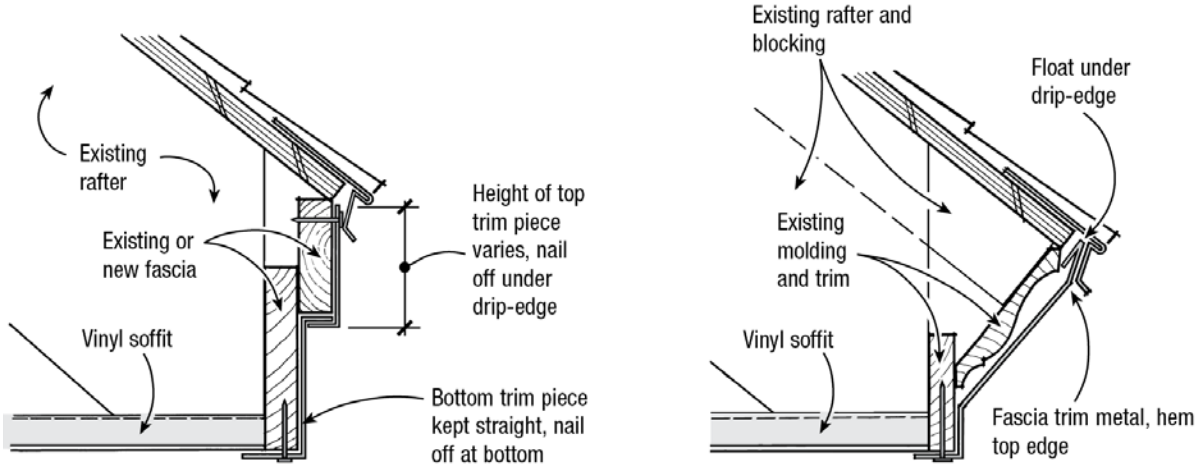


Trim for Vinyl Siding



Aluminum trim coil will ripple if nailed. Although small pieces of trim coil may be nailed tight, long lengths of fascia should be secured with utility trim or nails in slotted holes.

FIGURE: ALUMINUM FASCIA ALTERNATIVES



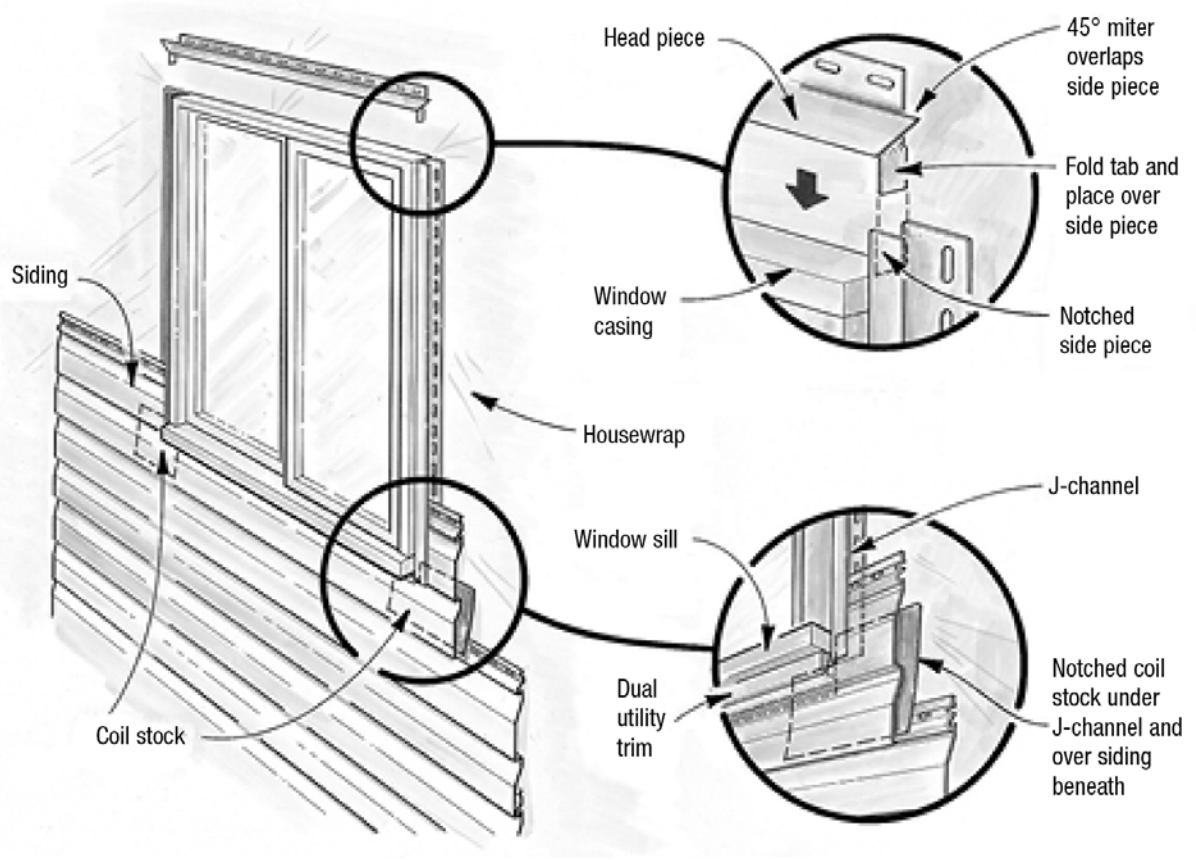
To reduce ripples in aluminum fascia, install a 1x2 to create a two-piece fascia. To keep coil stock stiff, hem the top edge and slip it under the drip-edge.

Vinyl Window Trim

Window trim is typically framed with J-channel to receive the siding panel (**Trimming a Window**, below). The side pieces should be run long enough to receive the mitered head trim (top detail of **Trimming a Window**, below), and the sill corners should be flashed with trim coil to divert water running down the J-channel.

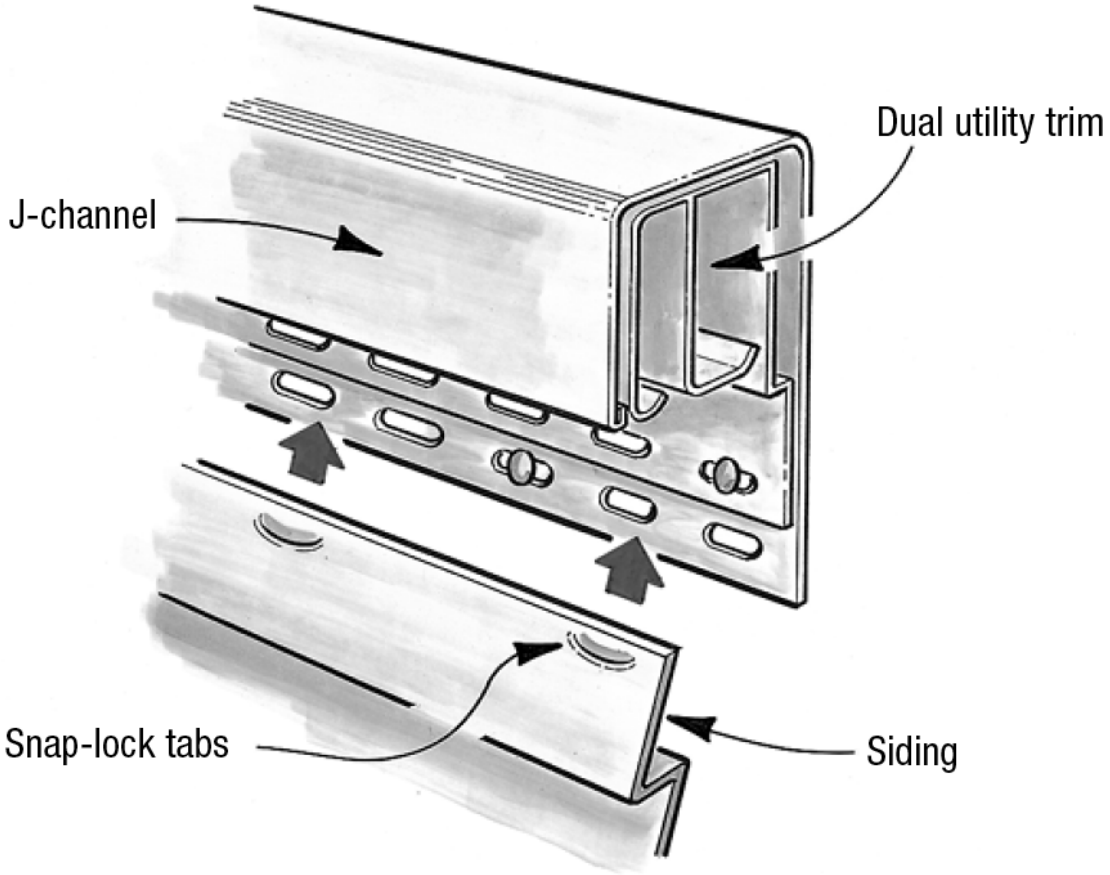
Notched wall panels, which have the nail hem ripped off, can be locked in place with dual utility trim (**Dual Utility Trim**, below).

FIGURE: TRIMMING A WINDOW



When trimming a window, first run J-channel around all four sides. Slip a notched piece of trim coil at each corner of the sill to direct water running down the J-channel over the top of the siding beneath.

FIGURE: DUAL UTILITY TRIM



Use dual utility trim to secure notched panels without a nail hem. Use the outer channel for siding panels ripped near to the butt edge; use the inner channel when the rip is made closer to the nail hem.

Trim for Vinyl Siding

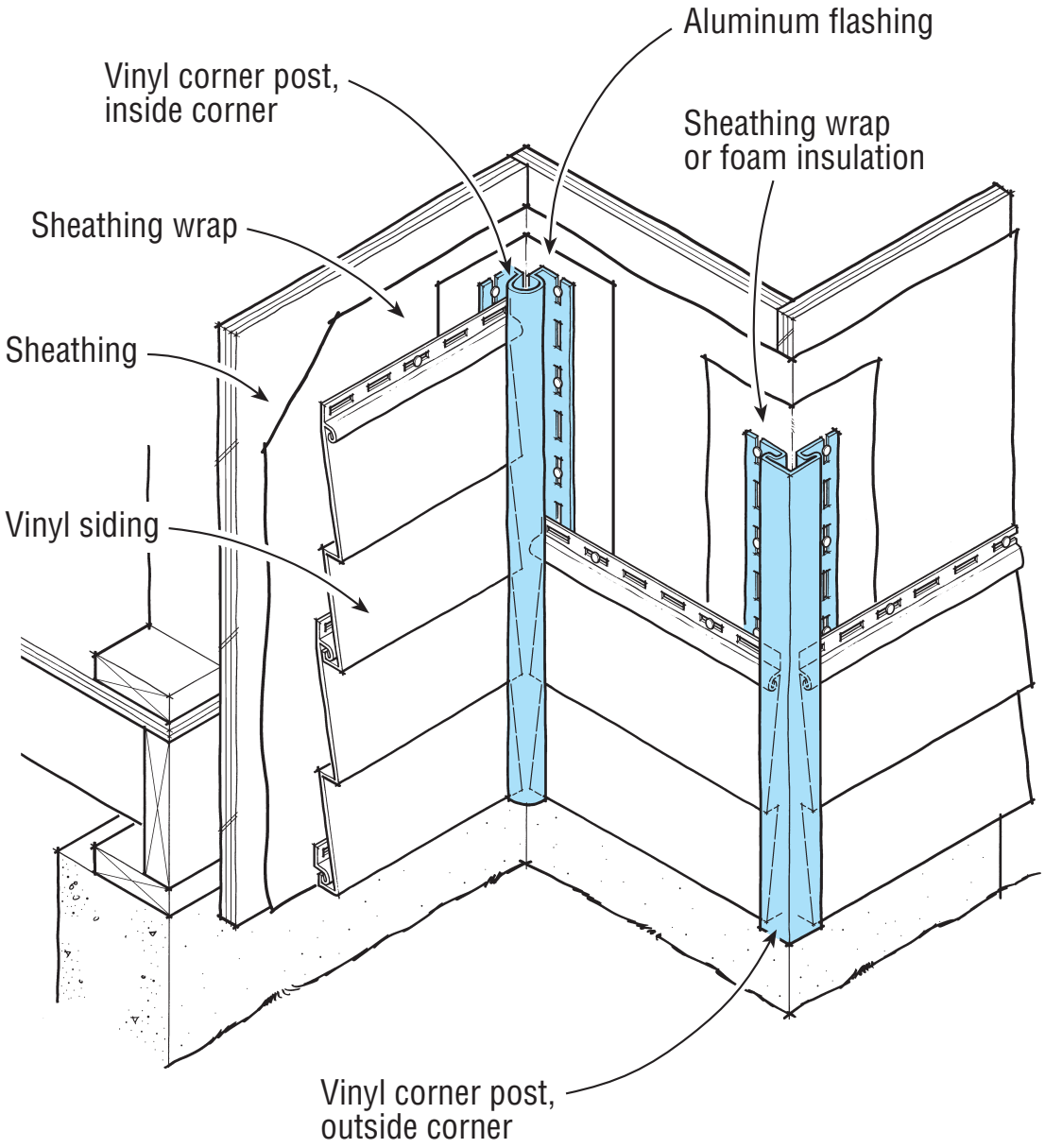
Vinyl Siding Layout

VINYL SIDING LAYOUT

Vinyl siding has a high coefficient of thermal expansion. A 12-ft. length can expand 5/8 in. from winter to summer. To allow for expansion and contraction of the material, layout is critical.

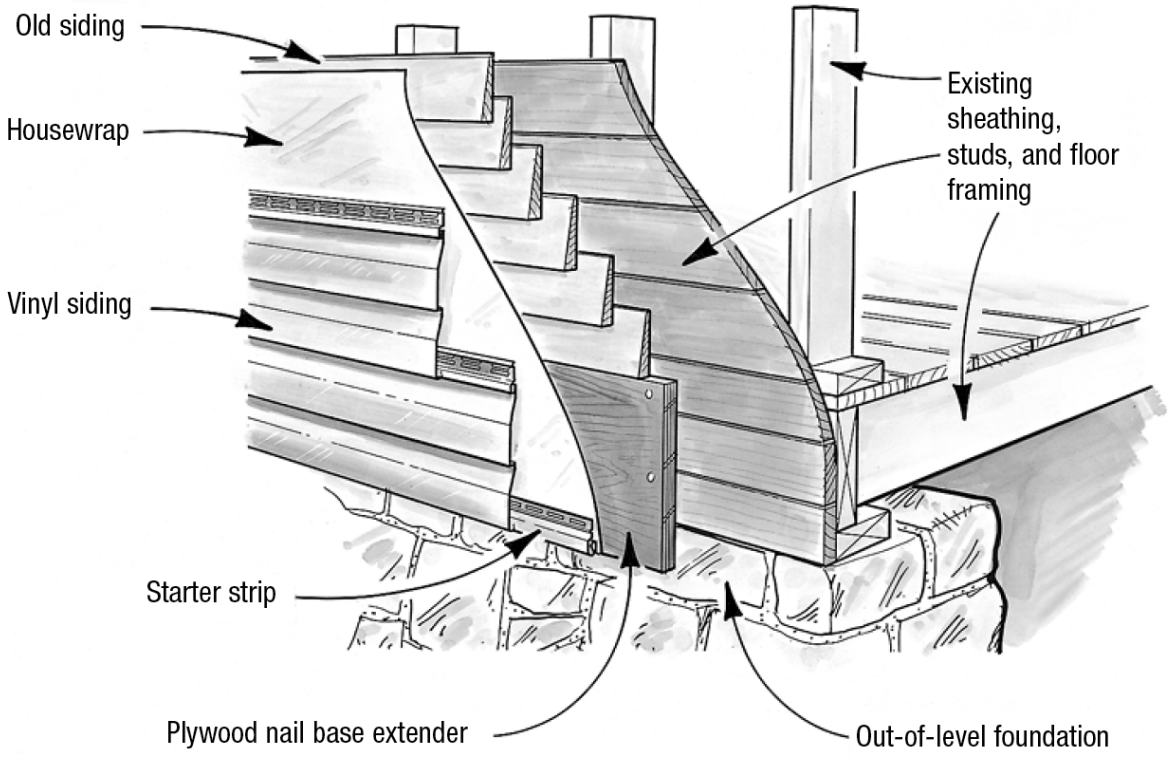
- Leave a 1/4 in. gap between corner posts and the soffit.
- Leave a 1/4-in. gap between the siding and all corner posts and channels (**Corner Treatments for Vinyl Siding**, below). Increase this gap to 3/8 in. when installing in temperatures below 40°F.
- Start the layout with a level starter strip. If the foundation is out of level, extend the nailing base as shown in figure, **Starting Out Level**, below.
- Never overlap starter strip, channels, or utility trim. Leave at least 1/4 in. between pieces to allow for expansion.
- When panels overlap, make sure they overlap by one-half the length of the notch at the end of the panel, or approximately 1 in.
- Stagger the siding end laps so that no two courses (rows of panels) are aligned vertically, unless the laps are separated by at least three courses.
- Plan the direction of siding laps so they face away from high traffic areas. Someone looking into a lap will see a prominent shadow.

FIGURE: CORNER TREATMENTS FOR VINYL SIDING



Outside corners (at right) are handled with vinyl corner posts. The corner should be wrapped with foam insulation or sheathing warp first. Inside corners (center) should be flashed with aluminum before installing the siding.

FIGURE: STARTING OUT LEVEL



Siding should be installed level. When foundations are out of level, extend the nail base with a piece of plywood that matches the thickness of existing siding.

Vinyl Siding Layout

Nailing Checklist

NAILING CHECKLIST

- Nail heads should be a minimum 5/16-in. in diameter, and the shank should be 1/8 in. in diameter. All fasteners must be able to penetrate at least 3/4 in. into framing or furring.
- Space nails to hold accessories such as starter strip, J-channel, and utility trim every 8- to 10-in.
- Space siding panel fasteners a maximum of 16 in. apart for the horizontal siding panels, and every 12 in. for vertical panels.
- Lock panels along the bottom edge before nailing top edge. Do not force the panels up or down when fastening.
- While the panel locks should be fully engaged, the panels should not be under vertical tension or compression when they are fastened. An exception can be made at the rim joist between first and second floors. When joists shrink, the panel may be forced down and may unlock, allowing the panel to flap in the wind. Keep some upward tension on the lock at this critical area to account for the shrinkage.
- Start nailing in the center of the panel and work towards the ends.
- Center fasteners in the slots to permit expansion and contraction of the siding. An exception to this rule can be made when fastening vertical siding and corner posts: In this case, start the top nail at the top of the uppermost slot to hold the piece at the proper elevation. All other nails should be centered in the slot.
- Do not drive the head of the fastener tightly against the siding nail hem. Leave a minimum of 1/32 in. (the thickness of a dime) between the fastener head and the vinyl (**Nailing Vinyl Siding**, below).

FIGURE: NAILING VINYL SIDING

Do not drive nails home when installing vinyl siding. Vinyl siding needs to be able to slide back and forth as it expands and contracts with changes in temperature.

Nailing Checklist

Cleaning Vinyl Siding

CLEANING VINYL SIDING

To clean vinyl siding, use a long-handled brush with soft bristles (such as a car washing brush), and a handle that fastens onto the end of the hose. Avoid using stiff bristle brushes or abrasive cleaners, which may change the vinyl's gloss and cause the siding to look splotchy.

When cleaning soot and dust from the house, use the following cleaning solution, starting at the bottom and working up to the top in order to prevent streaking:

- 1/3 cup powdered laundry detergent, such as Fab®, Tide®, or equivalent*
- 2/3 cup powdered household cleaner, such as Soilax®, Spic &Span®, or equivalent*
- 1 gallon water

Cleaning Vinyl Siding

To remove mildew, add 1 qt. liquid laundry bleach to the solution above. Clean stubborn stains using the recommended cleaners shown in Stain Cleaners for Vinyl Siding.

FIGURE: STAIN CLEANERS FOR VINYL SIDING

Stain	Cleaner[1]
Bubble Gum (70%)	Fantastik®, Murphy's Oil Soap® or solution of vinegar (30%) + water
Crayon	Lestoil®
Oil-based caulk	Fantastik®
Felt-tip pen	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 (30%)	Fantastik® or solution of vinegar + water (70%)
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®, or Windex®
Tar	Soft Scrub®
Soil	Fantastik®, Lestoil®, or Murphy's Oil Soap®

Notes: 1: Cleaning materials are listed in alphabetical order