



Standard Practice for Installation of Rigid Poly(Vinyl Chloride) (PVC) Siding and Soffit^{1,2}

This standard is issued under the fixed designation D 4756; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers the minimum requirements for and the methods of installation of rigid vinyl siding, soffits, and accessories on the exterior wall and soffit areas of buildings. In all applications, refer also to the specific manufacturer's instructions for installation.

1.2 This practice covers aspects of installation relating to effectiveness and durability in service.

1.3 The various application systems are located in the following sections of this practice:

Section 8	Substrate, Surface Preparation
Section 9	Application of Horizontal Siding
Section 10	Application of Vertical Siding
Section 11	Application of Soffits
Section 12	Special Details

1.4 The values stated in inch-pound units are to be regarded as the standard. The SI units given in parentheses are for information only.

NOTE 1—There are no ISO standards covering the subject matter of this practice.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

D 883 Terminology Relating to Plastics³

D 1600 Terminology for Abbreviated Terms Relating to Plastics³

D 3679 Specification for Rigid Poly(Vinyl Chloride) (PVC) Siding⁴

D 4477 Specification for Rigid Poly(Vinyl Chloride) (PVC) Soffit⁴

¹ This practice is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.24 on Plastic Building Products.

Current edition approved March 10, 1996. Published May 1996. Originally published as D 4756 – 91. Last previous edition D 4745 – 91.

² This edition contains a change to Section 1 to add an ISO equivalency statement.

³ *Annual Book of ASTM Standards*, Vol 08.01.

⁴ *Annual Book of ASTM Standards*, Vol 08.04.

E 631 Terminology of Building Constructions⁵

2.2 *Council of American Building Officials:*

CABO One and Two Family Dwelling Code: Section R-707 Attic Ventilation⁶

3. Terminology

3.1 *General*—Definitions are in accordance with Terminologies D 883 and E 631 and abbreviations with Terminology D 1600 unless otherwise indicated.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *crimp*—small protrusions, typically approximately 1/2 in. (12.7 mm) long, 1/8 in. (3.2 mm) wide, and projecting 1/8 in. (3.2 mm) formed by a crimper (snaplock punch). (See Fig. 1.)

3.2.2 *crimper*—a special hand tool designed to form crimps (snaplock ears) intended to hold partial panels in place. (See Fig. 1.)

3.2.3 *fascia*—the trim along the perimeter of roofs or roof overhangs. (See Fig. 2.)

3.2.4 *flashing*—special membrane pieces or manufactured trim pieces used to supplement siding panels in weather protection around openings, such as windows and doors.

3.2.5 *nailslot punch*—a special hand tool used to create slots for attachment of field-modified siding or accessories. (See Fig. 3.)

3.2.6 *snaplock ears*—See *crimp* and Fig. 1.

3.2.7 *snaplock punch*—See *crimper* and Fig. 1.

3.2.8 *soffit*—the underside surface (typically horizontal) of roof overhangs.

3.2.9 *zip tool*—a special hand tool used to separate interlocked siding panels. (See Fig. 4.)

4. Delivery of Materials

4.1 All manufactured materials shall be delivered in the original packages, containers, or bundles bearing the size or type product, or both, brand name, and manufacturer (or supplier) identification, manufacturer's lot number, and the ASTM specification to which it conforms.

5. Protection of Materials

5.1 All vinyl siding and soffit products shall be stacked off

⁵ *Annual Book of ASTM Standards*, Vol 04.07.

⁶ Available from Council of American Building Officials, 5203 Leesburg Pike, Falls Church, VA 22041.

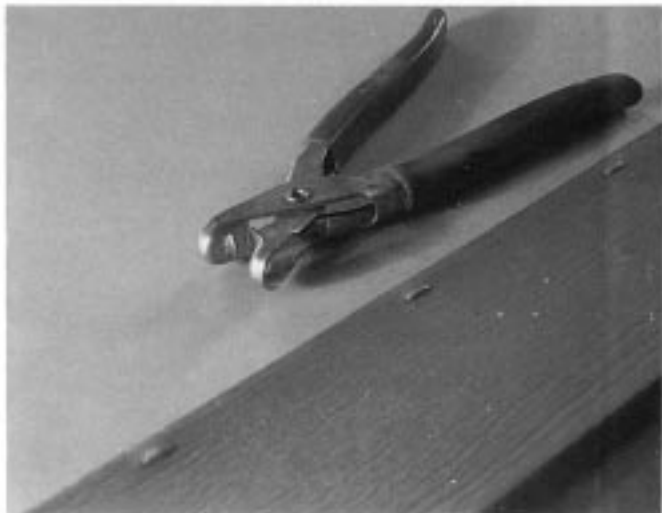


FIG. 1 Crimper and Crimps on Siding

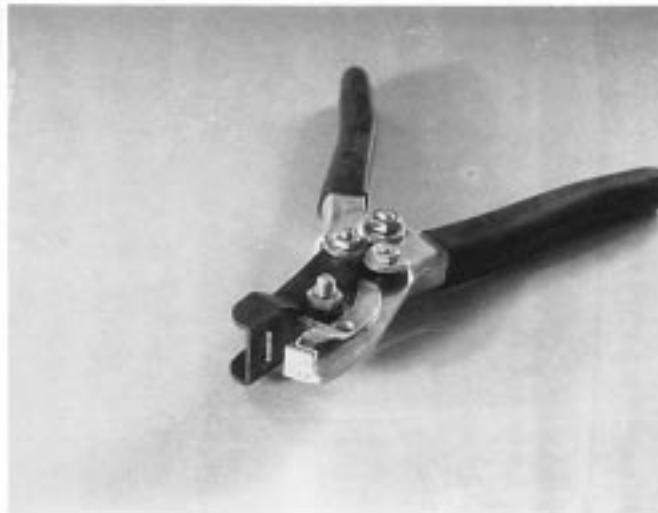


FIG. 3 Nailslot Punch

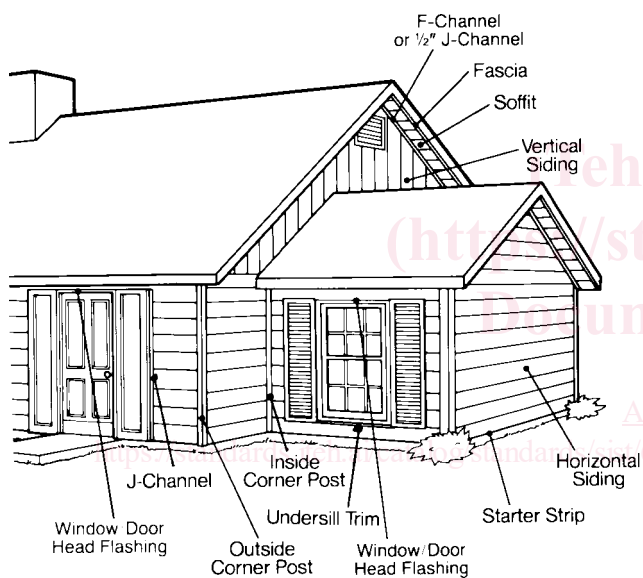


FIG. 2 Panels and Accessories



FIG. 4 Zip Tool

the ground, on level supports to avoid sagging, and protected from the weather, surface contamination, and possible damage.

6. Environmental Conditions

6.1 Vinyl siding and accessories will expand when heated and contract when cooled. If siding is installed in hot weather and the siding is very warm it will be partially “expanded” and allowance for more future “contraction” than expansion should be provided. If installed during cold weather using vinyl siding that was stored outside, more allowance for future expansion than contraction is necessary.

7. Materials

- 7.1 *Horizontal Wall Siding*—See Specification D 3679.
- 7.2 *Vertical Wall Siding*—See Specification D 3679
- 7.3 *Soffit Panels*—See Specification D 4477.
- 7.4 *Accessories:*
 - 7.4.1 *Starter Strip*—Of two types: for horizontal siding and

for vertical siding of poly(vinyl chloride) or noncorrosive metal.

7.4.2 *Corner Posts*—Of two types: for inside corners and for outside corners of poly(vinyl chloride).

7.4.3 *Trim Channels*—Produced of poly(vinyl chloride) in a variety of designs and sizes for use around openings and edges of wall and soffit surfaces. (See Fig. 5.)

7.4.4 *Fascia Panels*—Produced of poly(vinyl chloride), typically in a “J” shape with an extended flat leg, intended for field cutting to cover roof trim.

NOTE 2—To minimize the possibility of any color variation use material from a single manufacturer’s lot number for application to one building.

7.5 Fasteners:

7.5.1 *Nails*—Corrosion-resistant with head diameter $\frac{5}{16}$ in. (7.9 mm) minimum, shank diameter $\frac{1}{8}$ in. (3.2 mm), length sufficient to penetrate not less than $\frac{3}{4}$ in. (19 mm) into framing or furring.

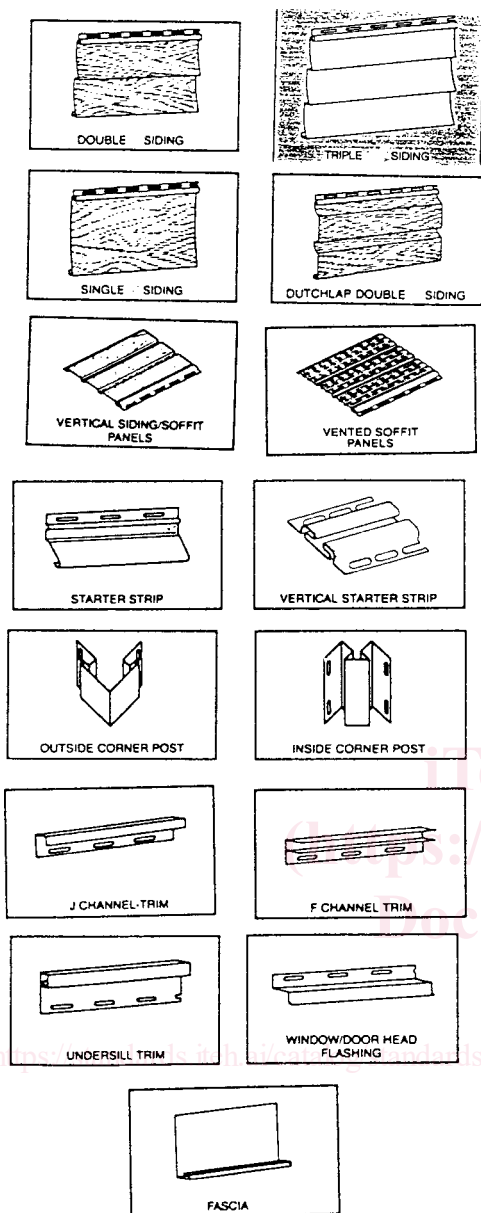


FIG. 5 Typical Trim Products

7.5.2 *Staples*—Corrosion-resistant, 16 gage minimum, with $\frac{3}{8}$ to $\frac{1}{2}$ -in. (9.5 to 12.7-mm) crown, length sufficient to penetrate not less than $\frac{3}{4}$ in. (19 mm) into framing or furring.

8. Substrate, Surface Preparation

8.1 Apply vinyl siding directly over sheathing or other solid surface that is in an even plane. Apply over wood furring strips when the surface is uneven.

8.1.1 Drive fasteners into framing, furring, or nailable sheathing or siding.

8.2 On existing structures, secure any loose boards, replace any rotted ones, recaulk around windows, doors, and other areas as necessary to protect from moisture penetration. Use furring as needed to create an even surface.

8.3 *Furring*—Masonry and uneven surfaces, as examples, require wood furring strips (nominal 1 by 3 in. (25.4 by 76.2 mm) applied vertically and typically spaced 16 in. (406 mm)

on center for horizontal siding and applied horizontally and typically spaced 12 in. (305 mm) on center for vertical siding.

9. Application of Horizontal Siding

9.1 *General Requirements*—Vinyl siding and accessories expand and contract as much as $\frac{1}{4}$ in. (6.4 mm) over a 12-ft (3.65-m) length with changes in temperature. For this reason adhere to the following provisions:

9.1.1 When applied, vinyl siding products must be attached “loosely,” leaving approximately a $\frac{1}{32}$ -in. (0.8-mm) space between the vinyl and the fastener head or crown to permit thermal movement. (See Fig. 6.)

9.1.2 Center fasteners in slots of siding and accessories to permit possible expansion and contraction. (See Fig. 7.)

9.1.3 Do not face nail; it would restrict any thermal movement. (See Fig. 8.)

9.2 *Installation of Accessories*—Accessories, including starter strips, corner posts and door/window trim, are installed prior to application of the siding adhering to the provisions of 9.1 and those which follow.

9.2.1 *Starter Strip*—Determine the lowest point along the area to receive siding and install starter strips located so that the bottom edge of the initial course of siding will be on a level line and typically approximately $\frac{1}{2}$ in. (12.7 mm) below that point. Allow space for corner posts, J-channels, etc., and keep ends of starter strips $\frac{1}{4}$ to $\frac{1}{2}$ in. (6.4 to 12.7 mm) apart. Space fasteners not more than 10 in. (259 mm) apart, centered in nail slots.

9.2.2 *Corner Posts*—Outside and inside corner posts are to extend from approximately $\frac{1}{4}$ in. (6.4 mm) below the top of the wall to the bottom edge of the first course of siding being installed later. Attach each leg of the corner posts with fasteners, spaced not over 12 in. (305 mm) apart centered in nailing slots except the top fastener that is located at the upper end of a nailing slot.

NOTE 3—If more than one length of corner post is required, lap the upper piece over the lower piece by cutting away 1 in. (25.4 mm) of the nailing flange on the top piece. Lap $\frac{3}{4}$ in. (19 mm) allowing $\frac{1}{4}$ in. (6.4 mm) for expansion. (See Fig. 9.)

NOTE 4—At inside corners, as an alternative, two J-channels may be installed with the web of one abutting the adjacent wall and the web of the other J-channel abutting the shorter outer flange of the first J-channel. Attach as specified in 9.1.1.

9.2.3 *Door/Window Trim:*

9.2.3.1 Install J-channel on each side of door and window frames extending from the top of the frames to the bottom of the sill for doors and extending below for windows the depth of the short exposed leg of undersill trim (typically $\frac{7}{8}$ in. (22 mm)) that will be installed below window sills. Notch the lower end ($\frac{7}{8}$ in. excess) to later accept the siding panel under the window. (See Fig. 10.)

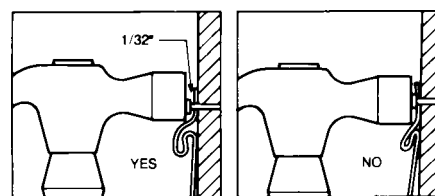


FIG. 6 Attachment of Vinyl Siding

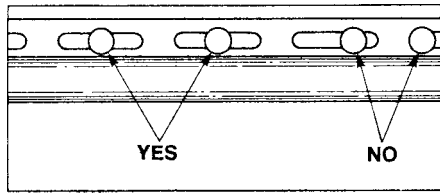


FIG. 7 Fastening Location in Siding Slots

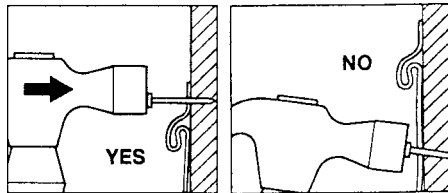


FIG. 8 Face Nailing of Vinyl Siding Prohibited

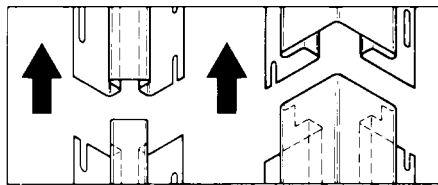


FIG. 9 Joining Corner Posts

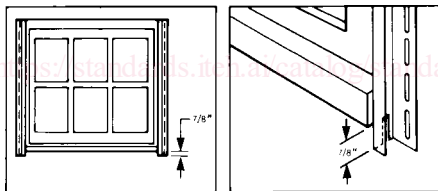


FIG. 10 Installation of Window and Door Trim

9.2.3.2 Across the top install head flashing (optional) and J-channel that extends to the outer edges of the exposed legs of the side J-channels. Cut out each end of the head flashing to match the contour of the side J-channels and fasten in place. Cut along the bends of the J-channel in $\frac{3}{4}$ in. (19 mm) from each end, bend down the resultant tabs of the web, insert them into the side J-channels and fasten in place as shown in Fig. 11.

9.3 Siding Panel Installation:

9.3.1 *General Considerations*—To make overlapped siding joints less noticeable on the sides of a building, start at the rear corner and install toward the front. On the front and rear of buildings start at the corners and install toward the entrance door. Avoid use of short panel lengths under 24 in. (610 mm). When lapping, factory-cut ends of panels should be on top of field-cut ends for best appearance.

9.3.2 Engage the bottom of the first panel and the starter strip. If backerboard insulation is used, drop it in behind the panel now. Make sure the panel is locked, but not pulled tight,

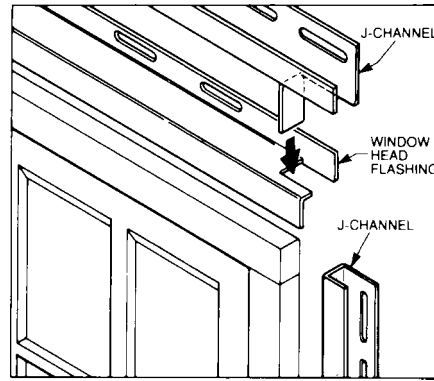


FIG. 11 Installation of Door and Window Trim

and fasten leaving $\frac{1}{4}$ in. (6.4 mm) gap at the corner posts. Space fasteners not over 16 in. (406 mm) on center. (See Fig. 12.)

9.3.3 Lap the next panel over the first by one-half of the factory cut notch. (See Fig. 13.) Insert backerboard (if used) and fasten.

9.3.4 To field-notch a panel where the factory notch has been cut off, cut away $1\frac{1}{2}$ in. (38 mm) of the nailing flange and lock. Cut a $\frac{1}{8}$ by $1\frac{1}{2}$ -in. (3.2 by 38-mm) notch from the bottom step of the panel, cutting away the hook on the back as well. (Field cut notches should be identical to factory notches.)

9.3.5 At the bottom of the window, install a piece of undersill trim snugly between the side J-channels and against the underside of the sill. Use the proper thickness of furring behind it to keep the pitch of the panel consistent. Flash or caulk the J-channel-undersill intersections to prevent water infiltration. (See Fig. 14.)

9.3.6 At a window a siding panel may have to be cut to fit under the opening. Be sure this panel extends on both sides of the window. Measure the panel to fit. Hold the siding panel under the window and mark the width of the opening on it. Allow $\frac{1}{4}$ in. (6.4 mm) clearance at the edges for insertion into each side of the J-channel. Measure the space between the bottom edge of the S-lock on the previous panel and the undersill trim, being sure to allow $\frac{9}{16}$ in. (14.3 mm) for insertion into the undersill trim receiver. Remove cut section. Punch snap locks every 6 in. (152 mm) along the horizontal cut edge. Slide the panel up into position so the bottom locks into the previous panel and the top snaps into the undersill trim and fasten. (See Fig. 15.)

9.3.7 Over a window or door, measure for the cuts. Mark the bottom portion of the panel and cut out the unwanted section. Install the panel. (See Fig. 16.)

NOTE 5—In some instances it may be necessary to place a piece of furring into the J-channel behind the cut edge of the siding to reduce wind

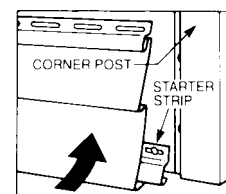


FIG. 12 Fastening of Initial Siding Panel