

ICC-ES Evaluation Report

ESR-1474

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This report is subject to re-examination in one year.

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A Subsidiary of the International Code Council®

DIVISION: 06—WOOD AND PLASTICS

Section: 06160—Sheathing

DIVISION: 07—THERMAL AND MOISTURE PROTECTION

Section: 07270—Air Barriers

Section: 07280—Water-resistive Barriers

REPORT HOLDER:

HUBER ENGINEERED WOODS, LLC
ONE RESOURCE SQUARE
10925 DAVID TAYLOR DRIVE, SUITE 300
CHARLOTTE, NORTH CAROLINA 28262
(800) 933-9220
www.huberwood.com

EVALUATION SUBJECT:
ZIP SYSTEM® WALL SHEATHING
1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2009 *International Building Code*® (2009 IBC)
- 2009 *International Residential Code*® (2009 IRC)
- 2009 *International Energy Conservation Code*® (2009 IECC)
- 2006 *International Building Code*® (2006 IBC)
- 2006 *International Residential Code*® (2006 IRC)
- 2006 *International Energy Conservation Code*® (2006 IECC)

Properties evaluated:

- Weather resistance
- Air leakage

2.0 USES

ZIP System® Wall Sheathing panels are used as combination wall sheathing, air barrier, and water-resistive barrier. This report recognizes the use of the system, when installed with ZIP System™ flexible flashing seam tape, in walls of Type V construction (IBC) and dwellings under the IRC, and as an alternate to the water-resistive barrier required in Chapter 14 of the IBC and Chapter 7 of the IRC, and to the air barrier required by Sections 402.4.1 and 502.4.3 of the IECC.

3.0 DESCRIPTION
3.1 Sheathing Panel:

The ZIP System® Wall Sheathing panel is an OSB wood structural panel having a laminated facer. The OSB substrate complies with US DOC PS 2 for wood structural panels and is overlaid on one side with a medium-density, phenolic-impregnated, kraft paper overlay. The paper overlay complies as a Grade D water-resistive barrier in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38). The panels are nominally 4 feet (1219 mm) wide by 8, 9, 10, 11 or 12 feet (2438, 2743, 3048, 3353 or 3658 mm) long and have a square-finished-edge or machined-edge profile.

3.2 Seam Tape:

The ZIP System™ seam tape is a self-adhering membrane tape consisting of acrylic adhesive laminated to a polyolefin backing. The tape is 0.012 inch (0.30 mm) thick with a minimum width of 3³/₄ inches (95.2 mm), and comes in rolls of various lengths.

4.0 INSTALLATION
4.1 General:

Installation of ZIP System® Wall Sheathing panels must comply with the applicable code, this report and the manufacturer's published installation instructions. The manufacturer's published installation instructions must be available at the jobsite during installation.

4.2 Application:

4.2.1 General: The ZIP System® Wall Sheathing panels must be attached to wall framing in accordance with the applicable code for wood structural panels, and in compliance with their panel span rating. The panels must be installed with the kraft paper overlay facing the exterior. In accordance with the manufacturer's published installation instructions, it is recommended that the square edges of the panels be installed with a 1/8-inch (3.2 mm) gap between adjacent panels and separating the panels from dissimilar materials. All ZIP System® Wall Sheathing panel seams must be sufficiently sealed with ZIP System™ seam tape. All overlay surfaces must be dry and free of sawdust and dirt prior to application of the ZIP System® seam tape. The ZIP System™ seam tape must extend a minimum of 1 inch (25.4 mm) past the panel edge T-joint intersections and must be centered within 1/2 inch (12.7 mm) over the middle of panel seams. The tape must be pressed firmly to adhere to the surfaces and seal the seams. No wrinkles that extend from the edge of the tape to the panel seam must be present in the applied tape.

4.2.2 Flashing: Flashing complying with the applicable code must be installed at the perimeter of door and window assemblies, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies, and similar projections, and at built-in gutters and similar locations where moisture could enter the wall. An adhesive-backed flashing tape recognized in a current ICC-ES evaluation report must be installed to seal all ZIP System® Wall Sheathing flashing joints. Penetration items must be sealed to the panels. The adhesive-backed flashing tape must comply with the ICC-ES Acceptance Criteria for Flashing Materials (AC148). See Figures 1 through 7 of this report for typical flashing, water-resistive barrier and air barrier assembly installation details.

4.2.3 Air Barrier Assembly: ZIP System® Wall Sheathing fastened to maximum 24-inch-on-center (610 mm), wood wall framing, using 6d nails spaced at 6 inches (152 mm) around panel edges and at 12 inches (305 mm) in the field, leaving a $\frac{1}{8}$ -inch (3.18 mm) gap between panels, forms an air barrier assembly when the gaps between panels and the perimeter of penetrations are sealed with ZIP System™ seam tape as required by Section 4.2.1. The assembly has demonstrated a maximum air leakage of 0.0072 cfm/ft² [0.037 L/(s•m²)] infiltration and 0.0023 cfm/ft² [0.012 L/(s•m²)] exfiltration at a pressure differential of 1.57 psf (75 Pa).

5.0 CONDITIONS OF USE

The ZIP System® Wall Sheathing panel described in this report complies with, or is a suitable alternative to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.

5.2 The ZIP System® Wall Sheathing panels must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict between the instructions and this report, this report must govern.

5.3 The ZIP System® Wall Sheathing panels must be covered with either a code-complying exterior wall covering, or one that is recognized in a current ICC-ES evaluation report.

5.4 The OSB sheathing must comply with US DOC PS-2.

5.5 Fire-resistance-rated construction is outside the scope of this report.

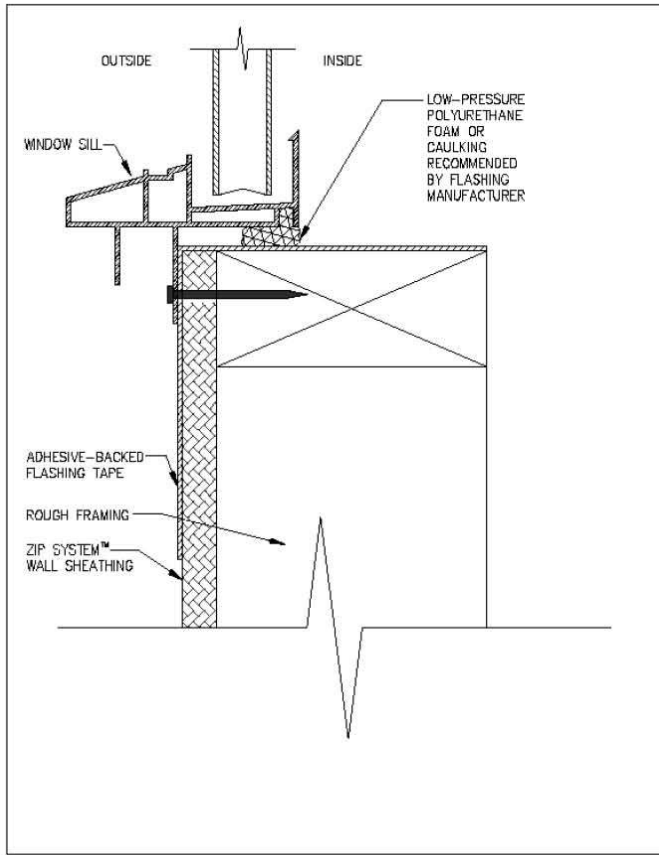
6.0 EVIDENCE SUBMITTED

6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-resistive Barriers (AC310), dated May 2008.

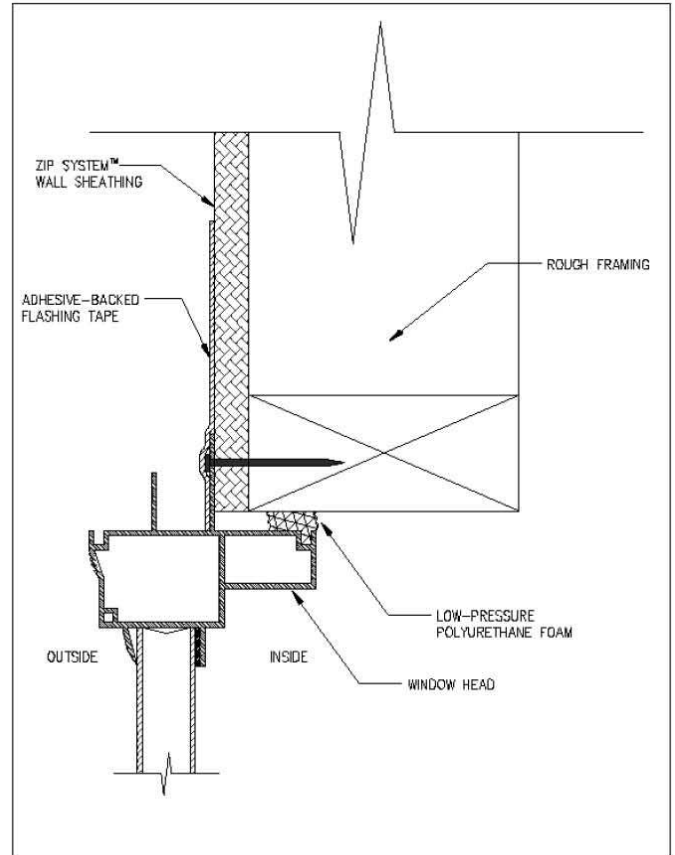
6.2 Air leakage data in accordance with ASTM E 2357.

7.0 IDENTIFICATION

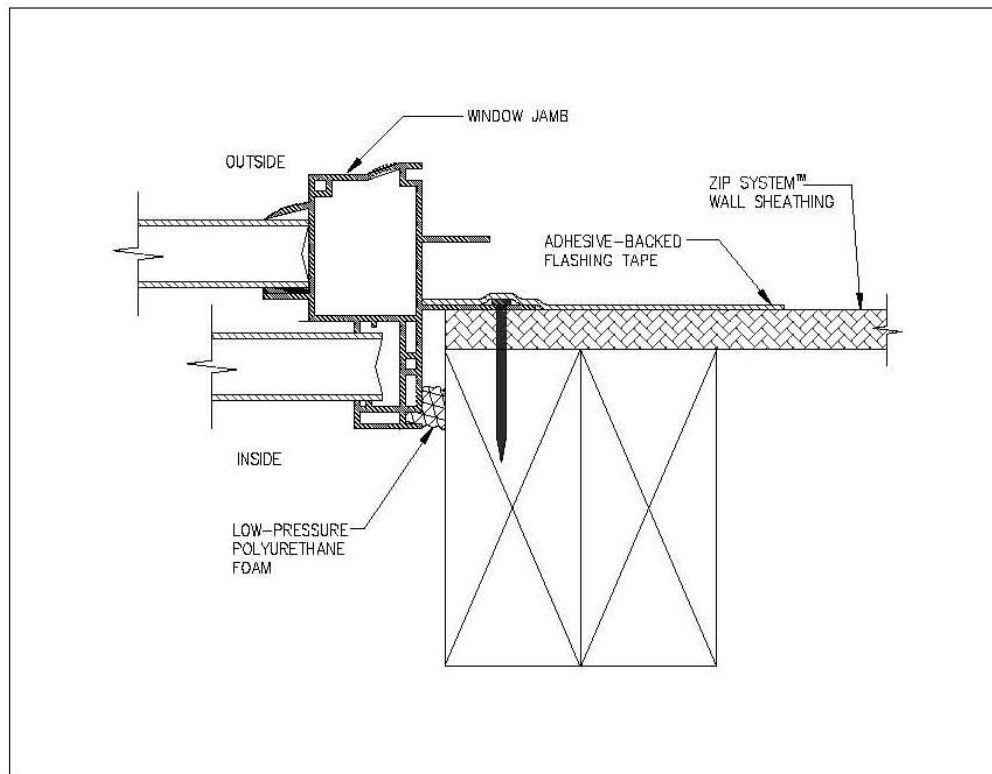
Each ZIP System® Wall Sheathing panel described in this report must bear a label on the back face of the panel that includes the manufacturer's name (Huber Engineered Woods LLC), the product name, nominal panel thickness, the evaluation report number (ESR-1474), and the words "Mill 229, Crystal Hill, Virginia"; "Mill 228, Easton, Maine"; "Mill 230, Spring City, Tennessee"; "Mill 227, Commerce, Georgia"; or "Mill 290, Broken Bow, Oklahoma." The OSB sheathing must also bear a label demonstrating compliance with US DOC PS 2 from an approved inspection agency. The ZIP System™ seam tape roll must be labeled with the ZIP System Wall logo and the evaluation report number ESR-1474 (see Figure 8).



SILL SECTION

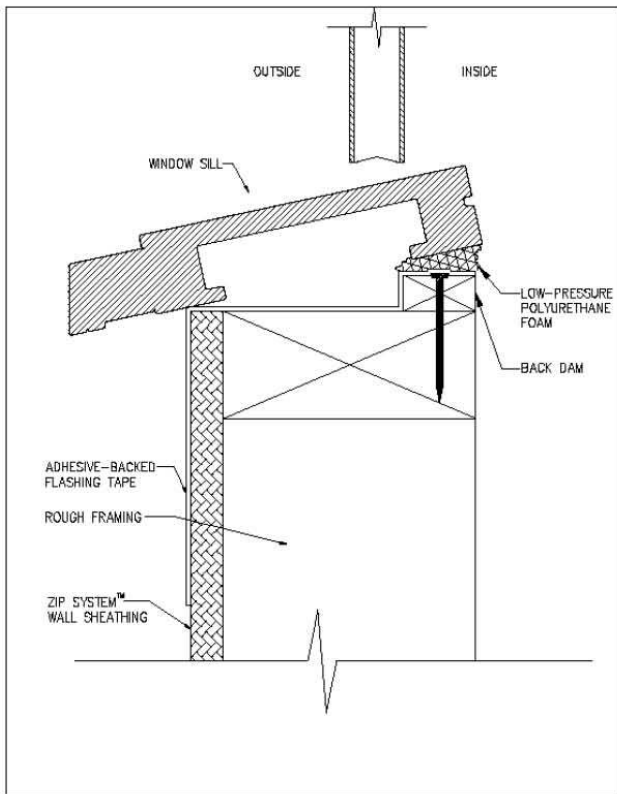


HEADER SECTION

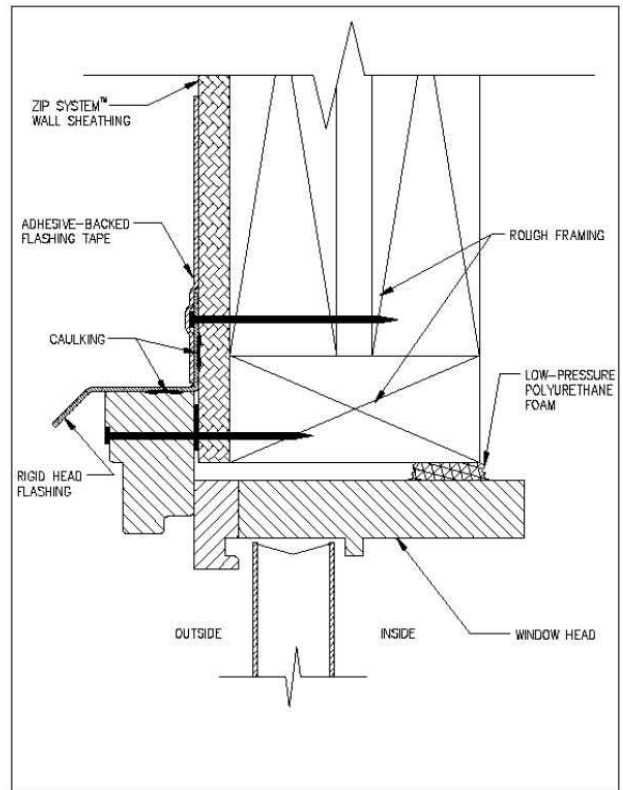


JAMB SECTION

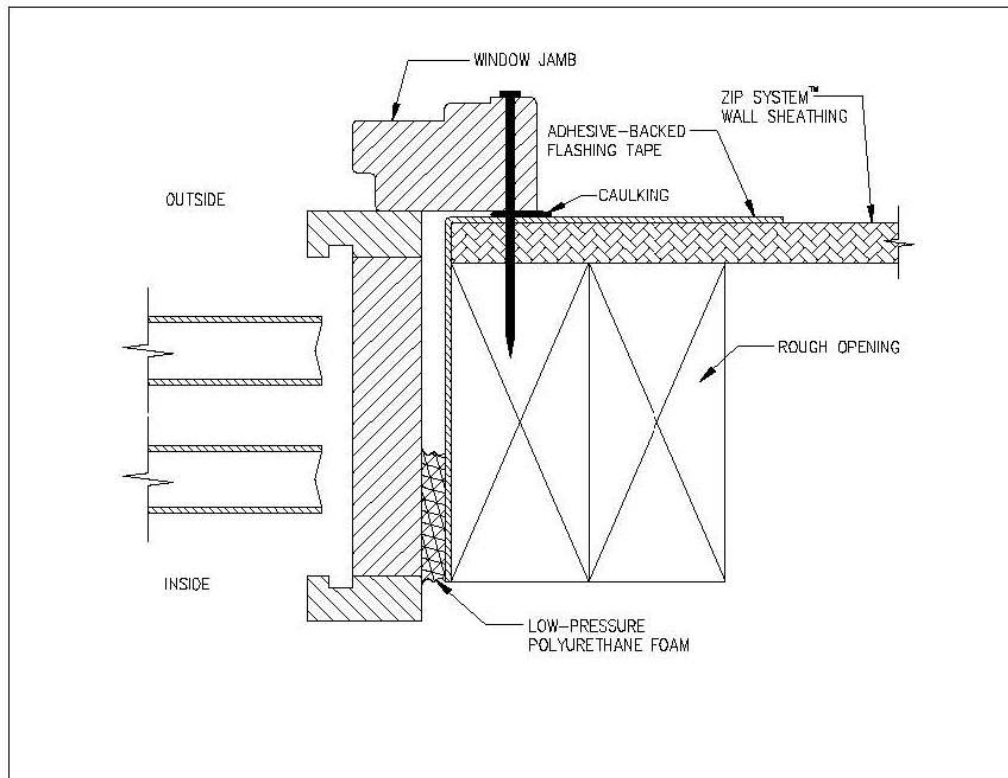
FIGURE 1—TYPICAL CROSS SECTIONS OF FLANGED WINDOW



SILL SECTION



HEADER SECTION



JAMB SECTION

FIGURE 2—TYPICAL CROSS SECTIONS OF INSTALLED BRICK MOLD WINDOW

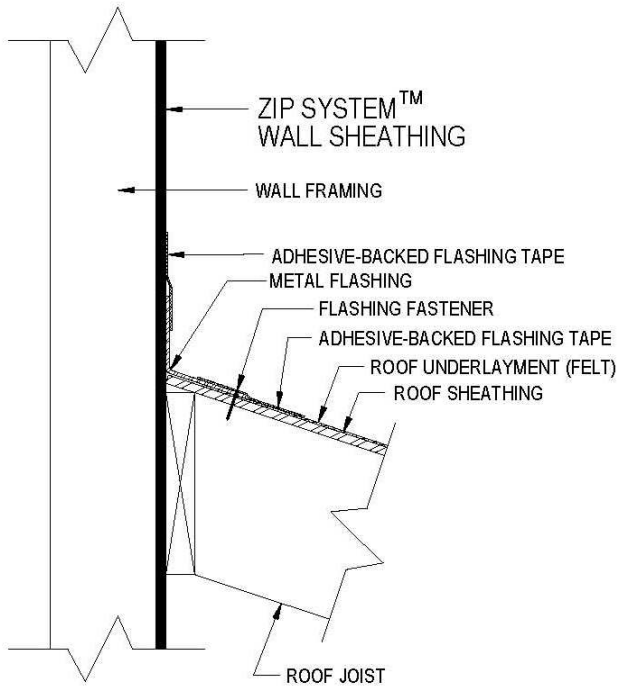


FIGURE 3—ROOF-WALL INTERSECTION (OPTION 1)

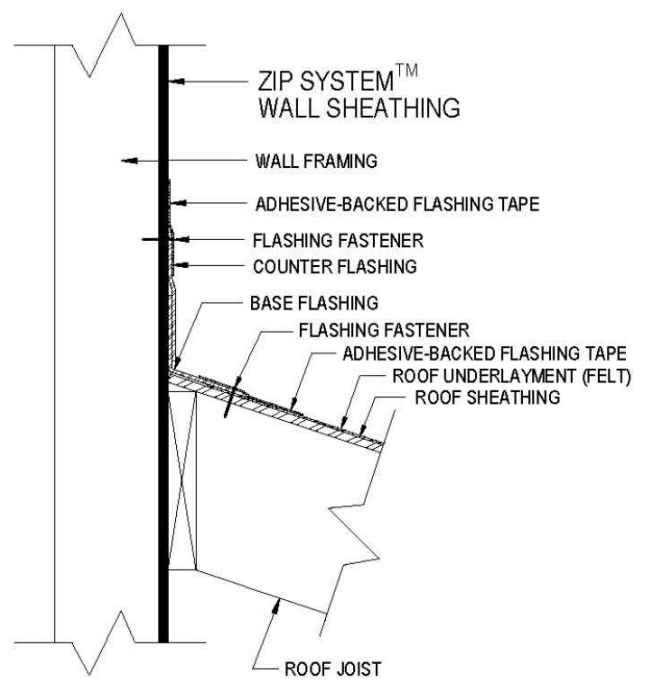


FIGURE 4—ROOF-WALL INTERSECTION (OPTION 2)

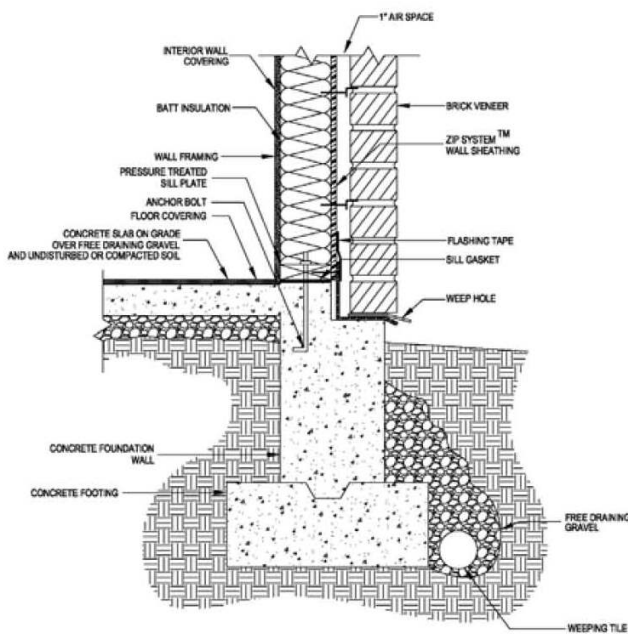


FIGURE 5—TYPICAL WALL-SILL INTERSECTION AND FLASHING DETAILS FOR BRICK SIDING

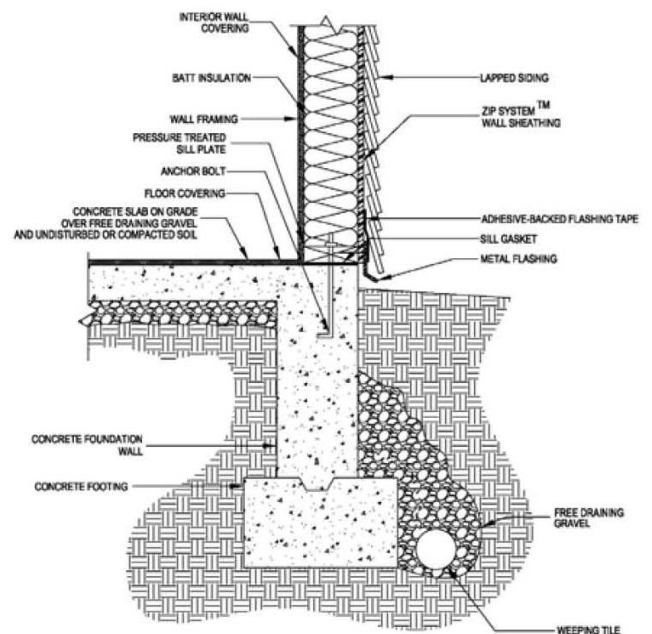


FIGURE 6—TYPICAL WALL-SILL INTERSECTION AND FLASHING DETAILS FOR LAPPED SIDING

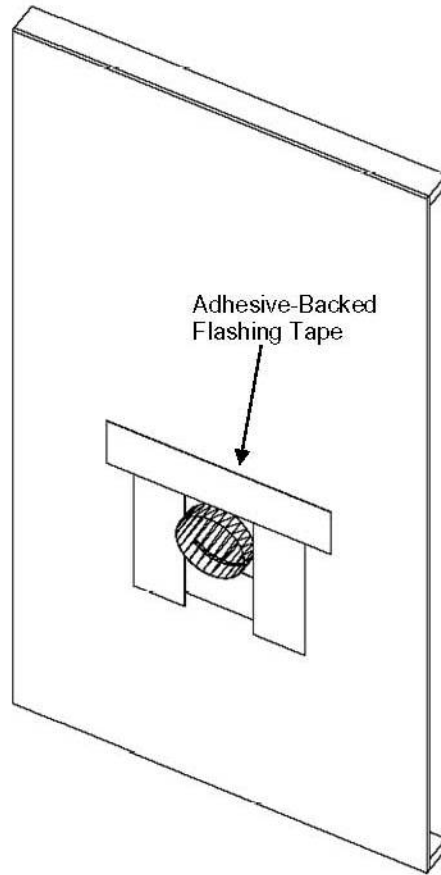


FIGURE 7—INSTALLATION AT PENETRATION OPENING (NON-FIRE-RESISTANCE RATED)



FIGURE 8—LABELING FOR THE ZIP SYSTEM SEAM TAPE ROLL