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ICC-ES Evaluation Report

ESR-1474

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Reissued 10/2016
This report is subject to renewal 10/2018.

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

SECTION: 06 16 00—SHEATHING

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

SECTION: 07 25 00—WATER-RESISTIVE BARRIERS/WEATHER BARRIERS

SECTION: 07 27 00—AIR BARRIERS

REPORT HOLDER:

HUBER ENGINEERED WOODS, LLC

**ONE RESOURCE SQUARE
10925 DAVID TAYLOR DRIVE, SUITE 300
CHARLOTTE, NORTH CAROLINA 28262**

EVALUATION SUBJECT:

ZIP SYSTEM® WALL SHEATHING



“2014 Recipient of Prestigious Western States Seismic Policy Council (WSSPC) Award in Excellence”



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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

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EVALUATION SUBJECT:

ZIP SYSTEM® WALL SHEATHING

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2015, 2012 and 2009 *International Building Code*® (IBC)
- 2015, 2012 and 2009 *International Residential Code*® (IRC)
- 2015, 2012 and 2009 *International Energy Conservation Code*® (IECC)

For evaluation of compliance with codes adopted by the Los Angeles Department of Building and Safety (LADBS), see [ESR-1474 LABC and LARC Supplement](#).

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 ZIP System® Sheathing, 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 R402.4 and C402.5.1 of the 2015 IECC (Sections R402.4 and C402.4.1 of the 2012 IECC; Sections 402.4.1 and 502.4.3 of the 2009 IECC).

3.0 DESCRIPTION

3.1 Sheathing Panel:

The ZIP System® Wall Sheathing panel is an OSB wood structural panel having a laminated exterior facer. The Exposure 1 OSB complies with US DOC PS 2 for wood structural panels. The exterior facer is a medium-density, phenolic-impregnated, polymer-modified sheet material qualifying as a Grade D water-resistive barrier (required by Section 2510.6 of the 2015, 2012 and 2009 IBC). The panels are nominally 4 feet wide by 8, 9, 10, 11 or 12 feet long and have a square-finished-edge or machined-edge profile.

When tested in accordance with ASTM E96 (water method), the polymer-modified sheet overlay has a minimum vapor permeance of 12 perms [68.6 X 10⁻¹¹ kg/(Pa-s-m²)]. Equivalent Water Vapor Transmission rate (WVT) of the polymer-modified sheet overlay is 83.4 g/(24h-m²) when tested at 73.4°F (23°C).

The water-resistive barrier and air barrier properties of the ZIP System® Wall Sheathing Panels are not affected when the panels are manufactured to comply as facing materials for SIPs in accordance with Section R610.3.2 and Table R610.3.2 of the 2015 IRC (Section R613.3.2 and Table R613.3.2 of the 2012 and 2009 IRC).

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 polymer-modified sheet 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 gap between adjacent panels and between panels and 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. Wrinkles in the ZIP System™ seam tape are acceptable unless they create a leak path to the panel seam.

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 Flexible Flashing Materials (AC148) and must be installed in accordance with the manufacturer's published installation instructions. 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 minimum 6d nails spaced at 6 inches (152 mm) around panel edges and at 12 inches (305 mm) in the field, leaving a 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) when tested in accordance with ASTM E2357.

5.0 CONDITIONS OF USE

The ZIP System® Wall Sheathing panel and tape system 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:

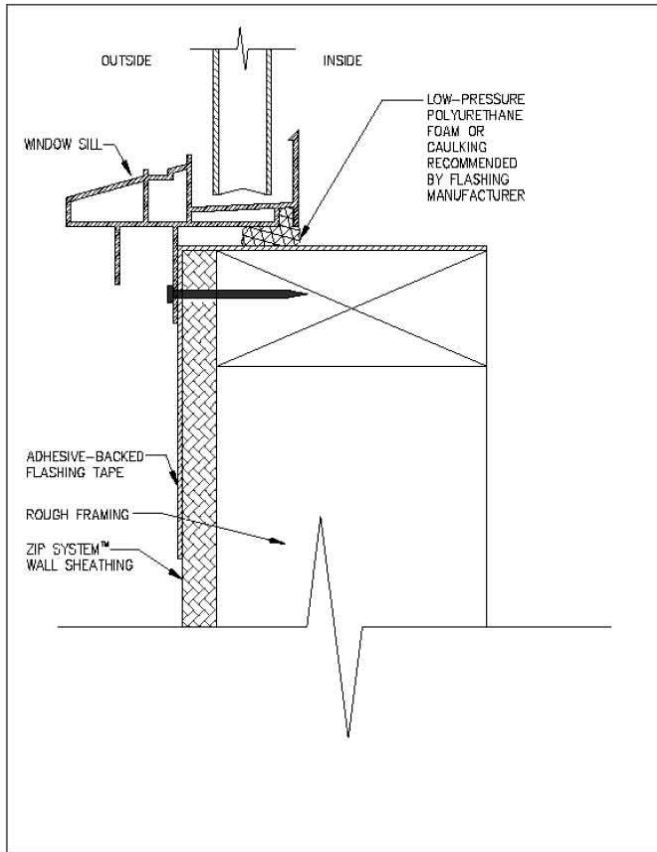
- 5.1 This evaluation report and the manufacturer's published installation instructions, when required by the code official, must be submitted at the time of permit application.
- 5.2 The ZIP System® Wall Sheathing panels must be manufactured, identified and installed in accordance with this report and 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 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.
- 5.6 The Zip System® Wall Sheathing panels are manufactured by Huber Engineered Woods, LLC, in Crystal Hill, Virginia; Easton, Maine; Commerce, Georgia; Broken Bow, Oklahoma; Spring City, Tennessee; and Shawinigan, Quebec Canada, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

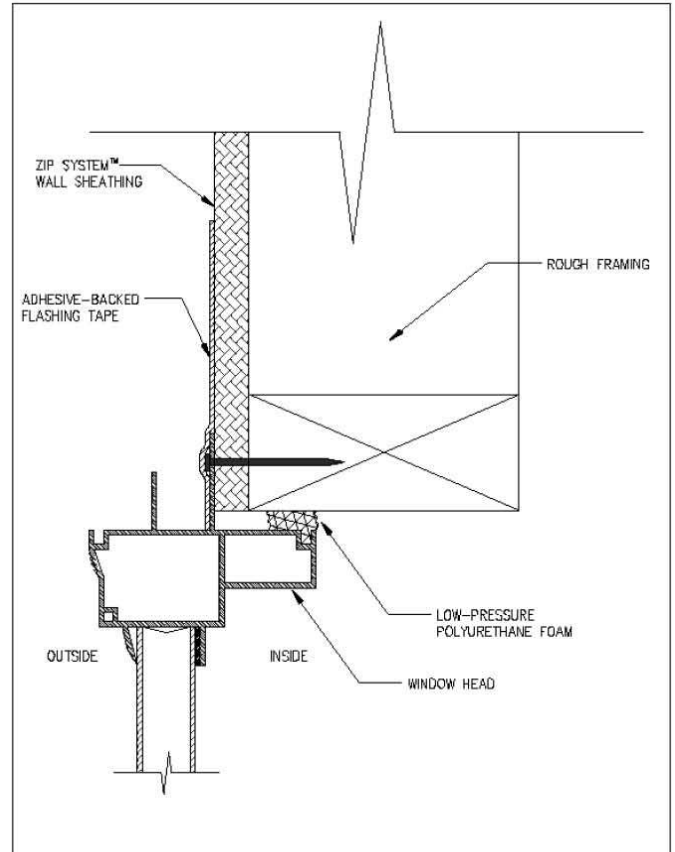
- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-resistive Barriers (AC310), dated May 2008 (editorially revised August 2015).
- 6.2 Air leakage data in accordance with ASTM E2357.

7.0 IDENTIFICATION

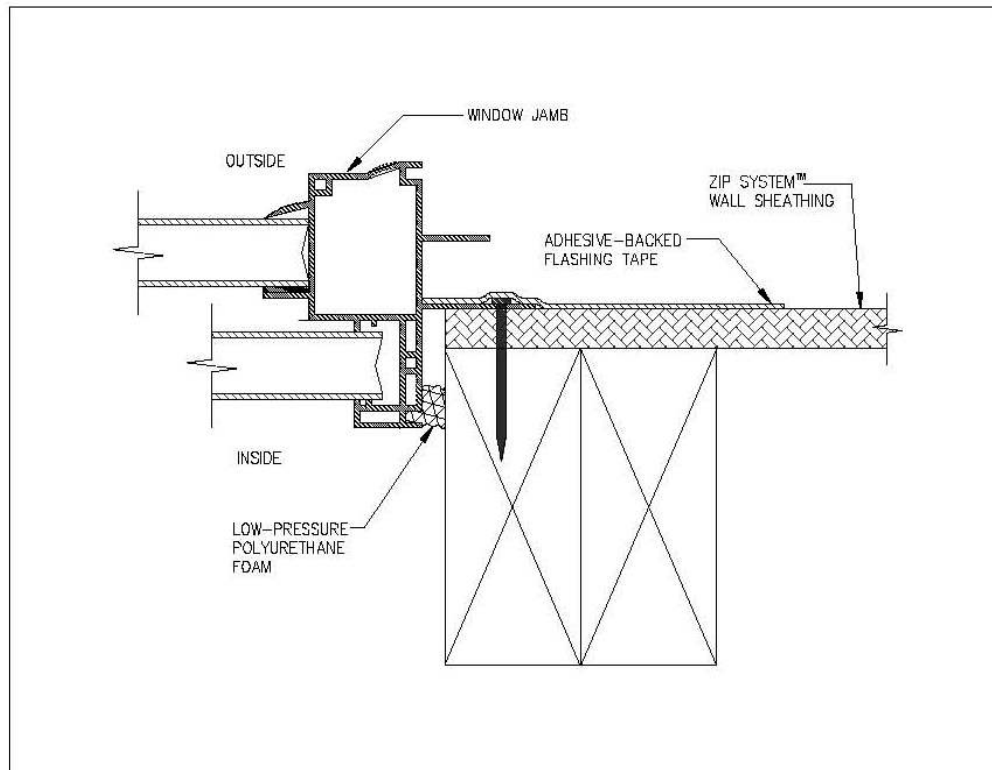
Each ZIP System® Wall Sheathing panel described in this report must bear a label that includes the manufacturer's name (Huber Engineered Woods LLC), the product name, nominal panel thickness, the evaluation report number (ESR-1474), and the words "Mill 229, Crystal Hill, Virginia"; "Mill 228, Easton, Maine"; "Mill 227, Commerce, Georgia"; "Mill 290, Broken Bow, Oklahoma"; "Mill 230, Spring City, Tennessee", or "Mill 390, Shawinigan, Quebec Canada." 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 logo and the evaluation report number ESR-1474 (see Figure 8).



SILL SECTION

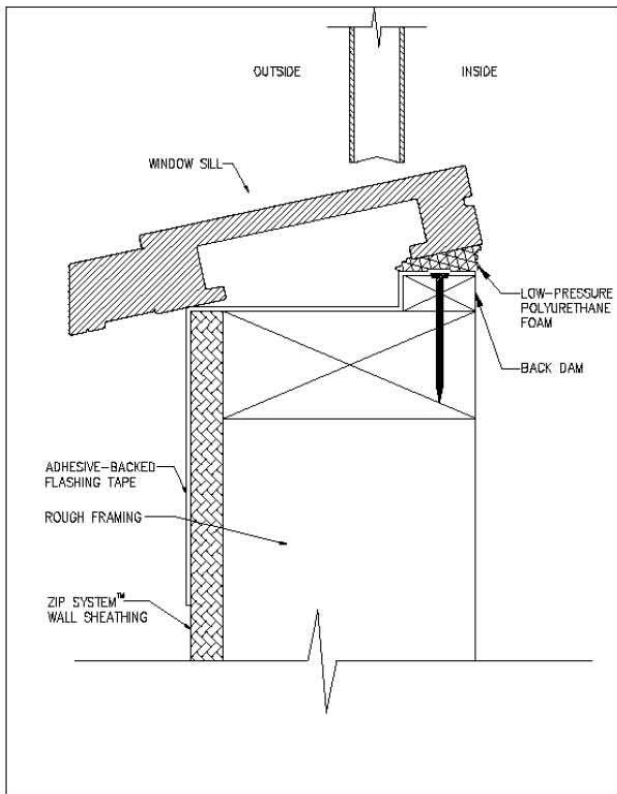


HEADER SECTION

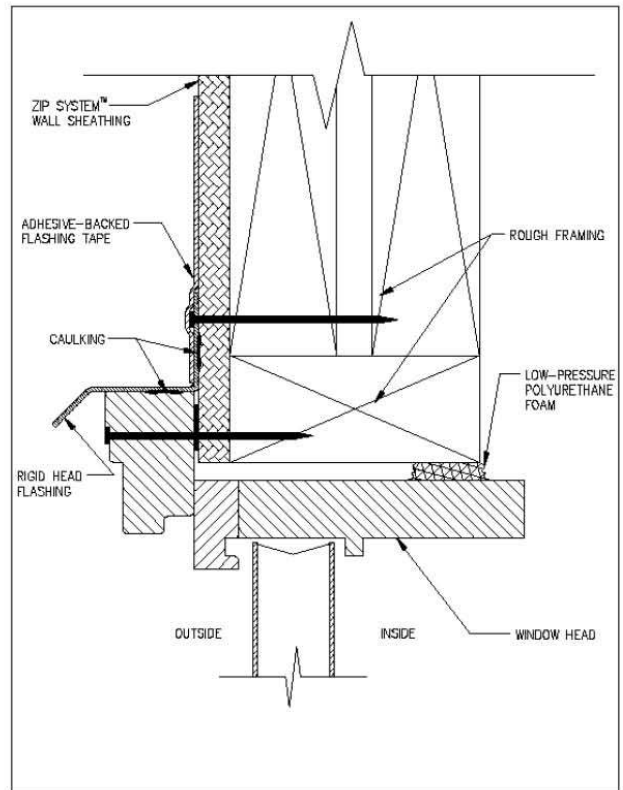


JAMB SECTION

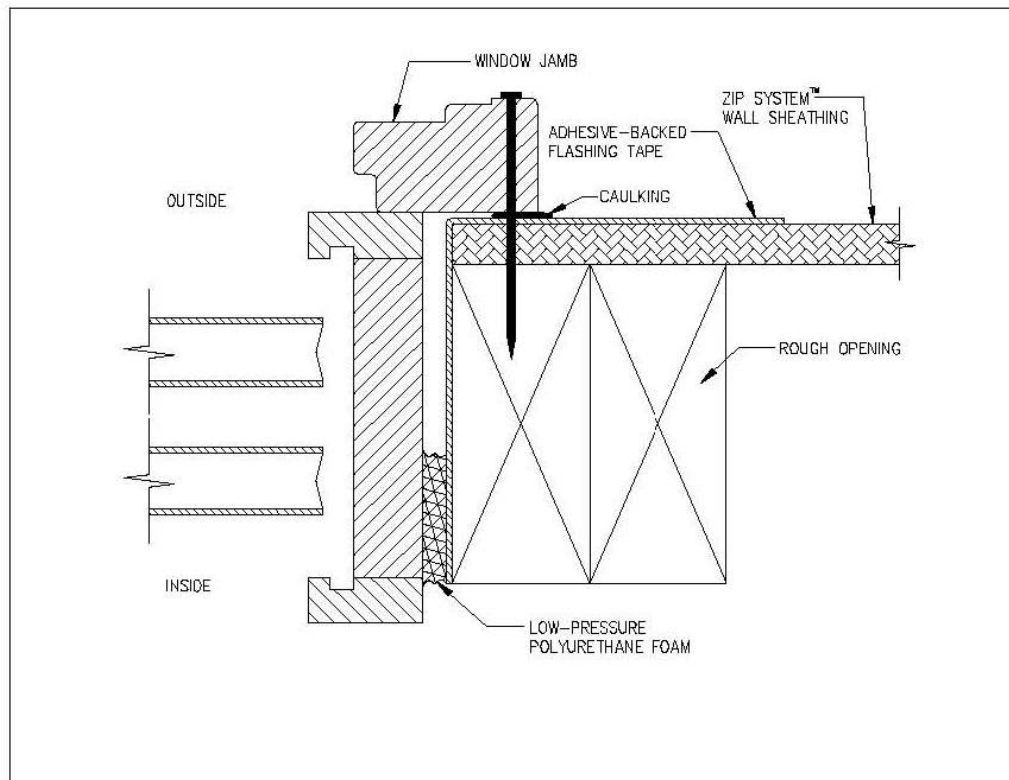
FIGURE 1—TYPICAL CROSS SECTIONS OF FLANGED WINDOW



SILL SECTION



HEADER SECTION



JAMB SECTION

FIGURE 2—TYPICAL CROSS SECTIONS OF INSTALLED BRICK MOLD WINDOW

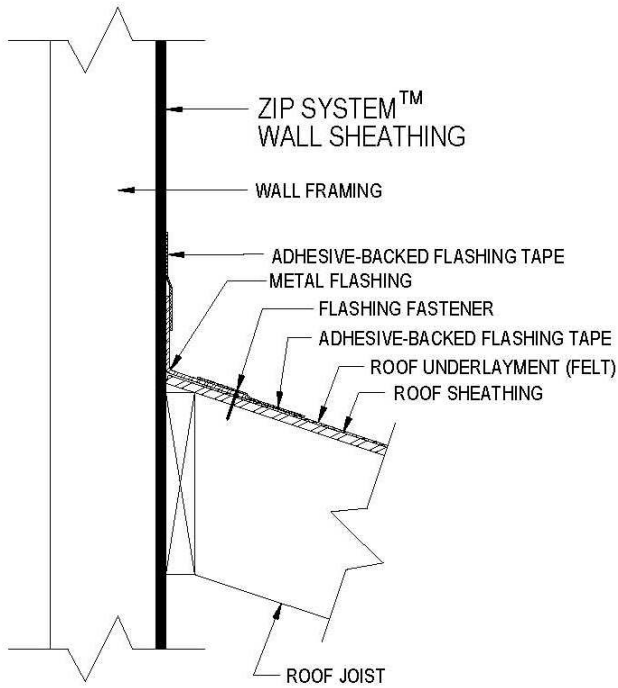


FIGURE 3—ROOF-WALL INTERSECTION (OPTION 1)

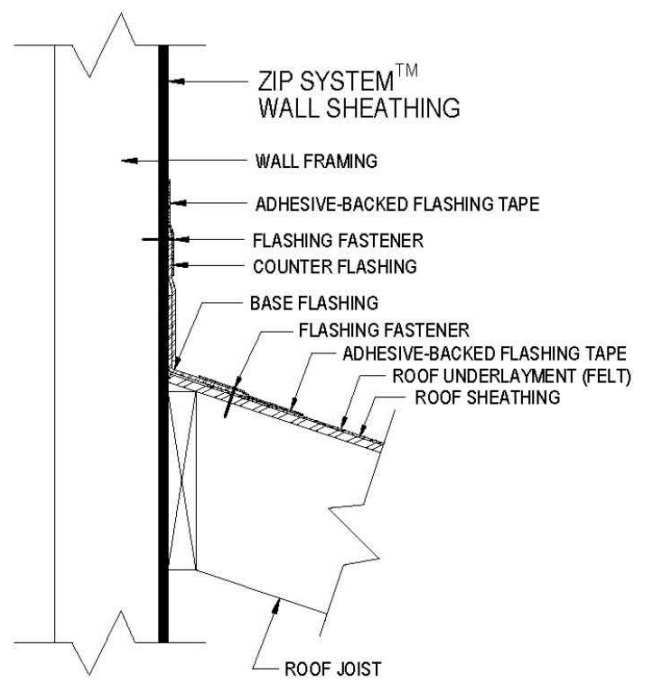


FIGURE 4—ROOF-WALL INTERSECTION (OPTION 2)

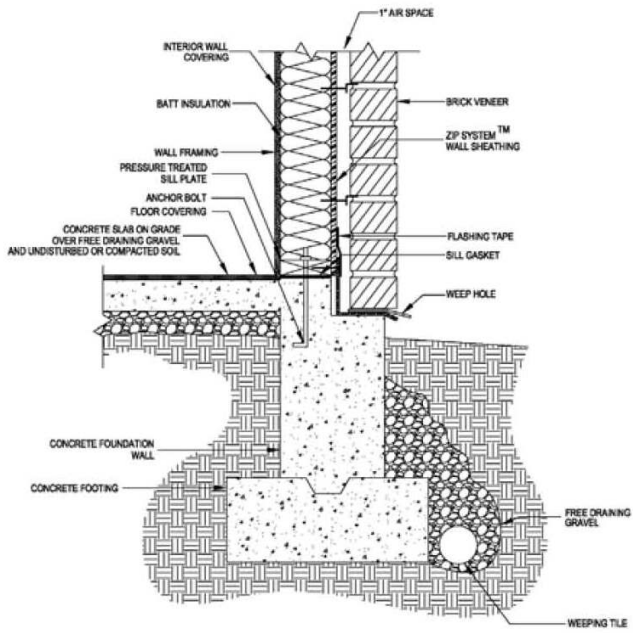


FIGURE 5—TYPICAL WALL-SILL INTERSECTION AND FLASHING DETAILS FOR BRICK SIDING

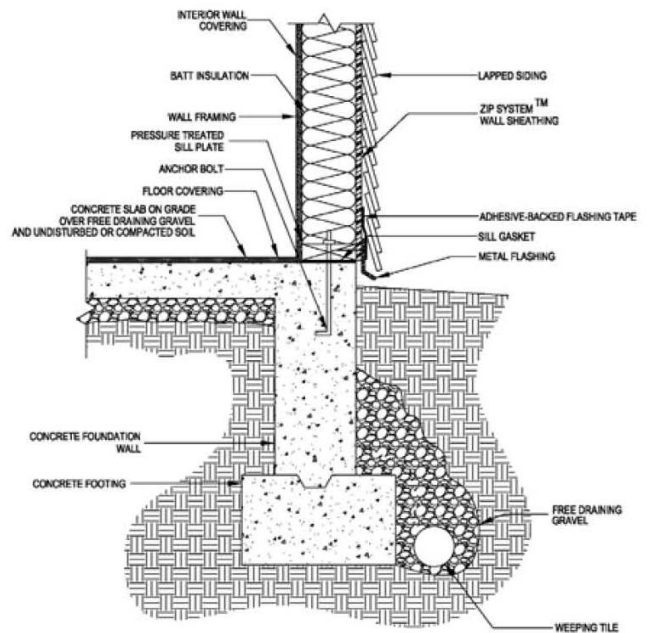


FIGURE 6—TYPICAL WALL-SILL INTERSECTION AND FLASHING DETAILS FOR LAPPED SIDING

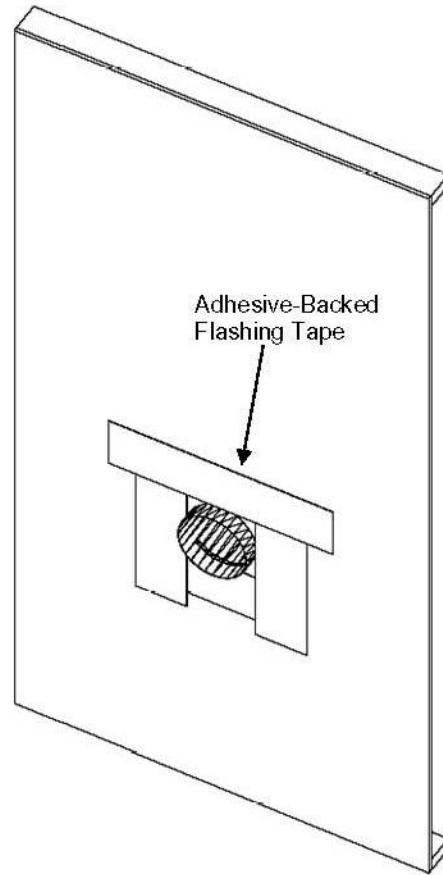


FIGURE 7—INSTALLATION AT PENETRATION OPENING (NON-FIRE-RESISTANCE RATED)



FIGURE 8—LABELING FOR THE ZIP SYSTEM™ SEAM TAPE ROLL

ICC-ES Evaluation Report

ESR-1474 LABC and LARC Supplement

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EVALUATION SUBJECT:

ZIP SYSTEM® WALL SHEATHING

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the ZIP System® Wall Sheathing, described in ICC-ES master evaluation report [ESR-1474](#), has also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2017 *City of Los Angeles Building Code* (LABC)
- 2017 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The ZIP System® Wall Sheathing, described in Sections 2.0 through 7.0 of the master evaluation report [ESR-1474](#), complies with the LABC Chapter 14, and the LARC Section R703, and is subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The ZIP System® Wall Sheathing, described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the master evaluation report [ESR-1474](#).
- The design, installation, conditions of use and identification are in accordance with the 2015 *International Building Code*® (2015 IBC) provisions noted in the master evaluation report [ESR-1474](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.

This supplement expires concurrently with the master report, reissued October 2016 and revised May 2018.

ICC-ES Evaluation Report

ESR-1474 CBC AND CRC Supplement

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ZIP SYSTEM® WALL SHEATHING

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that ZIP System® Wall Sheathing, recognized in ICC-ES master evaluation report ESR-1474, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2016 *California Building Code* (CBC)
- 2016 *California Residential Code* (CRC)

2.0 CONCLUSIONS

2.1 CBC

The ZIP System® Wall Sheathing, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1474, complies with CBC Chapter 14, provided the design and installation are in accordance with the 2015 *International Building Code*® (2015 IBC) provisions noted in the master report and the additional requirements of the CBC Chapters 14, 16, 16A, 17, 17A and 23, as applicable.

2.2 CRC

The ZIP System® Wall Sheathing, as described in Sections 2.0 through 7.0 of the master evaluation report ESR-1474, complies with the CRC, provided the design and installation are in accordance with the 2015 *International Residential Code*® (2015 IRC) provisions noted in the master report.

The ZIP System® Wall Sheathing recognized in this supplement has not been evaluated for compliance with the *International Wildland-Urban Interface Code*®.

This supplement expires concurrently with the master report, reissued October 2016 and revised May 2018.

ICC-ES Evaluation Report

ESR-1474 FBC Supplement

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EVALUATION SUBJECT:

ZIP SYSTEM® WALL SHEATHING

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that ZIP System® Wall Sheathing panels, recognized in ICC-ES master evaluation report ESR-1474, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2017 *Florida Building Code—Building*
- 2017 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The ZIP System® Wall Sheathing panels, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1474, comply with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design and installation are in accordance with the 2015 *International Building Code*® provisions noted in the master report.

Use of the ZIP System® Wall Sheathing panels for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this evaluation report.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

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