

ICC-ES Evaluation Report

ESR-1473

Reissued September 2023

This report also contains:

- CBC Supplement
- FBC Supplement
- LABC Supplement

Subject to renewal September 2025



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<p>DIVISION: 06 00 00 - WOOD, PLASTICS, AND COMPOSITES Section: Section: 07 30 05—Roofing Felt and Underlayment</p>	<p>REPORT HOLDER: HUBER ENGINEERED WOODS, LLC</p>	<p>EVALUATION SUBJECT: ZIP SYSTEM® ROOF SHEATHING</p>	
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1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2021, 2018 and 2015 [International Building Code® \(IBC\)](#)
- 2021, 2018 and 2015 [International Residential Code® \(IRC\)](#)

For evaluation for compliance with codes adopted by the [Los Angeles Department of Building and Safety \(LADBS\)](#), see [ESR-1473 LABC and LARC Supplement](#).

Properties evaluated:

- Structural—wind uplift resistance
- Nonclassified roof covering
- Classified roof covering
- Weather resistance

2.0 USES

ZIP System® roof sheathing panels are used as combination roof sheathing and roof underlayment.

3.0 DESCRIPTION

The ZIP System® roof sheathing panels are OSB wood structural panels having a laminated facer. The panels are installed with Zip System™ flexible flashing tape, Zip System™ VP flashing tape or ZIP System™ liquid flash, which allows the systems to be used as an alternate to the underlayment required in Chapter 15 of the IBC and Chapter 9 of the IRC. The OSB substrate complies with U.S. DOC PS-2 for wood structural panels. The panels are overlaid on one side with a medium-density, phenol-impregnated, polymer-modified sheet material. The standard-size panels are nominally 4 feet by 8 feet. Oversize panels, wider than 4 feet nominal or longer than 8 feet nominal, or both, are also produced. The panels are available with either a square-finished-edge profile, a tongue-and-groove edge profile, or a machined-edge profile. The Zip System™ flexible flashing tape is a pressure-sensitive, self-adhering, sheet-type membrane consisting of acrylic adhesive laminated to a polyolefin backing.

The Zip System™ VP flashing tape is a pressure-sensitive tape consisting of an elastomeric, non-woven, reinforced film with an acrylic adhesive. The tape rolls or packaging are labeled with ESR-1473, and the faces of the tapes are labeled

with the manufacturer's identification (Zip System™). Zip System™ flexible flashing tape is 0.012-inch-thick (0.30 mm) with a minimum width of 3 inches (76.2 mm), comes in rolls of varying lengths, and is the subject of ESR-2227. Zip System™ VP flashing tape is 0.015-inch-thick (0.038 mm), 3³/₄ inches (95 mm) wide rolls of varying length, and is the subject of ESR-2227. The ZIP System™ liquid flash is a single-component ready-mixed, flexible, polymer-based, gun-grade material which complies with AAMA 714 and is the subject of ESR-4597.

4.0 INSTALLATION

4.1 General:

Installation of ZIP System® roof sheathing must comply with the applicable code, this report and the manufacturer's published installation instructions. The installation instructions must be available at the jobsite at all times during installation. The instructions within this report must govern if there are any conflicts between the manufacturer's published instructions and this report.

4.2 Application:

The ZIP System® roof sheathing panels must be installed with the longer dimension perpendicular to the roof framing and fastened to the roof framing in accordance with the applicable code for wood structural panels. The panels must be installed in accordance with the panel span rating as shown on the panels. All corners are to be securely fastened. Tongue-and-groove and machined edge panels are designed to provide the correct gap size at the panel edges during installation. Squared-edged panels must be spaced apart a minimum of 1/8 inch (3.18 mm) at the time of installation. End joints of adjacent panel runs must be staggered. The panel must be installed with the laminated phenol-impregnated polymer-modified sheet material facing to the exterior.

All ZIP System® roof sheathing seams must be sealed with the ZIP System™ flexible flashing tape, ZIP System™ VP flashing tape or ZIP System™ liquid flash. All overlay surfaces must be free of any significant presence of debris, particles or sawdust prior to installation of the ZIP System™ flexible flashing tape, Zip System™ VP flashing tape or ZIP System™ liquid flash. Overlay surfaces must be void of any free water prior to application of the ZIP System™ flexible flashing tape, Zip System™ VP flashing tape or ZIP System™ liquid flash. The ZIP System™ flexible flashing tape, Zip System™ VP flashing tape or ZIP System™ liquid flash 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.

If the ZIP System™ flexible flashing tape or Zip System™ VP flashing tape is used, it must be pressed firmly to adhere to the surfaces and seal the seams. Wrinkles in the ZIP System™ flexible flashing tape and Zip System™ VP flashing tape are acceptable unless they create a leak path to the panel seam. If the ZIP System™ liquid flash is used to seal panel joints, the panel joints must be completely filled with the liquid flash, and a continuous bead is applied to either side of the joint. The beads of ZIP System™ liquid flash must be troweled to provide a continuous application a minimum of 1-inch to either side of the joint at a minimum thickness of 12 mils.

All ZIP System® roof sheathing overlay defects, openings, cracks, etc. caused by handling or construction work, must be covered with the ZIP System™ flexible flashing tape, Zip System™ VP flashing tape or ZIP System™ liquid flash.

4.3 Roof Assemblies

4.3.1 Class A Roof Coverings: Underlayment is not required for a minimum 7/16-inch thick ZIP System® roof sheathing with Class A asphalt glass fiber mat shingles.

4.3.2 Nonclassified Roof Coverings: The ZIP System® roof sheathing panels are limited to installation on buildings permitted to have nonclassified roof coverings using code-complying asphalt-fiberglass shingles, metal shingles, metal panels, wood shakes, wood shingles, built-up roofing, slate and slate-type shingles, and clay and concrete tile roof coverings. Roof coverings may be applied directly to the taped ZIP System® roof panels unless multi-layer underlayments are required.

4.4 Wind Uplift Resistance:

Wind uplift design loads and ZIP System® roof wood structural panel allowable uplift resistance shall be determined in accordance with Sections 1609 and 2304.8.2 of the IBC and Section R301.2.1 of the IRC. Roof coverings must be fastened to the sheathing with mechanical fasteners sufficient to resist the design uplift load.

5.0 CONDITIONS OF USE

The ZIP System® roof sheathing panels described in this report comply with, or are suitable alternatives 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® roof sheathing panels must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions.
- 5.3 The ZIP System® roof sheathing panels are limited to code-approved structural use for wood structural panels with either a 24/16, 32/16 or 40/20 span rating.
- 5.4 In jurisdictions enforcing the IBC, the roof covering system incorporating the panels is limited to installations in the following construction types:
- Type III-B and Type V-B
 - Type III-A or Type V-A under the conditions specified in footnote d of IBC Table 601
 - Type III-A or Type V-A under the conditions specified in footnote b of IBC Table 601, for occupancies other than Group F-1, H, M and S-1
- In jurisdictions enforcing the IRC, the roof covering system incorporating the panels may be installed on structures constructed in accordance with the IRC.
- 5.5 Enclosed attics and rafter spaces must be ventilated in accordance with the applicable code, except where unvented conditioned attic assemblies are permitted by IRC Section R806.5.
- 5.6 An ice barrier must be provided as required by Section 1507.2.7 of the 2021 and 2018 IBC and Section 1507.2.8.2 of the 2015 IBC and Section R905.2.7 of the IRC.
- 5.7 Installation is limited to roofs having a slope of 2:12 (16.67% slope) or greater.
- 5.8 ZIP System® roof sheathing panels are manufactured by Huber Engineered Woods, LLC, in Crystal Hill, Virginia; Commerce, Georgia; Broken Bow, Oklahoma; Easton, Maine; Spring City, Tennessee; and Shawinigan, Quebec, Canada, under a quality-control program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

Data in accordance with the [ICC-ES Acceptance Criteria for Wood Structural Panel Roof Sheathing Factory-laminated with an Alternative Roof Underlayment \(AC266\)](#), dated May 2008 (editorially updated April 2021).

7.0 IDENTIFICATION

- 7.1 Each ZIP System® roof sheathing panel covered by this report must bear a label that includes the manufacturer's name (Huber Engineered Woods, LLC) and address; the product name; the evaluation report number (ESR-1473); and the grade, performance category and bond classification.

The panel mill label and span rating, grade, performance category and bond classification label must be visible on the bottom face of panels, opposite the laminated facer.

The ZIP System™ flexible flashing tape and Zip System™ VP flashing tape roll or packaging is labeled with the product name and the evaluation report number (ESR-1473).

- 7.2 The report holder's contact information is the following:

HUBER ENGINEERED WOODS, LLC
ONE RESOURCE SQUARE
10925 DAVID TAYLOR DRIVE, SUITE 300
CHARLOTTE, NORTH CAROLINA 28262
(800) 933-9220
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DIVISION: 06 00 00—WOOD, PLASTICS, AND COMPOSITES
Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 30 05—Roofing Felt and Underlayment

REPORT HOLDER:

HUBER ENGINEERED WOODS, LLC

EVALUATION SUBJECT:

ZIP SYSTEM® ROOF SHEATHING

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the ZIP System® Roof Sheathing panels, described in ICC-ES evaluation report [ESR-1473](#), have 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:

- 2023 *City of Los Angeles Building Code* (LABC)
- 2023 *City of Los Angeles Residential Code* (LARC)

2.0 CONCLUSIONS

The ZIP System® Roof Sheathing panels, described in Sections 2.0 through 7.0 of the evaluation report [ESR-1473](#), comply with LABC Chapters 15 and 23, and LARC Section R803 and Chapter 9, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

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

- All applicable sections in the evaluation report [ESR-1473](#).
- The design, installation, conditions of use and identification are in accordance with the 2021 *International Building Code*® (IBC) and 2021 *International Residential Code*® (IRC) provisions noted in the evaluation report [ESR-1473](#).
- 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 evaluation report, reissued September 2023.

DIVISION: 06 00 00—WOOD, PLASTICS, AND COMPOSITES
Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 30 05—Roofing Felt and Underlayment

REPORT HOLDER:

HUBER ENGINEERED WOODS, LLC

EVALUATION SUBJECT:

ZIP SYSTEM® ROOF SHEATHING

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the ZIP System® roof sheathing panels, described in ICC-ES evaluation report ESR-1473, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2022 and 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) AKA: California Department of Health Care Access and Information (HCAI) and the Division of the State Architect (DSA), see Sections 2.1.1 and 2.1.2 below.

- 2022 and 2019 *California Residential Code* (CRC)

2.0 CONCLUSIONS**2.1 CBC**

The ZIP System® roof sheathing panels, described in Sections 2.0 through 7.0 of the evaluation report ESR-1473, comply with CBC Chapters 15 and 23, provided the design and installation are in accordance with the 2021 and 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of the CBC Chapters 16, and 17, as applicable.

2.1.1 OSHPD:

The applicable OSHPD Sections and Chapters of the CBC are beyond the scope of this supplement.

2.1.2 DSA:

The applicable DSA Sections and Chapters of the CBC are beyond the scope of this supplement.

2.2 2.2 CRC

The ZIP System® roof sheathing panels, as described in Sections 2.0 through 7.0 of the evaluation report ESR-1473, comply with the CRC, provided the design and installation are in accordance with the 2021 and 2018 *International Residential Code*® (IRC) provisions noted in the evaluation report.

This supplement expires concurrently with the evaluation report, reissued September 2023.

DIVISION: 06 00 00—WOOD, PLASTICS, AND COMPOSITES
Section: 06 16 00—Sheathing

DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION
Section: 07 30 05—Roofing Felt and Underlayment

REPORT HOLDER:

HUBER ENGINEERED WOODS, LLC

EVALUATION SUBJECT:

ZIP SYSTEM® ROOF SHEATHING

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that ZIP System® roof sheathing, described in ICC-ES evaluation report ESR-1473, has also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2020 Florida Building Code—Building
- 2020 Florida Building Code—Residential

2.0 CONCLUSIONS

The ZIP System® roof sheathing, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report ESR-1473, complies with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-1473 for the 2018 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable.

Use of the ZIP System® roof sheathing 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 the evaluation report.

For products falling under Florida Rule 61G20-3, 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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