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ICC-ES Evaluation Report

ESR-1473

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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

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

EVALUATION SUBJECT:

ZIP SYSTEM® AND ZIP SYSTEM+™ ROOF SHEATHING



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



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EVALUATION SUBJECT:

ZIP SYSTEM® AND ZIP SYSTEM+™ ROOF 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)

Properties evaluated:

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

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

2.0 USES

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

3.0 DESCRIPTION

The ZIP System® and ZIP System+™ roof sheathing panels are wood structural panels having a laminated facer. The ZIP System+™ panels are manufactured using a different resin than the Zip System® panels. The panels are installed with a proprietary seam tape, 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 and is 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 proprietary seam tape is a self-adhering sheet-type membrane consisting of acrylic adhesive laminated to a polyolefin backing, and the face of the tape is labeled with ESR-1473. The tape is 0.012 inch thick (0.30 mm) with a minimum width of 3 inches (76.2 mm), and comes in rolls of varying length.

4.0 INSTALLATION

4.1 General:

Installation of ZIP System® and ZIP System+™ roof sheathing must comply with the applicable code, this report and the manufacturer's published installation instructions. The installation instructions are to 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® and 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® and ZIP System+™ roof sheathing seams must be sealed with the Zip System® tape. All overlay surfaces must be free of any significant presence of debris, particles or sawdust prior to installation of the ZIP System® tape. Overlay surfaces must be void of any free water prior to application of the ZIP System® tape. The ZIP System® tape edges must be sealed and the tape

is to be centered within $\pm 1/2$ inch (12.7 mm) of all panel edge seam centers. All ZIP System[®] and ZIP System+[™] roof sheathing surface defects, openings, cracks, etc., that completely penetrate the overlay and substrate, and caused by handling or construction work, must be covered with the ZIP System[®] tape. The ZIP System[®] tape must extend a minimum of 1 inch (25.4 mm) past the panel edge T-joint intersections. The ZIP System[®] tape must be adhered to the ZIP System[®] and ZIP System+[™] roof sheathing. Wrinkles in the ZIP System seam tape are acceptable unless they create a leak path to the panel seam.

4.3 Roof Assemblies

4.3.1 Classified Roof Coverings

4.3.1.1 Class A: Underlayment is not required for a minimum $1/2$ -inch thick Zip System+[™] roof sheathing with Class A asphalt glass fiber mat shingles.

4.3.1.2 Class B: 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[®] and 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[®] and ZIP System+[™] roof panels unless multi-layer underlayments are required.

4.4 Wind Uplift Resistance:

Wind uplift design loads and ZIP System[®] and ZIP System+[™] roof wood structural panel allowable uplift resistance shall be determined in accordance with Sections 1609 and 2304.8.2 of the 2015 IBC or 2304.7.2 of the 2012 and 2009 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[®] and 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[®] and 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[®] and 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 2015 and 2012 IRC Section R806.5 or 2009 IRC Section R806.4.

5.6 An ice barrier must be provided as required by Section 1507.2.8.2 of the IBC and Section R905.2.7 of the 2015 IRC and Section R905.2.7.1 of the 2012 and 2009 IRC.

5.7 Installation is limited to roofs having a slope of 2:12 (16.67% slope) or greater.

5.8 ZIP System[®] and 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 October 2015).

7.0 IDENTIFICATION

Each ZIP System[®] and 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[®] tape roll is labeled with the product name and the evaluation report number (ESR-1473).

ICC-ES Evaluation Report

ESR-1473 LABC and LARC Supplement

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Section: 07 30 05—Roofing Felt and Underlayment

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EVALUATION SUBJECT:

ZIP SYSTEM® AND 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® and ZIP System+™ Roof Sheathing panels, described in ICC-ES master 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:

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

2.0 CONCLUSIONS

The ZIP System® and ZIP System+™ Roof Sheathing panels, described in Sections 2.0 through 7.0 of the master evaluation report [ESR-1473](#), comply with the LABC Chapters 15 and 23, and the 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® and ZIP System+™ Roof Sheathing panels, described in this evaluation report must comply with all of the following conditions:

- All applicable sections in the master evaluation report [ESR-1473](#).
- 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-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 master report, reissued September 2017 and revised May 2018.

ICC-ES Evaluation Report

ESR-1473 CBC and CRC Supplement

Issued December 2017

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EVALUATION SUBJECT:

ZIP SYSTEM® AND 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® and ZIP System+™ roof sheathing panels, recognized in ICC-ES master evaluation report ESR-1473, have 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® and ZIP System+™ roof sheathing panels, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1473, comply with CBC Chapters 15 and 23, 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 15, 16, 16A, 17, 17A and 23, as applicable. The ZIP System® and ZIP System+™ roof sheathing panels have not been evaluated under CBC Chapter 7A for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Area.

2.2 CRC

The ZIP System® and ZIP System+™ roof sheathing panels, as described in Sections 2.0 through 7.0 of the master evaluation report ESR-1473, comply 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® and ZIP System+™ roof sheathing panels have not been evaluated under CRC Section R337 for use in the exterior design and construction of new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Area.

The ZIP System® and ZIP System+™ roof sheathing panels recognized in this supplement have not been evaluated for compliance with the *International Wildland-Urban Interface Code*®.

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ICC-ES Evaluation Report

ESR-1473 FBC Supplement

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1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that ZIP System® and Zip System+™ roof sheathing, recognized in ICC-ES master evaluation report ESR-1473, has 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® and ZIP System+™ roof sheathing, described in Sections 2.0 through 7.0 of the master evaluation report ESR-1473, complies 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® and 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 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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