Number: 424

Originally Issued: 10/09/2015 Revised: 09/08/2023 Valid Through: 10/31/2024

HUBER ENGINEERED WOODS, LLC 10925 David Taylor Drive, Suite 300 Charlotte, NC 28262 800-933-9220

www.huberwood.com

# ZIP SYSTEM® ROOF SHEATHING

### **CSI Sections:**

06 16 00 Sheathing 07 30 05 Roofing Felt and Underlayment

#### 1.0 RECOGNITION

Huber Engineered Woods ZIP System® Roof Sheathing described in this report was evaluated for use as roof sheathing. The structural performance, roof classification, and weather resistance properties of the ZIP System® Roof Sheathing were evaluated for compliance with the following codes:

- 2021 and 2018 International Building Code ((IBC)
- 2021 and 2018 International Residential Code (IRC)
- 2023 and 2020 Florida Building Code, Building (FBC, Building)
- 2023 and 2020 Florida Building Code, Residential (FBC, Residential)

### 2.0 LIMITATIONS

Use of the ZIP System® Roof Sheathing panels recognized in this report is subject to the following limitations:

- **2.1** Installation of ZIP System® Roof Sheathing panels shall comply with the applicable code, this report, and the manufacturer's published installation instructions. The installation instructions shall be available at the jobsite during installation. If there are any conflicts between the manufacturer's published instructions and this report, the more stringent requirements shall govern.
- **2.2** ZIP System® Roof Sheathing panels are limited to code approved structural use for wood structural panels with a 24/16, 32/16, or 40/20 span rating.
- **2.3** Installation is limited to roofs having a slope of 2:12 (16.67% slope) or greater. A second underlayment shall be required for all roofs with slopes below 4:12. A second underlayment shall also be required for clay and concrete tile regardless of slope.
- **2.4** Attic spaces shall be ventilated as required by Sections 1202 of the IBC and R806 of the IRC
- **2.5** ZIP System® Roof Sheathing is manufactured in Crystal Hill, Virginia; Commerce, Georgia; Broken Bow, Oklahoma;

Spring City, Tennessee; Shawinigan, Quebec; and Easton, Maine.

#### 3.0 PRODUCT USE

### 3.1 General:

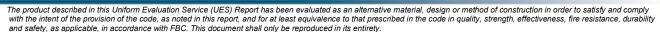
- **3.1.1 Sheathing:** ZIP System<sup>®</sup> Roof Sheathing panels are US DOC PS-2 wood structural panels used as roof sheathing in accordance with Section 2303.1.5 of the IBC or Section R803.2 of the IRC, as applicable. The roof covering system incorporating the panels is recognized for use in buildings and structures of Types III-B and V-B construction, buildings and structures of Types III-A and V-A construction as specified in footnote b to Table 601 of IBC, or buildings and structures constructed in accordance with the IRC, as applicable.
- **3.1.2 Underlayment:** The panels may be used as roof underlayment in accordance with Section 1507 of the IBC or Section R905 of the IRC when installed in accordance with the manufacturer's published installation instructions. The roof coverings may be applied directly to the taped ZIP System® roof panels. ZIP System Flexible Flashing Tape applied over all the joints in the ZIP System® Roof Sheathing, in accordance with the manufacturer's installation instructions, is an alternative to Exception 1 under Section 1507.1.1 of the IBC and Exception 2 of Section R905.1.1 of the IRC for asphalt, metal, mineral surfaced, slate and slate-type roof coverings.

### 3.2 Design:

**3.2.1 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, or one of the methods indicated in Section R301.2.1 of IRC, as applicable. Roof coverings shall be fastened to the sheathing with mechanical fasteners sufficient to resist the design uplift load.

### 3.2.2 Classified Roof Assemblies

- **3.2.2.1 Class A:** The Class A rated roof assembly consists of minimum <sup>7</sup>/<sub>16</sub>-inch-thick (11.1 mm) Zip System<sup>®</sup> Roof Sheathing with Class A asphalt glass fiber mat shingles. Additional underlayment is not required to achieve the Class A rating.
- **3.2.2.2 Nonclassified:** ZIP System® Roof Sheathing panels may be installed on buildings permitted to have nonclassified roof coverings. The roofs may be finished with codecomplying 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.





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**3.3 Installation:** The ZIP System® Roof Sheathing panels shall be installed in accordance with their panel span rating, with the longer dimension perpendicular to the roof framing, and fastened in accordance with the applicable code for wood structural panels. The panels shall be installed with the laminated moisture barrier surface facing to the exterior. End joints of adjacent panel runs shall be staggered and all corners shall be securely fastened. Tongue-and-groove and machined panel edges are designed to provide the correct gap size at the panel edges during installation. Square-edged panels shall be spaced with a <sup>1</sup>/<sub>8</sub>-inch (3.18 mm) minimum gap.

All ZIP System® Roof Sheathing seams shall be sealed with ZIP System™ Flexible Flashing Tape. Panel surfaces shall be dry and free of any significant presence of particles, sawdust or other debris or protrusions prior to installation of the tape. The tape shall be adhered to the top side of ZIP System® Roof Sheathing. All penetrations of the ZIP System® Roof Sheathing surface overlay, such as openings, cracks, etc. caused by handling or construction work, shall be covered with the ZIP System® Flashing Tape.

ZIP System<sup>TM</sup> Flexible Flashing Tape is a self-adhering sheet-type membrane consisting of acrylic adhesive laminated to a polyolefin backing and is available in rolls of various lengths and widths. ZIP System™ Flexible Flashing Tape is recognized in ESR-2227 as meeting the requirements of AAMA 711, Level 3. Use of ZIP System<sup>TM</sup> Flexible Flashing Tape is conditional upon that the product's compliance to AC148 in an evaluation report by an approved evaluation entity. Users shall independently verify the current validity of this evaluation report. The tape used for sealing panel seams shall be minimum 3<sup>3</sup>/<sub>4</sub> inches (95 mm) wide. The ZIP System Flashing Tape edges shall be sealed, and the tape shall be centered within  $\pm \frac{1}{2}$  inch (12.7 mm) of all panel edge seam centers. The tape shall extend a minimum of 1 inch (25.4 mm) past the panel edge T-joint intersections. Wrinkles in the ZIP System seam tape are acceptable unless they create a leak path to the panel seam.

### 4.0 PRODUCT DESCRIPTION

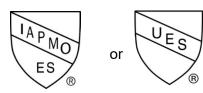
ZIP System® Roof Sheathing panels are Exterior Grade wood structural panels having a laminated moisture barrier surface on the exterior side of the panel. The wood structural panel substrate complies with US DOC PS-2, as applicable. The moisture barrier surface on the wood structural panel consists of a medium density phenolic impregnated overlay. The laminated moisture barrier on the surface of the panels and the flashing tape allows the system to be used as a code complying underlayment. The system meets the underlayment requirements as described in Section 3.1.2 of this report in accordance with Chapter 15 of IBC and Chapter 9 of IRC.

The standard-size panels are nominally 4 feet by 8 feet (1219 mm by 2438 mm). Panels longer than 8 feet in length are also produced. The panels are available in thicknesses of  $^{7}/_{16}$ ,  $^{1}/_{2}$ , and  $^{5}/_{8}$  inch (11.1 mm, 12.7 mm, and 15.9 mm) with a square

edge, a self-spacing edge profile, and with a tongue-and-groove edge profile also available for the <sup>5</sup>/<sub>8</sub>-inch-thick (15.9 mm) panels.

### 5.0 IDENTIFICATION

A label shall be affixed on at least one of the following: product, packaging, installation instructions, or descriptive literature. The label shall include the company name or trademark, model number, the name and/or mark of the inspection agency, and the Evaluation Report Number (ER-424) to identify the products recognized in this report. A die-stamp mark may also substitute for the label. Either of the IAPMO Uniform ES Marks of Conformity may also be used as shown below:



**IAPMO UES ER-424** 

### 6.0 SUBSTANTIATING DATA

- **6.1** 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 revised April 2021.
- **6.2** Test data according to TAS 100 (A) Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at the Ridge Area.
- **6.3** Test reports are from laboratories in conformance with ISO/IEC 17025.

### 7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Huber Engineered Woods ZIP System® Roof Sheathing panels to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. The Huber Engineered Woods ZIP System® Roof Sheathing is produced at locations noted in Section 2.5 of this report under a quality control program with periodic inspections under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

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## FLORIDA SUPPLEMENT

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### 1.0 RECOGNITION

Huber Engineered Woods ZIP System<sup>®</sup> Roof Sheathing, as evaluated and represented in IAPMO UES Evaluation Report ER-424 and with changes as noted in this supplement, is a satisfactory alternative for use in buildings built under the following codes (and regulations):

- 2023 and 2020 Florida Building Code, Building (FBC, Building)
- 2023 and 2020 Florida Building Code, Residential (FBC, Residential)

#### 2.0 LIMITATIONS

Use of the Huber Engineered Woods ZIP System® Roof Sheathing recognized in this report is subject to the following additional limitations:

**2.1** When using ZIP System® Roof Sheathing as underlayment for clay or concrete tile installations, ZIP System® Roof Sheathing panels shall be minimum ½ inch (12.7 mm) thick and shall be considered as the base layer of two-ply underlayment applications when meeting the recommendations of FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual — 6<sup>th</sup> Edition and 7<sup>th</sup> Edition, as applicable.

**2.2** ZIP System Roof Sheathing has not been evaluated for use in the High-velocity Hurricane Zone.

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- **2.3** Verification that the report holder's quality assurance program is audited by a quality assurance entity, approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission), to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance shall be provided for products falling under Section (5)(d) of Florida Rule 61G20-3.008.
- **2.4** This supplement expires concurrently with ER-424

#### 3.0 PRODUCT USE

**3.1. Underlayment:** The panels may be used as roof underlayment in accordance with Section 1507 of the Florida Building Code, Building, or Section R905 of the Florida Building Code, Residential, when installed in accordance with the manufacturer's published installation instructions. The roof coverings may be applied directly to the taped ZIP System® roof panels. An additional layer of underlayment shall be used in accordance with the code for concrete and clay tile. ZIP System Flexible Flashing Tape, applied over all the joints in the ZIP System® Roof Sheathing in accordance with the manufacturer's installation instructions, complies with Method 3 under Section 1507.1.1.1 of the FBC, Building, and Section R905.1.1.1 of the FBC, Residential, for asphalt, metal, mineral surfaced, slate and slate-type roof coverings.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org