

Specifier: The purpose of this guide specification is to assist the specifier in correctly specifying ZIP System® Sheathing and ZIP System™ Rainscreen under absorptive cladding. ZIP System® Sheathing has an integral air and moisture barrier and the ZIP System® Rainscreen can perform as a secondary layer to meet requirements of the IBC and IRC for two layers of water-resistive barrier under absorptive claddings such as adhered masonry or exterior cement plaster. The specifier needs to edit the guide specifications to fit the needs of the specific project and its conditions. Contact Huber Engineered Woods to assist in appropriate product selections. Throughout the guide specification, there are Specifier Notes to assist in the editing of the file. Green text relates to sustainability and red text in brackets indicates a selection needs to be made. The Section Name and Number have been designated by Huber Engineered Woods and are not listed in MasterFormat® but does conform to the user-defined assignment as described in MasterFormat®. The design professional may elect to rename, and renumber based on their preference and application.



## SECTION 07 25 19

### RAINSCREEN ASSEMBLY

Huber Engineered Woods

ZIP System® Sheathing and ZIP System™ Rainscreen - Drainage and Ventilation Mat

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

Specifier: Edit "Section Includes" list to correspond with project specific requirements. When using this guide specification for the weather barrier assembly, coordinate other project specifications from Division 06 and Division 07 for each project specific application. This section does not include the exterior cladding – design professional needs to coordinate cladding installation with requirements for each specific assembly.

- A. Wall sheathing with integral weather-resistive barrier.
- B. Fabric faced drainage and ventilation mat.

##### 1.2 ACTION SUBMITTALS

- A. Product Data: Product Data: For each rainscreen assembly component, and accessory product. Include manufacturer's technical data indicating performance properties.
- B. Shop Drawings: Indicating location and extent of rainscreen assembly, accessories, and assemblies. Include details of joints, corners, and penetrations.

##### 1.3 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: From ICC-ES, for wood sheathing, drainage and ventilation mat, seam tape, and flashing(s).
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with indicated ICC-ES Acceptance Criteria.



Specifier: When project is pursuing a sustainable rating system, retain Sustainable Design Submittal paragraph and edit to correspond to the specific Project requirements. Modify based on rating system being pursued.

- Product Data requirement applies to LEED v4, IgCC, ASHRAE 189.1, and Green Globes
- Laboratory Test Reports for composite wood applies to LEED v4.

C. Sustainable Design Submittals:

1. Laboratory Test Reports: Indicating compliance with requirement for low emitting materials for composite wood products.
2. Certified Wood Certificates: Certificates indicating that manufacturer is currently certified by an SFI- or FSC- accredited certification body, and chain-of-custody certificates.

Specifier: Retain or add specific requirements for projects in indicated jurisdictions or where requirements are used as a standard of care. ZIP System™ Rainscreen complies with 2023 Florida Building Code – Building and 2023 Florida Building Code – Residential, but has not been evaluated for High-Velocity Hurricane Zones

- A. [Florida Building Code] [Florida Residential Code]
- B. [Code Compliance recognition by Los Angeles Department of Building and Safety.]
- C. [Code Compliance with the California Building Codes]
- D. Warranty: Sample unexecuted copy of manufacturer's warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Warranty: Executed copy of manufacturer warranty

1.5 QUALITY ASSURANCE

Specifier: Retain "Manufacturer Qualifications" when pursuing a sustainable rating system requiring chain of custody

- A. Manufacturer Qualifications: Capable of demonstrating that all wood procurement operations are conducted in accordance with procedures and policies of the Sustainable Forestry Initiative (SFI) Program, and the *SFI 2022 Standards and Rules*.
- B. [Wall sheathing meeting requirements for water-resistive barrier in accordance with *ICC-ES AC310 – Water-resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-resistive Barriers.*]
- C. Drainage and Ventilation Mat meeting requirement for second layer of Weather Resistant Barrier under absorptive cladding as required by [International Building Code] [International Residential Code] and in accordance with *ICC – ESR 5270*.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's written instructions for protection of sheathing products from weather prior to installation.

1.7 WARRANTY

Specifier: Verify current warranty provisions for specified products and assemblies

- A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that demonstrate deterioration or failure under normal use due to



manufacturing defects within warranty period specified, when installed according to manufacturer's instructions.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Huber Engineered Woods LLC, Charlotte NC; Phone: (800) 933-9220; Website: [www.huberwood.com](http://www.huberwood.com)

### 2.2 PERFORMANCE REQUIREMENTS

- A. Single Source Limitations: Provide wall sheathing with integral weather-resistive barrier and drainage and ventilation mat by a single manufacturer.

Specifier: Retain appropriate "Fire-Test-Response" Paragraph when sheathing products are used as part of a fire-resistance-rated assembly and must conform to the requirements.

- B. Sheathing Fire-Test-Response Characteristics: Where indicated, provide approved products that are part of fire-resistance-rated assemblies tested in accordance with ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials
- C. Sheathing Air-Barrier Assembly Air Leakage: Less than 0.04 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.2 L/s x sq. m at 75 Pa), per *ASTM E2357 – Standard Test Method for Determining Air Leakage of Air Barrier Assemblies*
- D. Drainage and Ventilation Mat – Water-Resistive Barrier: Passes requirements as a Water-Resistive Barrier in accordance with *ASTM E2556 – Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment*.
- E. Drainage and Ventilation Mat Water-Vapor Permeance, Facer: Minimum 7 perms when tested in accordance with *ASTM E96/E96M – Standard Test Methods for Water Vapor Transmission of Materials – Method B*

### 2.3 WALL SHEATHING WITH INTEGRAL WEATHER-RESISTIVE BARRIER

Specifier: Huber's ZIP System® Sheathing may be used as wall sheathing on buildings of Type V construction and construction permitted under the IRC with allowable code-compliant exterior wall coverings. When ZIP System® Wall Sheathing is required, moisture barriers such as building paper or housewrap are not required. In wall covering systems requiring multiple layers of water-resistive barriers, ZIP System® Sheathing is intended to replace the first layer, and ZIP System™ Rainscreen is intended to replace the second layer.

ZIP System® Wall Sheathing provides Exposure 1, Structural I and has an integral water-resistive barrier and air barrier. Check with your local Huber Engineered Woods representative or call 1-800-933-9220 ext. 5022 for availability.

- A. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I, sheathing with factory-laminated water-resistive barrier facer and printed fastener location symbols.
1. Basis-of-Design: Huber Engineered Woods LLC; ZIP System® wall sheathing.
  2. Characteristics

Specifier: Retain and edit "Certified Wood" Paragraph below as appropriate to Project sustainable design requirements.

- a. **Certified Wood:** Provide sheathing produced from wood obtained from forests certified by an accredited certification body.
- b. **Span Rating and Performance Category:** Not less than [32/16; Structural 1; 1/2 Performance Category] [40/20; Structural 1; 5/8 Performance Category].
- c. **Edge Profile:** Self-spacing.



- d. Weather Barrier Facer: Medium-density, phenolic-impregnated sheet material qualifying as an ASTM D779 Grade D weather-resistive barrier in accordance with *ICC-ES AC38 – Water-Resistive Barriers*
- e. Panel Exposure period: No damage from weather exposure for up to 180 days.
- f. Printed fastener spacing symbols on facer for 16-inch (406 mm) and 24-inch (610 mm) on center spacing.

B. Sheathing Fasteners

Specifier: Review local building code requirements for fastener size and spacing. Corrosion Resistant fasteners are recommended for use in coastal environments.

- 1. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
  - a. Corrosion Resistant
- 2. Nails, Brads, and Staples: Conform with ICC-ES AC116 - Acceptance Criteria for Nails and Spikes and ICC-ES AC201 Acceptance Criteria for Staples
- 3. Power-Driven Fasteners: ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections or ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction

2.4 DRAINAGE AND VENTILATION MAT

A. Entangled polymer mesh drainage medium with fabric covering to be used as secondary layer of water-resistive barrier.

- 1. Basis-of-Design: Huber Engineered Woods LLC; ZIP System™ Rainscreen
- 2. Characteristics
  - a. Mat Exposure Period: Not more than 90 days
  - b. Thickness: not less than ¼ inch
  - c. Mesh Composition: Polymeric
  - d. Drainage Efficiency: greater than 90% Passes in accordance with ASTM E2273.

B. Drainage and Ventilation Mat Fasteners

Corrosion Resistant fasteners are recommended for use in coastal environments and in conjunction with cementitious components of the wall assembly.

- 1. Minimum 5/8-inch cap nails or cap staples, corrosion resistant.

2.5 FLASHING

Specifier: Huber's ZIP System™ Flashing Tape is used to tape sheathing panel joints and may also be used as flexible flashing around window frames, door frames, wall penetrations, and transitions to other materials.

A. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting *ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials*, and tested as part of an assembly meeting performance requirements.

- 1. Basis-of-Design: Huber Engineered Woods; ZIP System™ Flashing Tape.
- 2. Characteristics
  - a. Adhesive type: Acrylic



- b. Thickness: 0.012 inch (0.3 mm).
- c. Tensile Strength: 938 psi
- d. Elongation: 400-800 percent
- e. Complies with *AAMA 711 – Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration and ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials*,

Specifier: Huber's ZIP System™ Liquid Flash works in conjunction with or in place of ZIP System™ Flashing Tape to permanently flash and seal building penetrations and panel seams.

- B. Liquid-Applied Flashing Membrane: Gun-grade, cold-applied, silyl-terminated polymer (STP) liquid flashing membrane compatible with sheathing/weather barrier, self-adhering seam and flashing tape, and tested as part of an assembly meeting performance requirements.
  - 1. Basis-of-Design: Huber Engineered Woods; ZIP System™ Liquid Flash.
  - 2. Characteristics
    - a. Composition: Single component silyl-terminated polymer (STP)
    - b. Application Temperature Range: Between 35 Deg F (2 Deg C) and 110 Deg F (43 Deg C) surface and ambient.
    - c. VOC Content: 30 g/L
    - d. Hardness, Shore A: 40 to 45 in accordance with *ASTM C661 – Standard Test Method for Indentation Hardness of Elastomeric Type Sealants by Means of a Durometer*
    - e. Tensile Strength: 75 psi in accordance with *ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers*
    - f. Elongation at Break: 225 percent in accordance with *ASTM D412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers*

Specifier: Huber's ZIP System™ Stretch Tape may be used as flexible flashing around windows and window frames, door frames, and wall penetrations. ZIP System™ Stretch Tape is an innovative construction tape that stretches and forms around irregular and difficult to seal areas. It is resistant to UV exposure for up to 180-days and has a 30-year limited system warranty when used with ZIP System® Wall Sheathing.

- C. Self-Adhering Flexible Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive; tested as part of an assembly meeting performance requirements.
  - 1. Basis-of-Design: Huber Engineered Woods; ZIP System™ Stretch Tape.
  - 2. Characteristics
    - a. Adhesive type: Acrylic
    - b. Thickness: 0.042 inch (1.067 mm).
    - c. Tensile Strength: 225 psi
    - d. Elongation: 800-1200 percent
    - e. Complies with *AAMA 711 – Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration and ICC-ES AC148 – Acceptance Criteria for Flexible Flashing Materials*

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine framing spacing and alignment to determine if work is ready to receive sheathing. Proceed with sheathing work once conditions meet requirements.



## 3.2 SHEATHING INSTALLATION

- A. General: Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction. Install in accordance with *ICC-ES ESR-1474*
1. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
  2. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs. Support all panel edges.

Specifier: *Factory edges have a self-spacing profile along the long edge to assist in achieving required space.*

3. Panel Edge Spacing: Minimum 1/8 inch on each edge.
4. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
  - a. *ICC-ES ESR-1539 - Power Driven Staples and Nails for Use in Engineered and Non-Engineered Connections or ICC-ES NER-272 - Power Driven Staples and Nails for Use in All Types of Building Construction*

Specifier: *Retain one of two subparagraphs based on applicable building code for project.*

- b. **[ICC IBC - International Building Code Table 2304.9.1 Fastening Schedule.]**
- c. **[ICC IRC - International Residential Code for One- and Two-Family Dwellings: IRC Table R602.3(1), Fastener Schedule for Structural Members, and R602.3(2), Alternate Attachments.]**

### B. Sheathing Seam and Penetration Treatment

Specifier: *ZIP System proprietary names for the accessory products are included in brackets. If project allows proprietary naming, remove brackets and change color of text.*

1. Assembly continuity: Coordinate sheathing installation with flashing and joint sealant sequencing and installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.
2. Tape panel seams, penetrations, and facer defects or cracks with self-adhering seam tape **[ZIP System™ Flashing Tape]** to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.
3. Flash penetrations, gaps, and cracks with liquid-applied flashing membrane **[ZIP System™ Liquid Flash]** to form continuous weathertight surface. Apply according to manufacturer's written instructions. Follow manufacturer's recommendation for integration with self-adhering seam tape **[ZIP System™ Flashing Tape]**.
4. Tape window and doors openings and radius penetrations with self-adhering flexible flashing tape **[ZIP System™ Stretch Tape]** to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-AC applicable to tape application.

## 3.3 DRAINAGE/VENTILATION MAT INSTALLATION

Specifier: *Refer to Manufacturer's literature and installation guidelines for specific requirements under various absorptive cladding, and project specific conditions.*

- A. General: Install drainage mat panels in accordance with manufacturer's written instructions, and requirements of authorities having jurisdiction.
1. Start at bottom of wall and position drainage mat against the wall with the mesh against the wall sheathing.



2. Trim selvage edge along bottom course and directly above transitions to maintain drainage. Shingle each course of drainage mat over previous course, with full overlap of selvage edge.
3. Mechanically fasten drainage mat, spacing fasteners not more than 24 inches apart in both horizontal and vertical pattern. Avoid fastening mesh through flashing.

#### B. Drainage and Ventilation Mat Seam and Penetration Treatment

Specifier: ZIP System™ Liquid Flash has not been tested for compatibility with ZIP System® Rainscreen. ZIP System™ Flashing Tape and ZIP System® Rainscreen are compatible. ZIP System proprietary names for the accessory products are included in brackets. If project allows proprietary naming, remove brackets and change color of text.

1. Tape vertical seams of Drainage mat with self-adhering seam tape [ZIP System™ Flashing Tape].

## END OF SECTION

#### DISCLAIMER:

This Specification have been written as an aid to the professionally qualified Specifier and Design Professional. The use of this Guide requires the sole professional judgment and expertise of the qualified Specifier and Design Professional to adapt the information to the specific needs for the Building Owner and the Project, to coordinate with their Construction Document Process, and to meet all the applicable building codes, regulations and laws. HUBER ENGINEERED WOODS EXPRESSLY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OF THIS PRODUCT FOR THE PROJECT.

