SECTION 06 16 53

AIR AND MOISTURE RESISTANT SHEATHING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wall sheathing with integral weather-resistive barrier

1.2 ACTION SUBMITTALS

A. Product Data: Product Data: For each type of sheathing product. Include manufacturer's technical data indicating performance properties

B. Shop Drawings: Indicating location and extent of sheathing, accessories, and assemblies. Include details of joints, corners, and penetrations.

1.3 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape and flashing.

B. Product Certifications: From manufacturer, indicating that sheathing products comply with indicated ICC-ES Acceptance Criteria.

1.4 CLOSEOUT SUBMITTALS

A. Warranty: Executed copy of manufacturer warranty

1.5 QUALITY ASSURANCE

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 *2015-2019 Standards*.

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

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

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

1. Warranty Period for Sheathing Products: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

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

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics:

1. Fire-Resistance Ratings (Wall sheathing): 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*
2. Exterior Fire-Test Exposure (Roof sheathing): Where indicated provide approved products that are part of fire-resistance-rated assemblies with approved Class A coverings, tested in accordance with *ASTM E108 – Standard Test Methods for Fire Test of Roof Coverings*

B. 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*

C. Water-Vapor Permeance, Facer: Minimum 12 perms (689 ng/Pa x s x sq. m), when tested in accordance with *ASTM E96/E96M – Standard Test Methods for Water Vapor Transmission of Materials.*

2.3 WOOD PANEL PRODUCTS

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

B. Oriented Strand Board: *US Department of Commerce DOC PS 2 - Performance Standard for Wood-Based Structural Panels*
1. Panels made with binder containing no added urea formaldehyde.

C. Panel Exposure: No damage from weather exposure for up to 180 days.

D. Printed fastener spacing symbols on facer for 16-inch (406 mm) and 24-inch (610 mm) on center spacing.

2.4 WALL SHEATHING WITH INTEGRAL WEATHER-RESISTIVE BARRIER

A. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural 1 sheathing with factory-laminated water-resistive barrier facer and printed fastener location symbols.
   1. Basis-of-Design: Huber Engineered Woods LLC; ZIP System® sheathing.
   2. Characteristics
      a. Span Rating and Performance Category: Not less than 24/16; Structural 1; 7/16 Performance Category.
      b. Edge Profile: Tongue-and-Tongue along long edges and square-edge along 4 ft edges.
      c. 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*

2.5 FASTENERS

A. Fasteners, General: Size and type complying with manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
   1. Corrosion Resistant

B. Nails, Brads, and Staples: Conform with *ICC-ES AC116 - Acceptance Criteria for Nails and Spikes and ICC-ES AC201 Acceptance Criteria for Staples*

C. 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*

2.6 ACCESSORY PRODUCTS

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*,

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*

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.

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.
3. Panel Edge Spacing: In accordance with sheathing panel manufacturer's recommendations.
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*
   b. ICC IBC - *International Building Code Table 2304.9.1 Fastening Schedule*.

3.3 SEAM AND PENETRATION TREATMENT

A. 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.

B. 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.

C. 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.

D. 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.

END OF SECTION