

SECTION 072723 – COATED BOARD WEATHER / AIR BARRIER

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes coated exterior wall sheathing with integral water-resistive barrier and air barrier.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity
 - 2. ASTM E96/E 96M - Test Methods for Water Vapor Transmission of Materials
 - 3. ASTM E331 - Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
 - 4. ASTM E2357 - Test Method for Determining Air Leakage of Air Barrier Assemblies
- B. US Department of Commerce (DOC):
 - 1. DOC PS 2 - Performance Standard for Wood-Based Structural Panels
- C. ICC Evaluation Service, Inc. (ICC-ES):
 - 1. ICC-ES AC148 - Acceptance Criteria For Flexible Flashing Materials
 - 2. ICC-ES AC310 - Acceptance Criteria for Water-Resistive Membranes Factory-bonded to Wood-based Structural Sheathing, Used as Water-Resistive Barriers

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of sheathing product and accessory material including flashing, tapes, adhesives and fasteners.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: From ICC-ES, for wood sheathing and seam tape.
- B. Product Certifications: From manufacturer, indicating that sheathing products comply with ICC-ES AC269 and ICC-ES AC310.
- C. Manufacturer's Installation Instructions: For specified products and accessories.

1.5 CLOSEOUT SUBMITTALS

- A. Warranty: Executed copy of manufacturer special warranties.

1.6 QUALITY ASSURANCE

- A. Provide wall sheathing products meeting requirements for water-resistive barrier in accordance with ICC-ES AC310.
- B. Provide wall sheathing products meeting requirements of ICC-ES AC269.

1.7 DELIVERY, STORAGE, AND HANDLING

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

1.8 WARRANTY

- A. Special 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: Thirty (30) years following date of Substantial Completion.
 - 2. Warranty Conditions: Special warranties exclude deterioration or failure due to structural movement resulting in stresses on sheathing products exceeding manufacturer's written specifications, or due to air or moisture infiltration resulting from cladding failure or mechanical damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Provide coated sheathing and barrier system accessory products manufactured by Huber Engineered Woods LLC, Charlotte NC.

2.2 PERFORMANCE REQUIREMENTS

- A. 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 E2375.
- B. Water-Vapor Permeance, Facer: Minimum 12 perms (689 ng/Pa x s x sq. m), ASTM E96/E96M.
- C. Weather Exposure: Manufacturer warranty applies for maximum allowable exposure period of 180 days.

2.3 MATERIALS

- A. Oriented Strand Board: DOC PS 2, made with binder containing no added urea formaldehyde.

2.4 FACTORY COATED WALL SHEATHING

- A. Factory Coated Wall Sheathing: Oriented-strand-board Exposure 1 sheathing 7/16 inch (11.1 mm) thick, with factory-laminated water-resistive barrier exterior facer, and with rigid foam plastic insulating board laminated to interior face.
1. Basis-of-Design Product: Provide Huber Engineered Woods LLC; ZIP System Sheathing.
 2. Span Rating and Performance Category of Sheathing Layer: Not less than 24/16; 7/16 Performance Category.
 3. Thickness: As indicated on structural drawings.
 4. Edge Profile: Square edge.
 5. Exterior Facer: Medium-density, phenolic-impregnated polymer-modified sheet material meeting requirements for ASTM D779 Grade D weather-resistive barrier in accordance with ICC AC38 and AC310, with fastener spacing symbols on exterior facer for 16-inch (406 mm) and 24-inch (610 mm) on center spacing, with the following characteristics
 - a. Water Resistance of Coatings, ASTM D2247: Pass 14 day exposure test.
 - b. Moisture Vapor Transmission, ASTM E96: Not less than 12 perms.
 - c. Water Penetration, ASTM E331: Pass at 2.86 lbf/sq. ft. (137 Pa).
 - d. Wind Driven Rain, TAS-100: Pass.
 - e. Accelerated Weathering, ASTM G154: Pass.

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 Resistance: [Hot-dip zinc coating, ASTM A153/A 153M] [or] [Type 304 stainless steel].
- B. Nails, Brads, and Staples: ICC AC116 and ICC AC201.
- C. Power-Driven Fasteners: ICC-ES-1539 or NER-272.
- D. Wood Screws: ASME B18.6.1.

2.6 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIAL

- A. Self-Adhering Seam and Flashing Tape: Pressure-sensitive, self-adhering, cold-applied, seam tape consisting of polyolefin film with acrylic adhesive, meeting ICC AC148.
1. Product: Provide Huber Engineered Woods; ZIP System Tape.
 2. Thickness: 0.012 inch (0.3 mm).

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. Install sheathing panels in accordance with manufacturer's written instructions, requirements of applicable Evaluation Reports, and requirements of authorities having jurisdiction.
- B. Air and Moisture Barrier: Coordinate sheathing installation with flashing and joint sealant installation and with adjacent building air and moisture barrier components to provide complete, continuous air- and moisture- barrier.
- C. Do not bridge expansion joints; allow joint spacing equal to spacing of structural supports.
- D. Install panels with laminated facer to exterior. Stagger end joints of adjacent panel runs.
- E. Attach sheathing panels securely to substrate with manufacturer-approved fasteners in compliance with the following:
 - 1. Florida Building Code 2014 and requirements indicated on the structural drawings.
- F. Apply seam tape at all panel seams, penetrations, and facer defects or cracks to form continuous weathertight surface. Apply tape according to manufacturer's written instructions and requirements of ICC-ES applicable to tape application.

3.3 AIR LEAKAGE TESTING AND CERTIFICATION

- A. The Contractor shall provide blower door testing, or visual inspections by third party inspectors, if required by the permit authorities having jurisdiction and in compliance with codes and regulations adopted by the permit authorities having jurisdiction. Provide testing to determine compliance with an air leakage rate of 5ACH50 or less as a minimum standard.
- B. Visual Inspection Option: The Contractor shall provide visual inspection and reposts of findings and compliance by field verification in compliance with codes and regulations adopted by the permit authorities having jurisdiction.
- C. Testing shall be conducted in accordance with ASTM E1827, Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door including the following;
 - 1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended Water Resistive stripping or other infiltration control measures.
 - 2. Dampers including exhaust, intake, makeup air, backdraft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
 - 3. Interior doors, if installed at the time of the test, shall be open.

4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
 5. Heating and cooling systems, if installed at the time of the test, shall be fully open.
 6. Supply and return registers, if installed at the time of the test, shall be fully open.
 7. Conduct testing only after all penetrations of the building envelope are completed.
- D Provide a written report of the test results, signed by the qualified testing agency, to the Owner's representative and the permit authorities having jurisdiction.
- E Testing may only be performed by individuals that are certified Rating Field Inspectors by RESNET or Performance Verification Technicians certified by other entities, or hold other certifications as may be approved by the building official. The certified individuals must be independent third-parties, and may not be employed, or have any financial interest in the company that installed the building systems
- F The Construction Documents indicate materials and methods, including sealing requirements that are intended to comply with mandated maximum air leakage rate. Test results indicating rates exceeding stipulated rates require repairs and remedy by the Contractor at no additional cost to the Owner, Architect or the Architect's Consulting Engineers. Re-testing to demonstrate compliance will be provided by the Contractor at no additional cost to the Owner, Architect or the Architect's Consulting Engineers.
- G The frequency of units to be tested shall comply with requirements of the permit authorities having jurisdiction. As a minimum requirement, 10% of the total number of dwelling units shall be tested to include 2 dwelling units of each type – one each on the ground floor and top floor levels. In the event that a tested unit fails to demonstrate compliance with the stipulated criteria, all dwelling units within that residential building where the unit test failed shall be tested to demonstrate compliance.
- H The Contractor will provide a permanent certificate posted adjacent to each dwelling unit electrical distribution panel providing certification and related data required by codes and regulations adopted by the authorities having jurisdiction.

END OF SECTION 072753