



SECTION 06 16 00
EXTERIOR STRUCTURAL SHEATHING

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Glass fiber-mat reinforced magnesium oxide (MgO) panels for use as exterior structural sheathing.

1.2 RELATED SECTIONS

- A. Section 05 40 00 - Cold-Formed Metal Framing
- B. Section 06 10 00 - Rough Carpentry.
- C. Section 06 11 16 - Mechanically Graded Lumber.
- D. Section 07 27 00 - Air Barriers.

1.3 REFERENCES

- A. ASTM International (ASTM):
 1. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus. (R-Value).
 2. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in and Environmental Chamber.
 3. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
 4. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 5. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
 6. ASTM E 119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 7. ASTM E 162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.
 8. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
 9. ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 degreesC
 10. ASTM C 1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
- B. Underwriters Laboratories (UL): UL 263 - Fire Resistance Ratings.

1.4 SUBMITTALS

- A. Submit in accordance with Division 01 Section "Submittal Procedures".

- B. Product Data: Submit manufacturers current published data including component materials, dimensions, standard details, and installation instructions.

1.5 QUALITY ASSURANCE

- A. Fire Test Response Characteristics: Provide assemblies identical to those tested for fire resistance per reference standards above, by a testing agency acceptable to the local building authority including:
 - 1. Surface Burning Characteristics per ASTM E 84:
 - a. Flame Spread: 0.
 - b. Smoke Developed: 0.
 - 2. Pass ASTM E 119 for Firewall Assembly Rating.
 - a. Intertek Design JPL/GFRCP 60-01, 1 hour fire rated non-load-bearing wall system.
 - 3. National Fire Protection Association (NFPA) Fire Rating:
 - a. Class A.
 - 4. International Code Council (ICC) Fire Rating:
 - a. Class 1.
- B. Deflection Limit of Panels and Supporting Framing: L/240.
- C. Shear Values (pounds per foot) for Panel Shear Walls Framed with Wood Framing: ASTM E 72, Section 14. Shear values with Factor of Safety (FOS) applied provided as reference only. It is the responsibility of the engineer of record to apply FOS appropriate for the application.
 - 1. JetBoard, 1/4 inch (6 mm) thickness, 8d nail size, shear (plf):
 - a. Ultimate: 291 at 6 inch edge nail spacing, 584 at 4 inch nail spacing.
 - b. FOS = 2.0: 145 at 6 inch edge nail spacing, 292 at 4 inch edge nail spacing.
 - c. FOS = 3.0: 97 at 6 inch edge nail spacing, 195 at 4 inch edge nail spacing.
 - 2. JetBoard, 1/2 inch (12 mm) thickness, 8d nail size, shear (plf):
 - a. Ultimate: 368 at 6 inch edge nail spacing, 713 at 4 inch nail spacing.
 - b. FOS = 2.0: 184 at 6 inch edge nail spacing, 357 at 4 inch edge nail spacing.
 - c. FOS = 3.0: 123 at 6 inch edge nail spacing, 238 at 4 inch edge nail spacing.
- D. Single Source Responsibility: Except where indicated otherwise, provide all products and accessories from a single manufacturer.
- E. Qualifications:
 - 1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
 - 2. Installer Qualifications: Minimum 2 year experience installing similar products and acceptable to the manufacturer.
- F. Pre-Installation Meeting: Convene at the project site minimum two weeks prior to starting work of this section.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Store materials on level supports off the ground to prevent sagging. Cover loosely with waterproof material to prevent condensation from forming while protecting against weather, direct sunlight, surface contamination, and construction traffic.
- C. Handle materials to avoid damage to edges and surfaces.

1.7 PROJECT CONDITIONS

- A. Maintain temperature, humidity, and ventilation within limits recommended by the manufacturer. Do not install products under environmental conditions outside manufacturer's recommended limits.
 - 1. Maximum exterior exposure to sunlight and weather: 90 days.

1.8 WARRANTY

- A. Warranty: Provide manufacturer's standard limited 10-year warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: JetProducts™, which is located at: 770 Bradfield Rd. Suite 575; Houston, TX 77060; Toll Free Tel: 877-453-8868; Email:[request info \(LearnMore@Jet-Board.com\)](mailto:request info (LearnMore@Jet-Board.com)); Web:www.jet-board.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of the General Conditions and Division 01.

2.2 EXTERIOR STRUCTURAL SHEATHING

- A. Exterior Structural Sheathing: JetBoard and JetBacker by JetProducts complying with the following:
 - 1. Type: Fire rated, vapor permeable, mold and mildew resistant, glass-mat reinforced magnesium oxide (MgO) panel.
 - 2. Thickness: nominal 1/4 inch (6 mm).
 - 3. Thickness: nominal 3/8 inch (9.5 mm).
 - 4. Thickness: nominal 1/2 inch (12 mm).
 - 5. Board Size: 4 x 8 feet (1220 x 2440 mm), 4 x 9 feet (1220 x 2740 mm), 4 x 10 feet (1220 x 3050 mm) as applicable to project conditions
 - 6. ASTM tested, Class A fire rated.
 - 7. Mold and mildew resistant per ASTM D3273.
 - 8. Non-toxic, contains no crystalline silica.

2.3 ACCESSORIES

- A. Fasteners: Corrosion resistant #8 coarse thread screws minimum 2.5 times board thickness or approved equivalent as directed by the engineer of record to meet the following:
 - 1. Lateral Capacity: 89 lbf (395 N).
 - 2. Withdrawal Capacity: 135 lbf (600 N).
 - 3. Head Pull-Through Capacity: 125 lbf (556 N).
- B. Sealants: ASTM C 920, Type S, Grade NS, compatible with board products and adjacent materials.
- C. Tape: Glass fiber mesh, nominal 2 inches (50 mm) wide of type recommended by the manufacturer for use with silicone sealants.
- D. Flexible Flashing: Self-adhesive composite product compatible with adjacent sealants, air barriers, and cladding materials. Provide with primer when recommended by the flashing manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until adjacent construction is within manufacturers acceptable tolerance and substrates have been properly prepared.
 - 1. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Do not use materials with defects that would interfere with installation quality.

3.2 INSTALLATION

- A. Install materials in accordance with manufacturer's recommendations and in proper relationship with adjacent construction.
- B. Do not bridge building expansion joints, maintain alignment to structural elements.
- C. Arrange to minimize joints and cutouts to fit tightly against adjacent construction.
 - 1. Vertical joints must be located over and supported by framing members or structural components acceptable to the project engineer. Edges attached to top and bottom plates.
 - 2. Allow minimum 1/4 inch (6mm) set back of all edges and cuts for penetrations and obstructions.
 - 3. Butt joints over 1/8 inch (3mm) will not be accepted.
- D. Fasten tightly directly into building structure until screw heads are flush with the surface but do not cut into facing materials. Unless otherwise specified, fasten using a 6 inch (152 mm) perimeter, 12 inch (203 mm) field nailing pattern, 3/8 inch (9.5 mm) from edges and 2 inches (50 mm) from corners.
- E. Seal edges and joints with manufacturers recommended sealants and tapes.
- F. Coordinate construction sequence with installation of flashing, air barriers, and other adjacent materials provided by others to prevent exterior moisture from entering or passing through completed assemblies.

3.3 CLEANING

- A. Remove all excess and waste materials from the job site in accordance with the Owner's construction waste management requirements.

3.4 PROTECTION

- A. Protect installed products until Substantial Completion.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION