

SECTION 07 44 56
FIBER REINFORCED CEMENTITIOUS PANELS

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fiber reinforced cement panel siding system.
- B. Accessories required for complete installation.

1.2 RELATED SECTIONS

- A. Section 05 40 00 - Cold-Formed Metal Framing [06 40 00] - Cold Formed Metal Framing.
- B. Section 06 10 00 - Rough Carpentry [06 10 00] - Wood framing.
- C. Section 06 16 36 - Wood Panel Product Sheathing [06 16 36] - Sheathing.
- D. Section 07 21 19 - Foamed-In-Place Insulation [07 21 00]- Thermal Insulation.
- E. Section 07 90 00 - Joint Protection [07 90 00] - Joint Protection.
- F. Section 08 31 13 - Access Doors and Frames [08 31 13] - Access Doors and Frames.
- G. Section 09 22 36 - Lath [09 22 36] - Furring and Lathing.

1.3 REFERENCES

- A. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- B. ASTM C 1186 - Standard Specification for Flat Non-Asbestos Fiber-Cement Sheets.
- C. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Materials.
- D. ASTM E 330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure.
- E. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components..

1.4 SYSTEM DESCRIPTION

- A. Performance Requirements:
 1. Design and size components to withstand live loads caused by pressure of wind acting normal to plane of wall as calculated in accordance with ANSI/ASCE 7, and as measured in accordance with ANSI/ASTM E 330.
 2. Deflection: Provide system capable of withstanding wind loading within the following limitations:
 3. No permanent deformation is acceptable.
 4. Design system to accommodate, without damage to system, components or deterioration of seals; movement within system; movement between system and perimeter framing components; dynamic loading and release of loads; and deflection of structural support framing.
 5. Design to accommodate vertical inter-story movement and provide an allowance for the following tolerances:
 6. Building floor slab live load differential deflection.
 - a. Structural creep.
 - b. Thermally induced expansion and contraction of framing members.
 - c. Fabrication and erection tolerances.
 - d. Design ultimate load capacity of anchor components to withstand 2.0 times "Design Wind Load" without failure.
 7. Maintain continuous air and vapor barrier throughout assembly.
 8. Conform to the requirements of NFPA 285 as applicable.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements [01 30 00] Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods, including fastening patterns.
- C. Shop Drawings: Provide shop drawings and erection plans for review including the following:
 1. Layout of furring, weather barrier, finished sheets and fastener pattern.
 2. Details at base and top of walls, corners, at window and door trim and at other openings and connections.
 3. Shop drawings prepared and stamped by a structural engineer licensed in the state where the project is located.
- D. Calculations: Provide wind load calculations, engineering calculations and substantiating data to validate wind resistance of roof system.
- E. Product certificates including Research//Evaluation report or Code Authority approval of the system use for intended application.
- F. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- G. Verification Samples: For each finish product specified, two samples, minimum size 3 inches by 6 inches (76 mm by 150 mm) square, representing actual product, color, and patterns.
- H. Manufacturer's Certificates: Certify materials and accessory components meet or exceed specified requirements.
- I. Manufacturer's warranties. Executed by manufacturer and installer.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Provide installer with not less than three years of experience with products similar to those specified.
- B. Mock-Up: Provide a mock-up of complete panel system including furring, insulation, weather barrier and panels for approval by Architect.
 - 1. Finish areas designated by Architect.
 - 2. Mock-up shall be a minimum of 4 panels showing one vertical and one horizontal joint and complete installation system and fastener layout.
 - 3. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 4. Refinish mock-up area as required to produce acceptable work.
- C. Pre-Installation Conference:
 - 1. Prior to any panel application, the Contractor shall convene a pre-installation conference.
 - 2. Coordinate conference scheduling with the Architect. Conference shall be attended by the Contractor, Architect, personnel directly responsible for the installation of panels, flashing and sheet metal work and other trades interfacing with the panel work.
 - 3. Provide a copy of meeting notes and action items to all attending parties. Note action items requiring resolution prior to start of roof work.
 - 4. Discuss specific expectations and responsibilities, construction procedures, specification requirements, application, environmental conditions, job and surface readiness, material storage, and protection.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver cement panels to site until job is ready for their installation.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Store materials off the ground, flat and under cover in a dry place until erection.
- D. Keep materials dry and protect from freezing.
- E. Store materials in such a way to accommodate easy inspection of the materials prior to installation.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. Installed material shall have a manufacturer's 10 year warranty.
- B. Warranty includes the repair or replacement of siding that does not comply with requirements or that fails within specified warranty period. Failures include, but are not limited to, cracking, deforming or otherwise deteriorating beyond normal weathering.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Cement Board Fabricators, which is located at: 2148 S. 41st St.; Louisville, KY 40211; Toll Free Tel: 800-366-5378; Tel: 502-774-5757; Fax: 502-774-5754; Email:[request info \(info@cbf11.com\)](mailto:info@cbf11.com); Web:<https://cementboardfabricators.com>

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements [01 60 00] - Product Requirements.

2.2 MATERIALS

- A. Prefinished Cement Board Siding Panels: SILBONIT siding sheets, fiber reinforced, cement based product conforming to ASTM C 1186 and manufactured of cement sand, cellulose fibers and fillers.
 - 1. Panel Size:
 - a. 5/16 inch 49-1/4 inches by 96 inches. (8 mm by 1250 mm by 2440 mm).
 - b. 5/16 inch 49-1/4 inches by 120 inches. (8 mm by 1250 mm by 3050 mm).
 - 2. Colors:
 - a. Natural colors:
 - 1) Ash - Natural.
 - 2) Desert - Natural.
 - 3) Almond - Natural.
 - 4) Stone - Natural.
 - 5) Olive - Natural.
 - 6) Coral - Natural.
 - 7) Gold - Natural.
 - 8) Iceberg - Natural
 - 9) Bark - Natural
 - 10) Chestnut - Natural
 - 3. Mechanical fasteners: External tamper proof screws, stainless steel, torx head fasteners. Recommended Tool: Dewalt DCF622 Versaclutch Adjustable Screwgun.
 - a. Screws shall be length as required by the panel manufacturer for the furring material used
 - b. Wood screws: Size: #10 by 1-1/2 inch (38 mm).
 - c. Steel Screws: Size: #10 by 10 inch (25.4 mm).
 - d. Use painted screws to match panel finish.
 - 4. Continuous cushions of black EPDM rubber, 1-1/4 inch (32 mm) and 3-1/2 inch (95 mm) as required.

2.3 ACCESSORIES

- A. Trim: PVC, composite and stainless steel trim shapes suitable for trim conditions.
- B. Sheet Metal Flashing: Minimum 26 gauge hot-dipped galvanized steel sheet, or stainless steel.
- C. Wood furring materials shall conform to the requirements specified in Section 06 10 00 - Rough Carpentry [06 10 00] - Rough Carpentry.
- D. Metal furring shall conform to the requirements of Section 09 22 36 - Lath [09 22 36- Furring and Lathing.
- E. Rigid insulation between furring channels shall comply with Section 07 21 19 - Foamed-In-Place Insulation [07 21 00]- Thermal Insulation. Thickness of insulation shall be as indicated on the Drawings

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Ensure that framing is completed and that electrical rough-in, windows, doors, and flashing are in place before proceeding with work of this section.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation. Repair as necessary any substrate conditions that would be detrimental to proper installation
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Ensure that all dust, dirt, fingerprints and all other foreign marks on the material are removed prior to installation of the panels.

3.3 INSTALLATION - GENERAL

- A. Install in accordance with manufacturer's instructions and the approved shop drawings.
- B. Panel Cutting:
 - 1. Cut panels using a high speed circular saw with a segmented diamond blade.
 - 2. Cut panels from the front side and protect the face from being damaged during cutting.
 - 3. For incidental cuts, cut panels from the front side using a jigsaw with a carbide tip blade.
 - 4. Provide adequate ventilation during cutting. Use of a dust extractor is required.
- C. Drilling:
 - 1. Drilling of holes must be done from the front of the panel using a carbide tip drill bit.
 - 2. Larger holes, or cut-outs on the panel, can be made by a jig saw with a carbide blade or a hole saw with a diamond blade.
- D. Prepare structural backing with studs, backer board, weather barrier and furring as required to meet the performance requirements specified. Install fiber reinforced panels over a properly prepared support system in accordance with the manufacturer's installation instructions and approved shop drawings.
- E. Install weather barrier over prepared substrate.
- F. Fiber reinforced cement panel siding shall be installed over an impervious weather barrier, on furring strips with black EPDM rubber strips, and with an air cavity behind the face panel to allow ventilation of the substrate.
- G. Panels shall be attached to furring using the attachment pattern and fasteners indicated in the manufacturer's installation instructions and approved shop drawings.
- H. Install black EPDM rubber strips to each furring member.
- I. Pre-drill holes in cement boards in pattern indicated in the manufacturers installation instructions and approved shop drawings. Holes shall be of size as specified by the panel manufacturer for the fasteners being used.
- J. Fasten fiber cement board to furring as per vendor's details with approved stainless steel fasteners.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Inspect walls for any damage. Replace panels that are damaged. Do not attempt to repair.
- C. Ensure all dirt, dust, fingerprints and all foreign marks are immediately removed from the face of the material to avoid from permanent damage.
- D. Replace damaged products before Substantial Completion.

END OF SECTION