



This specification has been numbered, organized and formatted in accordance with the MasterFormat, Section Format and Page Format documents published jointly by Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC). For convenience, all products are contained within Section 07 46 46 (Fiber Cement Wall Panels) but if desired may be edited/adapted to suit any other Section(s) of Work in accordance with project requirements.

It is offered as a guide to experienced and knowledgeable construction professionals who must assume full responsibility for its interpretation and use. Brackets { } containing texts indicate an option to be considered/inserted by the specifier. Remove brackets and unused options before printing.

EQUITONE is a material supplier. Installation Contractors shall be trained and approved by EQUITONE.

Disclaimer

The information in this Specification Guide is correct at time issuing – April 2016. However, due to our committed program of continuous material and system development we reserve the right to amend or alter the information contained therein without prior notice. Please contact your local EQUITONE Sales Organization to ensure the most current version.



SECTION 07 46 46

FIBRE CEMENT WALL PANELS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: The Work of this Section includes Fibre cement panels of the following types:
 - 1. Through color high density fibre cement EQUITONE [material] panels.
 - a. EQUITONE [material] is a through coloured base board, with mechanical surface treatment which results in a structure of raw fibre cement material, which has at the same time a rough yet velvet appearance. The finished panel is both weatherproof and UV-stable.
 - 2. Fixed with either
 - a. Face fixed EQUITONE with rivets colored to match the panel to a metal supporting frame.
 - b. Face fixed EQUITONE with screws colored to match the panel to a timber supporting frame
 - b. Invisible concealed Tergo and Tergo+ system to a metal supporting frame.
 - c. Invisible adhesive system to a metal supporting frame.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. Carefully examine Contract Documents for requirements that affect work of this section.
- B. Other specifications sections that directly relate to work of this section include, but are not limited to, the following:
 - 1. Section 05 40 00 - Cold-Formed Metal Framing.
 - 2. Section 06 10 00 - Mechanically Graded Lumber.

3. Section 07 21 00 – Thermal Insulation; exterior insulation, if required for NFPA 285 compliance, is not included in the scope of Section 07450.
4. Section 07 27 29 - Air Barriers Coatings: Exterior wall air and moisture barrier

1.4 REFERENCES

- A. CEN - European Committee For Standardization:
 1. EN12467 - Fibre Cement Flat Sheets - Product Specification and Test Methods.
 2. EN13501-1 - Fire classification of construction products and building elements.
- B. ISO – ISO 9001 Quality Management System
ISO 14001 Environmental Management System
OHSAS 18001 Safety Management System

1.5 SUBMITTALS

- A. Products Submittals shall be per Section 01 33 00 – Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including, but not limited to:
 1. Preparation instructions and recommendations for EQUITONE [material].
 2. Storage and handling requirements and recommendations.
 3. Installation methods for the supporting framework and the EQUITONE [material] panels.
- C. Shop Drawings: Provide detailed drawings of non-standard applications of fibre cement materials which are outside the scope of the standard details and specifications provided by the manufacturer.
- D. Code Compliance: Documents showing product compliance with local building code shall be submitted prior to the bid. These documents shall include, but not be limited to, appropriate Evaluation Reports and/or test reports supporting the use of the product.
- E. Engineering Calculations: Submit engineering calculations as required by the local building code, showing that the installed panels and attachment system meets the wind load requirements for the project.
- F. Selection Samples: For each finish product specified, two complete sets of 5 1/4" x 2 1/2" (160x65mm) color chips representing manufacturer's full range of colors and patterns available in the US shall be provided upon request.
- G. Verification Samples: For each finish product specified, two samples, size 11 11/16" inches (305 mm) x 11 3/4" (297mm), representing actual product, color, and patterns.
- H. Operation and Maintenance Data: Submit operation, maintenance, and cleaning information for products covered under this section.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: All products listed in this section are to be installed by a single installer trained and approved by the manufacturer or representative.

- B. Color Evaluation: Irregularities, differences in shade and traces of the manufacturing process are to be expected on the panel surface. The panel receives no coating.
- C. Mock-Up: Provide a full size mock-up {minimum ____ by ____} for evaluation of surface preparation techniques and application workmanship. [Mock-up shall include a corner, window sill, jamb and head condition, wall base and wall-roof intersection]
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Moving panels that are stacked on pallets should be done with a forklift with wide fork setting or a crane. Ensure the panels are secured to the pallet in a way that will not cause damage. Stacks should be transported under a waterproof cover.
- B. All panel materials must be stored flat on pallets, inside and undercover in dry conditions, protected from weather both rain and direct sunlight and other trades. Stack the pallets in a way so that the panels are ventilated.
- C. Always lift panels off of each other, never slide them over one another, since scratching may occur.

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 or which could involve life safety situations.
- B. Field Measurements: Verify actual measurements/openings by field measurements performed by the installer prior to release for fabrication. The General Contractor or Installer shall be responsible for existing site dimensions. Recorded measurements shall be indicated on shop drawings based on field measurements provided by the installer. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.9 WARRANTY

- A. Warranty: At project closeout, provide manufacturer's limited ten (10) year warranty covering defects in materials. Warranty is only available when material is installed by an installation contractor trained and approved by the manufacturer's representative.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. As a basis of Design, EQUITONE Fiber Cement Panels, as fabricated / supplied by
California Sheet Metal Works
1020 N. Marshall Avenue, El Cajon, CA 92020
Tel: (619) 562-7010
Web: <https://califsheetmetal.com/contact>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 WALL PANELS

- A. Through Color High Density Fibre Cement Panels:
 - 1. Product: EQUITONE [material] Fibre Cement Panel
 - a. Application: Exterior.
 - b. Application: Interior.
 - c. Thickness: 5/16" (8 mm), 1/2" (12mm).
 - d. Finish: Through coloured base board, with mechanical surface treatment which results in a structure of raw fibre cement material, which has at the same time a rough yet velvety appearance. The finished panel is both weatherproof and UV-stable. Irregularities, differences in shade and traces of the manufacturing process are to be expected.
 - e. Physical Characteristics:
 - EN 12467 'Fibre-cement flat sheets'.
 - Density: Minimum 1.65 kg/m³ (103 lb/ft³)
 - Bending strength @ ambient, perpendicular: 24.0 N/mm² (3,480 lbf/in²)
 - Bending strength @ ambient, parallel: 18.5 N/mm². (2,682 lbf/in²)
 - MOE @ ambient, perpendicular: > 12,000N/mm².(> 1,740,456 lbf/in²)
 - Hygric movement 30-95%, mean: 1.00 mm/m.
 - Porosity 0-100%: < 20 %.
 - Durability classification (EN 12467): Category A.
 - Strength classification (EN 12467): Class 3.
 - Fire reaction (EN 13501-1): A2-s1-d0;
 - Impermeability test: OK.
 - Warm water test: OK.
 - Soak dry test: OK.
 - Freeze thaw test: OK.
 - Thermal conductivity: 0.6 W/mK.

2.3 MISCELLANEOUS CLADDING MATERIALS

- A. Perforated Insect/Vermin Screen: Manufacturer's standard.

- B. Building Wrap: Approved Building Wrap complying with local codes for product and installation requirements.
- C. Aluminum Joint Closures and Decorative Corner Profiles: Manufacturer's standard products as detailed. Maximum thickness of non structural finishing profile to be 0.8 mm or 21 gauge.
- D. Panel Fastening Options: {Face Fixed Rivets}, {Face Fixed Screws}, {Tergo or Tergo+ Mechanical Secret Fixing}, {Adhesive Fixing}

PART 3- EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean panel surfaces thoroughly prior to installation. Remove any cutting or drilling dust from the surface of the panel using a micro-soft cloth. {This is especially important when panels are being adhesively fixed}
- B. Prepare surfaces using the methods recommended by Equitone for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved submittals.
- B. For exterior applications, comply with local codes and structural engineer's fastening calculations along with manufacturer's recommendations for fastener spacing.

3.4 EXTERIOR CLADDING FOR RAINSCREEN APPLICATIONS

- A. Detailing Requirements:
 1. Air space inlets and outlets are required at top and bottom of building or wall termination and shall be equivalent to a continuous 1/2" to 3/4" (12 mm to 18 mm) to facilitate airflow behind the panels. Do not block vertical airflow at windows, doors, eaves, or at the base of the building. Airflow shall be continuous from bottom to top so there is air movement behind each panel. The minimum cavity width should be at least 25/32" (20mm) for facades up to 33' (10m) high. For facades between 66'-165' (20-50 m) the cavity width needs to increase to 1 3/16" (30mm). Air flow behind the fiber cement panels is critical to the performance of the rain screen constructions.
 2. Fasteners in profile shall accommodate thermal expansion/contraction of metal and not interfere with panel application.
 3. Install panels starting from top of building and work down the facade.

4. For straight walls, start panel installation in center and work outward.
5. For walls with inside corners, start installation at corner and work across wall.
6. Pattern: Straight pattern with vertical panels. Panel size as indicated.
7. Pattern: Straight pattern with horizontal panels. Panel size as indicated.
8. Pattern: Semi pattern with horizontal panels. Panel size as indicated.

B. Rain Screen Installation: Comply with manufacturer's installation requirements.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION