

Plycem CEM - CLAD Cement Board Wall Panels

----- Architectural Specification -----

Division 3- 03500 Cementitious Decks and Underlayment

Last Update: 02/26/2016

I. General:

The work under this Section is subject to the provisions of the Contract and the Contract Documents, which in any way affect the work herein specified.

II. Scope of Work:

- A.** Furnish and install interior and/or exterior wall mounted reinforced cement board wall panels as shown on the drawings and as herein specified.
- B.** Coordinate this section with interfacing and adjoining work for proper sequencing of installation.

III. Work in Other Sections:

- A.** Rough Carpentry – furred exterior and/or interior wall sheathing to receive Cem-Clad fiber cement board panels.
- B.** Joint sealers – Joint Caulking.
- C.** Paints and Coatings – Sealer coat.
- D.** Exterior and interior finish systems and materials.
- E.** Building wrap – vapor barriers.

IV. Materials:

A. General: All interior and exterior wall mounted cement board wall panels shall be installed according to manufacturer's most current printed instructions. Cement board wall panels shall comply with ASTM C-1186-91 Norm, standard specification for flat non-asbestos fiber-cement sheets, Grade 1. Materials shall be Cem-Clad or equal as supplied by U.S. Architectural Products, Inc., Princeton, New Jersey (800-243-6677).

B. Wall Panels:

- 1. Panels to be of metric thickness: 11mm (7/16"), 14mm (9/16"), 17mm (11/16"), or 20mm (13/16") with square edges as supplied from factory (or beveled edges shaped by installing contractor) with smooth sanded finish of uniform color and texture in sizes as shown on drawings. One side is sanded smooth without any markings and opposite side is rougher with factory markings showing production control lot numbers.
- 2. Panels shall have the following minimum mechanical properties (in dry condition):
 - 2.a.** Modulus of Elasticity perpendicular to fibers (per ASTM C120) 775,000 psi
 - 2.b.** Modulus of Rupture perpendicular to fibers (per ASTM C120) 1,820 psi
 - 2.c.** Shear Strength (per ASTM D732) 1,180 psi
 - 2.d.** Tensile Strength perpendicular to fibers (per ASTM D209) 690 psi
 - 2.e.** Compressive Strength perpendicular to surface (per ASTM C170) 3,860 psi
- 3. Cement board wall panels shall be factory treated to resist surface water penetration.

V. Samples and Submittals:

- A.** Submit one piece 6" x 4" sample of panel in thickness selected.
- B.** Submit two copies of specifications, installation instructions and general recommendations of the manufacturer.

VI. Fire Resistance Characteristics:

- A.** Cement board panels shall be noncombustible in accordance with ASTM E136.
- B.** Surface burning characteristics shall be rated zero flame spread and zero smoke development in accordance with ASTM E84.

VII. Delivery and Storage:

- A.** Deliver, store and handle materials to prevent breakage, warping or damage by water.
- B.** Acclimatize materials by storing on site not less than three days before installation.
- C.** Materials to be stored indoors on leveled dunnage not exceeding 32" on centers. If temporarily stored outdoors, boards are to be elevated above ground, and covered top and sides with tarpaulins to prevent warping and water damage.

- D.** Panels to be stored flat and not on edges.

VIII. Installation:

A. Tools: Use standard carpentry tools to cut and install panels.

B. Inspection: Verify that plywood substrate sheathing and conditions under which the work will be performed is satisfactory to receive attachment of the Cem-Clad panels.

C. Installation:

1. Install the smooth side without any markings facing out (the rougher side with factory markings is the back of the board).

1.a Direct application to building's exterior plywood sheathing:

Mechanically fasten Cem-Clad panels to building's exterior plywood sheathing in accordance with section 'D Fastening' below. Follow manufacturers' latest published recommendations for panel installation. Do not fasten Cem-Clad panels directly to the wall framing members – install over existing plywood sheathing that is capable of securely holding the screw fasteners. A vapor barrier membrane is recommended between the exterior plywood sheathing and the Cem-Clad panels. Cem-Clad Panels are supplied factory sealed all sides and edges against moisture penetration. Any cuts or holes made on the Cem-Clad panels must be re-sealed with Sherwin-Williams HC acrylic emulsion concrete sealer. Leave a 1/8" minimum gap at all board joints. Apply joint sealant at all panel joints - see F.1 below.

1.b Rainscreen Applications:

Mechanically fasten Cem-Clad panels to the rainscreen system supporting structure as shown on the drawings or in accordance with the drawings shown at the following URL: <http://architecturalproducts.com/cem-clad> Cem-Clad Panels are supplied factory sealed all sides and edges against moisture penetration. Any cuts or holes made on the Cem-Clad panels must be re-sealed with Sherwin-Williams HC acrylic emulsion concrete sealer. Leave a minimum 1/8" gap at all Cem-Clad panel joints. Do not caulk the board joints; leave the board joints open to achieve air circulation behind the panels.

Exterior Walls: Use 17mm (5/8" nom.) minimum thickness.

Interior Walls: Use 11mm (7/16" nom.) minimum thickness.

- 2. Deflection of panels shall be limited to L/240.
- 3. Maintain a minimum of 1/8" spacing between all panel joints.
- 4. Never install panels while wet or damp.

D. Fastening:

1. Prior to installation, verify that substrate to which Cem-Clad panels will be attached is capable of securely holding the fasteners. Pre-drill all Cem-Clad panels at fastener locations prior to fixing. Locate screw fasteners at 12" on center maximum spacing throughout the entire panel field. Maintain a minimum distance of 3/4" from board edges with all fasteners. Stagger fastener placements at board corners, maintain a minimum of 2" fastener distance from any board corner. Do not locate fasteners at 45 degree angles from one another at board corners. Do not place single fasteners in board corners. See manufacturers recommended fastener detail at <https://architecturalproducts.com/downloads/cemclad/FastenerDetail.pdf> Prior to inserting attachment screws through pre-drilled holes in panels, fill holes with sealant as specified paragraph F.1 below. Surface mount Cem-Clad panels using exposed stainless steel flat head [#8-18 SMS with tamper proof head design](#). Provide stainless steel finishing washers to receive screw head. Fasten Cem-Clad panels to existing building sheathing in pattern as shown on the drawings.

E. Fabrication

- 1. Shop fabricate panels in accordance with approved shop drawings to dimensions as indicated on the drawings.

F. Joint Sealant:

1. Use TREMCO Dymonic polyurethane sealant/caulk or equal. Seal all joints between panels with specified sealant. Do not allow sealant to migrate to the face surface of the panels. Install sealant/caulk in accordance with sealant manufacturer's instructions.

G. Weather Sealer:

If any cuts or holes are made on the Cem-Clad panel, re-seal all cuts / holes with Sherwin-Williams HC Acrylic Based Emulsion Sealer or equal. Several recommended sealers are shown on our website at: <https://architecturalproducts.com/downloads/cemclad/Sealers.pdf>

Do not use any oil based sealers on Cem-Clad panels.

-- END OF SECTION --