

VERSAROC® CEMENT BOARD WALL APPLICATION

Architectural Specifications

Division 3- 03500 Cementitious Decks and Underlayment

Last Update 12/12/2013

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 all structural 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. Metal stud wall framing systems.
- B. Wood stud wall framing systems
- C. Wall insulation.
- D. Gypsum wallboard or exterior plywood sheathing
- E. Exterior and interior wall finishing systems and materials.

IV. Materials:

A. General: All cement board wall panels shall comply with EN 634-2 for cement bonded particle boards; and shall be installed according to the manufacturer's most current instructions published on the internet web site at <https://architecturalproducts.com> Materials shall be VERSAROC® Cement Bonded Particle Board as supplied by U.S. Architectural Products, Inc., North Providence, Rhode Island (800-243-6677), or equal.

B. Wall Panels:

- 1. Panels to be of metric thickness: 10mm (3/8") minimum for interior applications; 12mm (1/2") minimum for exterior applications; or thicker as selected from the manufacturer's load tables for the project live load design requirements in 4' x 8' or 4' x 10' sizes as shown on drawings.
- 2. All VERSAROC® wall panels are to be selected from the manufacturer's load tables to carry the project live load design over a maximum of 24 inches on center support spacing while limiting deflection to a maximum of L/240.
- 3. Panels shall have the following minimum mechanical properties:
Density: 77 lbs. per cubic foot.
Modulus of Elasticity: 717,800 psi
Permissible Design Value: 326 psi
Shear Strength: 1,424 psi
Tensile Strength: 667 psi
Compressive Strength: 4,852 psi

V. Samples and Submittals:

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

VI. Fire Resistance Properties:

A. All cement board wall panels shall be rated for 0 flame spread and 0 smoke development per ASTM E84 and shall have passed a modified ASTM E136 test for a minimum duration of ten minutes.

VII. Delivery and Storage:

- A. Panels are normally delivered to site in factory crates that are bound with plastic sheet protection, wooden edge protection and wooden dunnage to facilitate forklift handling. When transporting loose panels by truck, they must be laid flat and fully protected against edge damage and protected from weather with waterproof covering. When hand carrying single panels, they must be carried on edge with the short side held vertically.
- B. Deliver, store and handle materials to prevent breakage, warping or damage by water.
- C. Acclimatize materials by storing on site not less than three days before installation.
- D. Materials to be stored indoors on leveled dunnage not exceeding 24" on centers. If temporarily stored outdoors, boards must be elevated above ground, and protected from the weather with waterproof covering.
- E. Panels to be stored flat and not on edges.

VIII. Installation:

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

B. Installation:

- 1. A support framing member, flat-stock, or substrate sheathing capable of resisting design pull-out values must always occur behind fastener location.
- 2. Where collateral materials are to be attached to Versaroc Sheathing panels where no structural member is located behind the panel at the required attachment points, an appropriate screw type fastener, wall anchor/screw or toggle backed screw may be employed. Pre-drilling the attachment hole through the Versaroc panel is required in all cases. Contact our technical department to discuss your job specific conditions and the appropriate fastener selection and attachment.
- 3. Deflection of panels shall be limited to L/240.
- 4. In exterior applications, control joints (where applicable) shall be designed to prevent transfer of any movement or stress to exterior finish systems. Through-wall control joints shall be designed to isolate a maximum of 250 sq. ft. of wall area. Provide separate framing member at each side of control joint.
- 5. Comply with applicable building codes for wind, seismic and other load requirements.
- 6. Install panels with long dimensions vertical or horizontal. All panel joints must be supported by a framing member, flat-stock, or substrate sheathing capable of resisting design pull-out values.
- 7. Provide 1/8" vertical and horizontal joints between panels.
- 8. Use 10mm (3/8") minimum at all interior installations and 12mm (1/2") minimum thickness at all exterior installations.
- 9. Use 2" minimum flange width stud framing for single stud back-up at panel joints. If stud framing at panel joints uses less than 2" flange width, use double studs at panel joint locations. Opposite side of stud wall to be restrained against stud rotation.
- 10. Never install panels while wet or damp.

C. Fastening

- 1. Metal studs: Fasteners: use corrosion resistant self-countersinking head screws such as HILTI PWH SD Cement Board Fasteners, part #00372760, or equal. Fasteners to be minimum #8 diameter with S-12 self-drilling 'TEK' points. Length = 2 to 3 times the board thickness. Seat screw heads flush with panel surface, do not over drive screws. Screw fasteners to maintain 3/4" distance from all board edges. Screw fasteners to maintain minimum of 2" distance from board corners and offset fasteners to avoid 45 degree fastener placement at board corners. Follow manufacturer's installation instructions.
- 2. Wood studs: #8 diameter minimum x lengths as applicable to panel thickness, non-corroding, Hi-Lo type screws with self-countersinking head such as ITW Buildex's 'Rock On' fastener or equal or non-corroding ring shank nails.
- 3. Fasteners to be 12" on centers maximum spacing attaching panels to framing members.
- 4. Maintain centerline of fasteners a minimum of 3/4" from all panel edges.
- 5. Comply with manufacturer's printed catalog typical fastening patterns and corner fastening details.
- 6. Do not overdrive screw heads. Seat screw heads flush with surface of panel.

D. Joints

- 1. Exterior applications: use premixed elastomeric joint caulking or sealant as approved by the synthetic coatings manufacturers' finish system. Use only fully elastomeric synthetic coatings.
- 2. Interior applications: design for visible panel joints or use metal or plastic batten cover strips at panel joints.

E. Surface Treatments

- 1. VERSAROC® will receive most standard paint finishes and stains. VERSAROC® has a pH of 11-13 and therefore an alkali resistant primer may be required by some coatings – it is advisable to refer to the paint manufacturer in all instances. For surface treatments that are not vapor or moisture permeable, the reverse and all edges of the panel should also be treated in the same way to avoid the panel being unbalanced and exhibiting warping under extreme conditions of humidity variance

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