VERSAROC® CEMENT BOARD FLOOR / ROOF APPLICATION
_____ *Architectural Specifications* _____

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 roof or floor 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. Roof framing and floor framing.
B. Metal roof and floor decking.
C. Insulation.
D. Roof surfacing and floor finishes.

IV. Materials:
A. General: All cement board floor and roof panels shall be rated for 0 flame spread and 0 smoke development per ASTM E84 and shall be noncombustible in accordance with a modified ASTM E136 test for a minimum duration of ten minutes. Install according to the manufacturer's most current instructions published on the internet web site at http://www.architecturalproducts.com Materials shall be VERSAROC® Cement Bonded Particle Board as supplied by U.S. Architectural Products, Inc., Lincoln, Rhode Island (800-243-6677), or equal.

B. Roof and Floor Panels:
1. Panels to be of metric thickness: 19mm (3/4") minimum for floor applications; 16mm (5/8") minimum for roof 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® roof and floor 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 floor and roof 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 32" 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. Use minimum 16mm (5/8") thickness panel for roofs; 19mm (3/4") minimum thickness panel for floors, stagger panel joints in long direction. VERSAROC® panels are to be installed over supporting framing members not exceeding 24 inches on centers. Select VERSAROC® panel thickness from the manufacturer's load tables to carry the project live load design requirements while limiting deflection to a maximum of l/240.
2. When factory sealed panels are being used, install white surface facing up and gray surface facing down. Install panels with long dimension across supports.
3. Comply with applicable building codes for wind, seismic and other load requirements.
4. Construction Adhesive: Use PEMCO 5100 non-flammable, solvent free, zero V.O.C., polyurethane adhesive as supplied by Alpha Systems, Inc., Elkhart, IN or equal. Apply approximately ¼" bead of construction adhesive in all tongue and groove VERSAROC joints as well as at square edge VERSAROC joints in all floor and roof deck installations. Make all VERSAROC joints tight fitting immediately after adhesive application and before screw fastener installation.
5. Fasteners: use corrosion resistant self-countersinking head screws such as Grabber Part No. BGCB8158SD or equal. Fasteners to be minimum #8 diameter with S-12 self-drilling 'TEK' points. Length = 2-1/2 to 3 times the board thickness. Seat screw heads flush with panel surface, do not over drive screws. Screw fasteners to maintain ¾" 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.
6. Deflection of panels must be limited to l/240 under maximum live load design.
7. Never install panels while wet or damp. Allow panels to dry prior to installation.
8. FLOOR PANELS - All floor panels are to receive a wear surfacing finish. VERSAROC® floor panels are to be installed as a sub-floor, not as a finished wear flooring surface. Floor finishing materials must not be applied until after the building is completely closed to the weather and the VERSAROC® installation has acclimatized to the closed building's environment for a minimum of 48 hours.
8.A Factory sealed panels with tongue and groove edges on the panels' long dimensions may be used where floor finish is to be pad and carpet, vinyl composition tile, linoleum, or other thin floor finishing materials.
8.B Factory sealed panels with tongue and groove edges on all four edges is to be used where floor finish is to be ceramic tile.
9. Application of Roofing Shingles:
9.a Structural Roof Decks: For applications where Versaroc is designed as the structural load bearing roof deck
9.a.1 Roofing Nail Application: For Versaroc thickness of 19mm (¾") or thicker with T&G edges on at least the two long dimensions of the board - use of galvanized roofing nails is acceptable as long as proper fastener length is selected. Shingles should be applied in accordance with shingle manufacturer's instructions using a pneumatically operated nailing gun.
9.a.2 Staple Application: For Versaroc thickness of 16mm (5/8"), use wide crown staple fasteners formed from minimum 16ga. wire with corrosive resistant coating. The difference between staple penetration and VERSAROC® board thickness should not be less than 1/8", i.e., the staple fastener must not penetrate the back side of the 5/8" Versaroc board. For example, when applying a single layer of asphalt shingles to 16mm (5/8") VERSAROC®, use 1/2" long x 1" wide crown staple fasteners. Staple fasteners are to be installed using pneumatically operated staple guns (Stanley Bostitch part number 438S2R, 438S2, 450S2, or equal). Follow tool manufacturer's instructions for tool operation and application of staple fasteners. Follow the shingle manufacturer's installation instructions for number and placement of fasteners per shingle.
9.b Non-Structural Nail Base: For applications where 16mm (5/8") Versaroc or thicker is installed over existing structural decking such as corrugated metal decking or plywood, acting solely as a nail-base. Use of wide crown staple fasteners and/or galvanized roofing nails is acceptable in accordance with the specifications described in 9.a.1, & 9.a.2.

Do not overdrive fasteners.

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