

SOLARCRETE
STANDARD AND FIRE RATED WALL
SPECIFICATIONS

All Solarcrete Standard and Fire-Rated Walls shall strictly comply with the following specifications:

I. MATERIALS

A. Reinforcing Steel, Ties and Clips

1. Reinforcing steel consists of No. 3 deformed reinforcing bars conforming to the "Standard Specifications for Bars, Deformed and Plain, Billet Steel for Concrete Reinforcement" ASTM A615) Grade 60.
2. Solarcrete web and base ties.
3. Secondary reinforcing shall consist of Polypropelene fibres designed for concrete reinforcement and shall be included in the quantity and by the methods recommended by the manufacturer.

B. Solarcrete control joints

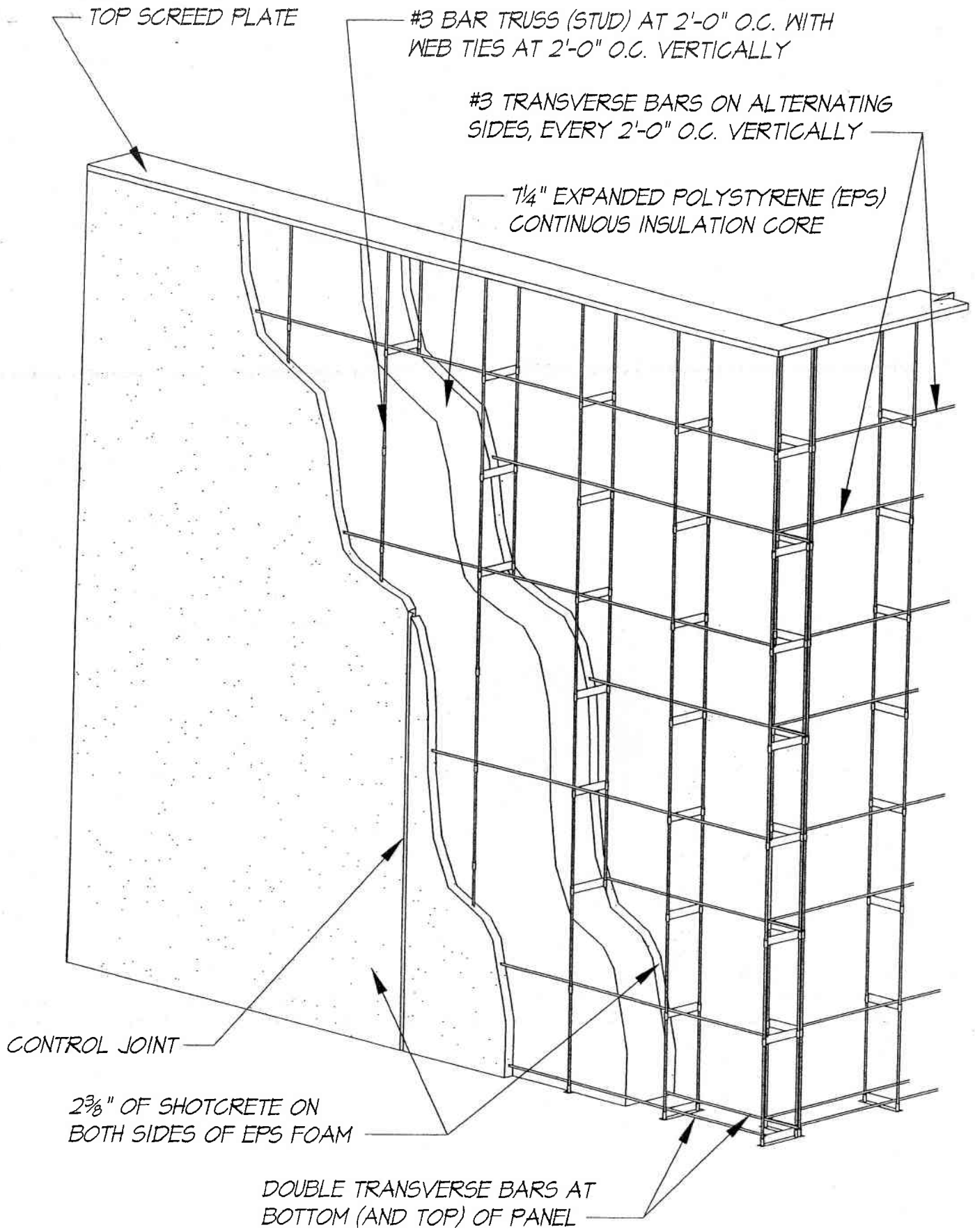
1. Solarcrete control joints are fabricated from Galvanized steel, zinc or plastic and shall bear the logo indicating approval by Solarcrete.

C. Insulation

1. Insulation authorized by Solarcrete is Expanded Polystyrene board (EPS Foam), with a 1 lb. per cubic foot nominal density.

D. Concrete

1. Cement shall conform to the "Standard Specifications for Portland Cement" (ASTM ~150).
2. Aggregate shall conform to the "Standard Specification for Concrete Aggregates" (ASTM C33).
3. Water shall be clean and potable.



SOLARCRETE INSULATED CONCRETE COMPOSITE WALL
 R-35 / U-.029

Wall Type	Concrete Skin Thickness (in.)	Concrete Rebar Cover (in.)
A	2 3/8"	1 1/2"
Fire-Rated	2 1/2"	1 5/8"
B	1 5/8"	3/4"

II. CONCRETE

A. Concrete mix

1. The Solarcrete shotcrete mix shall be in accordance with the proprietary design mix as disclosed to authorized Solarcrete contractors and shall comply with ACI 506.2-77.

B. Concrete Strength

1. The 28-day compressive strength shall be 4000 psi minimum.

III. CONSTRUCTION

A. Wall Panel Assembly.

1. This assembly consists of vertical trusses, horizontal (transverse) bars and insulation trapped between bars. Trusses shall be constructed with two (2) chords of No.3 deformed bars joined together by web ties 2' 0-c. the ends of which shall be tightly crimped 285 around the chords.

2. The trusses (studs) shall be spaced 2' O.C. horizontally.

3. Transverse reinforcing bars shall be No. 3 deformed bars and located on both sides of the wall at the top and bottom, and at 4' O.C. each side, staggered (i.e. not opposite each other). Transverse bars shall be attached to maintain their position until shotcreting has been completed.

4. The 2' wide insulation boards shall be placed between the trusses. Transverse bars on the other side of the panel shall be wire tied to trap insulation in place.

5. The entire assembly is then either fastened to the footing with two (2) 1 1/4" long by -145" diameter powder

4. The 2' wide insulation boards shall be placed between the trusses. Transverse bars on the other side of the panel shall be wire tied to trap insulation in place.

5. The entire assembly is then either fastened to the footing with two (2) 1 1/4" long by -145" diameter powder fasteners per base tie or with powder fasteners and No. 4 bar dowels at 4' 0.C.

6. Assembly shall be adequately braced prior to and during shotcreting.

B. Control Joint Installation

1. Solarcrete control joints (SCJ) shall be installed vertically and whenever possible opposite each other on both sides of the wall.

2. SCJ's shall be spaced horizontally at not more than 8' 0.C. but not closer than 3" nor within lintel spans. Joints shall be ringed or wire tied to transverse bars.

C. Concrete Installation.

1. Concrete shall be applied by the "Wet Shotcrete" method.

2. Shotcreting shall be applied strictly in accordance with ACI 506R-90 and shall be completed only by a field certified Solarcrete Shotcrete Contractor.

IV LIMITATIONS

1. Any drawings and design specifications utilizing the rev 6/93 A1003 Solarcrete Building System shall:

A. Bear the stamp or seal of a Registered Architect or Engineer.

B. Be submitted to an approved Solarcrete architect or engineer for review and approval prior to commencing construction.

C. Specify only authorized Solarcrete Building System components for use in the project.

2. When the above conditions are met, the approved and design-certified Solarcrete architect, engineer or distributor will issue a Solarcrete Authorization Certificate which shall be included as an integral part of any plans submitted for local permits and approvals and a copy of this certificate