

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by the following method in Microsoft Word:

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SECTION 07 44 00 - CONCRETE FACED PANELS

PART 1 GENERAL

1.1 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conference:
 - 1. Convene at Project site [2] [] weeks prior to beginning work of this Section.
 - 2. Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] installer, and related trades.
 - 3. Review: Project conditions, manufacturer requirements, delivery and storage, staging and sequencing, and protection of completed work.

1.2 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: Manufacturer's data sheets on each product to be used, including:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods.
 - 2. Samples:
 - a. Color chips representing manufacturer's full range of available colors and patterns.
 - b. After color selection submit [4 x 4] [] x [] inch samples of each color and patterns.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Minimum [] years experience in work of this Section.
- B. Manufacturer: Provides design, engineering, fabrication, and testing of required components and assemblies for complete system.
- C. Mockup: Provide mockup for evaluation of surface preparation techniques and application workmanship.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Protect materials from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.
- B. Store panels flat.
- C. Do not drop panels.

1.5 SITE CONDITIONS

- A. Substrate and ambient air temperature in accordance with manufacturer's requirements.

1.6 WARRANTY

- A. Manufacturer's standard year warranty against defects in materials and workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products by T. Clear Corporation, 800-544-7398, email sconfer@tclear.com, www.tclear.com.
- B. Substitutions: [Refer to Division 01.] [Not permitted.]

2.2 MATERIALS

A. Insulating Drainage Panels:

- 1. Source: Thermadry Insulating Drainage Panels by T. Clear Corporation.
- 2. Performance: Type 750; 25 PSI,
 - a. Thickness: 2 inches.
 - b. R-value: 9.4, tested to ASTM C518.
 - c. Compressive strength: 2160 PSF, tested to ASTM D1621.
 - d. Flow rate: 9.5 gallons per minute per foot at 500 PSF.

**** OR ****

- 3. Performance: Type 1250; 40 PSI:
 - a. Thickness: 2 inches.
 - b. R-value 9.4, tested to ASTM C518.
 - c. Compressive strength: 3460 PSF, tested to ASTM D1621.
 - d. Flow rate: 12 gallons per minute per foot at 500 PSF.

**** OR ****

- 4. Performance: Type 1750; 60 PSI:
 - a. Thickness: 2 inches.
 - b. R-value 9.4, tested to ASTM C518.
 - c. Compressive strength: 5180 PSF, tested to ASTM D1621.
 - d. Flow rate: 12 gallons per minute per foot at 500 PSF.
- 5. Construction:
 - a. Composite of insulation and fabric.
 - b. Closely-spaced vertical and horizontal channels on one side of panel.
 - c. Filtration fabric overlaps adjacent panels both vertically and horizontally.
- 6. Size: 2 x 8 feet.
- 7. Edges: Square.

B. Concrete Faced Insulated Sheathing:

- 1. Source: ProGUARD Insulated Sheathing Panels by T. Clear Corporation.
- 2. Description: Concrete faced exterior insulation consisting of 1/4 inch thick cement backerboard laminated to extruded or 2 expanded polystyrene.
- 3. Concrete face:
 - a. Compressive strength Minimum 2600 PSI, tested to ASTM D2394.
 - b. Flexural strength: Minimum 1500 PSI, tested to ASTM C947.
 - c. Linear variations with change in moisture to air dry: Width 0.02 percent, length 0.02 percent, tested to ASTM D1037 at 50 percent relative humidity and 73 degree F.
 - d. Surface burning characteristics: Flame spread/smoke developed rating 0/0, tested to ASTM E84.
 - e. Weigh per square foot: 1.95 pounds.
 - f. Fastener pull through:: Minimum 195 pounds.
 - g. K-factor: 1.6.
 - h. R-factor: 0.16.
- 4. Extruded polystyrene:
 - a. Type: ASTM C578, Type X.
 - b. Density: 1.3 PCF.
 - c. Compressive Strength: 25 PSI.

- d. R-value per inch at 75 degrees F: 5.0.
- e. Water absorption: Maximum 0.30 percent by volume.
- f. Water vapor permeance: 0.733 for 1-1/2 inch thickness; 0.55 for 2 inch thickness.
- g. Surface burning characteristics: Maximum flame spread/smoke developed rating 5/165, tested to ASTM E84.

**** OR ****

- 5. Expanded polystyrene:
 - a. Type: ASTM C578, Type IX.
 - b. Density: 2.0 PCF.
 - c. Compressive Strength: 25 PSI.
 - d. R-value per inch at 75 degrees F: 4.35 to 5.0.
 - e. Water absorption: Maximum 2 percent by volume.
 - f. Water vapor permeance: Maximum 2.5.
 - g. Surface burning characteristics at 4 inch thickness: Maximum flame spread/smoke developed rating 5/100, tested to ASTM E84.
- 6. Overall panel thickness: [1-1/4] [1-3/4] [2-1/4] [2-3/4] [3-1/4] [3-3/4] [4-1/4] [4-3/4] [5-1/4] [5-3/4] [6-1/4] [6-3/4] inches.

C. Concrete Faced Insulated Perimeter Wall Panels:

- 1. Source: WallGUARD Concrete Faced Insulated Perimeter Wall Panels by T. Clear Corporation.
- 2. Construction:
 - a. Extruded polystyrene board, ASTM C578, Type IV, rigid, closed cell, with integral high density skin, with integral 5/16 inch thick latex-modified concrete facing.
 - b. Board Size: 2 x 4 feet x [2-5/16] [3-5/16] inches thick.
 - c. Edges: Tongue-and-groove sides, square ends.
 - d. thermal resistance: Long term aged R-value of 5 per inch, tested to ASTM C518.
 - e. Foam compressive strength: Minimum 35 PSI, tested to ASTM D1621.
 - f. Compressive strength: Minimum 40 PSI, tested to ASTM D 1621.
 - g. Water absorption: Maximum 0.7 percent by volume, tested ASTM D2842.
 - h. Water vapor permeance: 0.8, tested to ASTM E96/E96M.
 - i. Coefficient of lineal thermal Expansion: 3.5 x 10⁻⁵ inches per inch x degree F, tested to ASTM D696.
- 3. Accessories:
 - a. Metal cap flashing: 24 gage galvanized steel J-channel; 2-1/4 inches wide, 4 inch long leg and 2-1/4 inch short leg; prefinished, color to be selected.

**** OR ****

- b. PVC cap flashing: Ultraviolet stabilized PVC, 0.060 inch thick, Z-shaped, with drip edge, gray.
- c. Clips and fasteners: Corrosion-resistant, sized to suit application; as supplied by insulation manufacturer.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

- A. Install in accordance with manufacturer's instructions.

3.2 INSTALLATION OF INSULATING DRAINAGE PANEL

- A. Foundation Wall Insulation:
 - 1. Surfaces to receive panels:
 - a. Smooth, monolithic, free of coarse aggregate and debris.
 - b. Waterproofing cured and free of solvent.
 - 2. Place mastic adhesive compatible with panels and waterproofing in six large, equally-spaced spots on non-fabric side of panels.
 - a. Install first panel vertically, with long edge flush with corner and fabric flap on right.

- b. Place fabric flap on horizontal edge at bottom of panel and position to prevent backfill from entering channels.
 - c. Ensure that fabric on long edge of panel overlaps previous panel.
 - d. Continue until corner is reached. Cut and install corner panels.
 - e. Use adhesive or staples to hold flap in place.
 - f. Install additional loose filter fabric to ensure that gaps are covered.
3. Multiple tier installation:
 - a. Install in manner similar to that used on lower tier.
 - b. Ensure that fabric flap of upper panels overlaps lower panels.
 4. Top edge finishing: If top edge of panels is below grade, seal edge to prevent soil entry using J or Z-shaped channel, sheathing tape, or soil fabric.
 5. Above grade installation: If panels extend above grade, protect exposed area from physical damage and ultraviolet exposure using mechanically attached protection.
 6. Connect panels to subsurface drainage system.
- B. Plaza Deck Installation:
1. After waterproofing membrane has been tested and approved, lay insulation panels loose over waterproofing, with fabric facing up.
 2. Fit joints tight, with fabric overlapped at side and end joints.
 3. Provide temporary ballast if installation of wearing surface is delayed.

3.3 INSTALLATION - CONCRETE FACED INSULATING SHEATHING

- A. Steel and Wood Studs:
1. Install sheathing horizontally with long dimension perpendicular to studs.
 2. Locate panel ship-lap joint on studs.
 3. Fastener at 6 inches on center on panel joint and maximum 6 inches on center at intermediate studs if studs are 16 inches or less on center and 4-1/2 inches on center if studs are 24 inches on center.
 4. Use self drilling, corrosion resistant screws with 5/8 inch pancake head with square or star drive head as provided by panel manufacturer.
- B. Concrete and Masonry Substrates:
1. Place 1/4 inch beads of non-expanding urethane adhesive to foam side of panel along four outer edges and at 12 inches from long edge of panel running full length of panel.
 2. Place corrosion-resistant masonry fasteners maximum 12 inches on center over entire panel surface.
 3. Coat heads and panel joints with waterproofing compound supplied by panel manufacturer.
- C. Seal joints with fiberglass mesh tape embedded in waterproofing compound supplied by panel manufacturer.

3.4 INSTALLATION - CONCRETE FACED INSULATED PERIMETER WALL PANELS

- A. Surfaces to Receive Panels: Flat, sound, clean, and free from irregularities and or jagged surfaces.
- B. Lay out panels to maximize board sizes. Do not use boards less than 6 inches wide.
- C. Install panels in orientation to maximize full sheets.
- D. Install fastening clips and cap flashings.

3.5 PROTECTION

- A. Protect installed products from damage during construction.

END OF SECTION