



SECTION 09 30 50
TILE BACKERBOARD AND WATERPROOFING

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Tile backerboard.
- B. Tile underlayment.
- C. Decoupling mat.
- D. Tile waterproofing membrane.
- E. Pre-sloped shower board.
- F. Trim profiles.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 09 29 00 - Gypsum Board.
- C. Section 09 30 00 - Tiling.

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A118.9 Standard Testing for Tile Backerboard.
- B. ASTM International: (ASTM)
 - 1. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in and Environmental Chamber.
 - 2. ASTM E 72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
 - 3. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 4. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - 5. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 6. ASTM E 162 - Standard Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's current published data including component materials,

dimensions, standard details, and installation instructions.

1.5 QUALITY ASSURANCE

- A. Fire Test Response Characteristics: Provide assemblies identical to those tested for fire resistance per reference standards above, by a testing agency acceptable to the local building authority including:
 - 1. Surface Burning Characteristics per ASTM E84:
 - a. Flame Spread: 0.
 - b. Smoke Developed: 0.
 - 2. Pass ASTM E119 for Firewall Assembly Rating.
 - a. Intertek Design JPL/GFRCP 60-01, 1 hour fire rated non-load-bearing wall system.
 - 3. National Fire Protection Association (NFPA) Fire Rating:
 - a. Class A.
 - 4. International Code Council (ICC) Fire Rating:
 - a. Class 1.
- B. Mold and Moisture Resistance: ASTM D 3273 Score: 10.
- C. Deflection Limit of Panels and Supporting Framing: L/360.
- D. Shear Values (pounds per foot) for Panel Shear Walls Framed with Wood Framing: ASTM E 72, Section 14. Shear values with Factor of Safety (FOS) applied provided as reference only. It is the responsibility of the engineer of record to apply FOS appropriate for the application.
 - 1. JetBoard, 1/4 inch (6 mm) thickness, 8d nail size, shear (plf):
 - a. Ultimate: 291 at 6 inch edge nail spacing, 584 at 4 inch nail spacing.
 - b. FOS = 2.0: 145 at 6 inch edge nail spacing, 292 at 4 inch edge nail spacing.
 - c. FOS = 3.0: 97 at 6 inch edge nail spacing, 195 at 4 inch edge nail spacing.
 - 2. JetBoard, 1/2 inch (12 mm) thickness, 8d nail size, shear (plf):
 - a. Ultimate: 368 at 6 inch edge nail spacing, 713 at 4 inch nail spacing.
 - b. FOS = 2.0: 184 at 6 inch edge nail spacing, 357 at 4 inch edge nail spacing.
 - c. FOS = 3.0: 123 at 6 inch edge nail spacing, 238 at 4 inch edge nail spacing.
- E. Single Source Responsibility: Except where indicated otherwise, provide all products and accessories from a single manufacturer.
- F. Qualifications:
 - 1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
 - 2. Installer Qualifications: Minimum 2 year experience installing similar products and acceptable to the manufacturer.
- G. Pre-Installation Meeting: Convene at the project site minimum two weeks prior to starting work of this section.
- H. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship is approved by Architect.
 - 3. Rework mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation. Handle materials to avoid damage.

1. Store materials on level supports off the ground to prevent sagging. Cover loosely with waterproof material to prevent condensation from forming while protecting against weather, direct sunlight, surface contamination, and construction traffic.
2. Handle materials to avoid damage to edges and surfaces.

1.7 PROJECT CONDITIONS

- A. Maintain temperature, humidity, and ventilation within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

- A. Warranty: Provide manufacturer's standard limited 10-year warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: JetProducts™, which is located at: 770 Bradfield Rd. Suite 575; Houston, TX 77060; Toll Free Tel: 877-453-8868; Email:[request info \(LearnMore@Jet-Board.com\)](mailto:request info (LearnMore@Jet-Board.com)); Web:www.jet-board.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 TILE BACKER BOARD

- A. Tile Backer Board: JetBoard by JetProducts, a light weight, moisture, mold and mildew resistant, glass-mat reinforced magnesium oxide board (MgO board) complying with the following:
 1. Manufactured size, 3 x 5 foot by 1/2 inch thick (914 x 1524 x 12 mm).
 2. Passes ANSI A118.9 Standard Testing for Tile Backerboard.
 3. Non-toxic, contains no crystalline silica.
- B. Tile Backer Board: Triton Board by JetProducts. Triton WP applied to Jet Board in a factory setting:

2.3 TILE UNDERLAYMENT

- A. Tile Underlayment: JetBoard by JetProducts, a light weight, moisture, mold and mildew resistant, glass-mat reinforced magnesium oxide board (MgO board) complying with the following:
 1. Manufactured size, 3 x 5 foot by 1/4 inch thick (914 x 1524 x 6 mm).
 2. Passes ANSI A118.9 Standard Testing for Tile Backerboard.
 3. Non-toxic, contains no crystalline silica.

2.4 DECOUPLING MAT

- A. Tile Decoupling Underlayment: Triton CI Mat by JetProducts complying with the following.
- B. Physical Characteristics:
 1. Construction: Laminated rolled sheet of mortar lock mesh, intermediate dimpled polypropylene and a top layer of co-extruded woven mesh.
 2. Color Of Mats; Textured membrane = yellow, backing fleece = white, mesh = green
 3. Width: 39-3/8 inches (1000 mm).

4. Thickness: 1/8 inch (3 mm).
 5. Length Of Roll: 16 / 32 / 96 feet (5 / 10 / 30 m).
- C. Performance:
1. Temperature Range: -40 to 176 degrees Fahrenheit (-40 to 80 degrees Celsius).
 2. Compressive Strength: 2.11 lb/in² (.37 N/mm²).
 3. Resistant to chemicals, decay, fungus, and bacteria.
- D. Certification: ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester.
1. Certified "Extra Heavy" Installed over OSB subfloor with 19.2 inches (488 mm) joist spacing.
 2. Certified "Heavy" Installed over OSB subfloor with 24 inches (610 mm) joist spacing.

2.5 TILE WATERPROOFING MEMBRANE

- A. Tile Waterproofing Membrane: Triton WP by JetProducts complying with the following.
- B. Physical characteristics:
1. Thickness: 3/64 inch (1 mm).
 2. Construction: Fabricated of double-sided fleece weave with Polyethylene core.
- C. Certifications:
1. Meet ANSI A118.10 for Load Bearing, Bonded Waterproof Membranes for Tiling.
 2. Meet ICC-ES AC115 for Waterproof Membranes for Flooring and Shower Lining.
 3. Meet the International Residential Code (IRC) and International Plumbing Code (IPC).
- D. Accessories:
1. WP Sealing Tape: 4-3/4 inches (120 mm) wide.
 2. WP Sealing Tape with Polyester Backing:
 3. WP Sealing Tape with Self-Adhesive Backing:
 4. WP Flex Pipe Collar: 4-3/4 inches (120 mm) by 4-3/4 inches (120 mm) square. 16-3/4 inches (425 mm) by 16-3/4 inches (425 mm) square.
 5. WP Inside Corner: 5-1/2 inches (140 mm) by 5-1/2 inches (140 mm).
 6. WP Outside Corner: 5-1/2 inches (140 mm) by 5-1/2 inches (140 mm).

2.6 PRE-SLOPED SHOWER BOARDS

- A. Shower Board System: Triton Pre-Sloped Shower Board by JetProducts complying with the following.
1. The Triton Pre-Sloped Shower Board shall include the drain components, and pipe fittings.
- B. Pan Triton WP Watertight Membrane pre-bonded in factory to the pre-sloped pan.
1. The watertight membrane shall overlap on all sides by 3 inches (76 mm) and on the underside, eliminating the need for additional sealing tape. The overhanging membrane is placed flush against the wall, creating a true watertight seal. Adhesion on the rear side guarantees better adhesion with the base.
- C. Type: Off-Center Drain.
1. Size: 32 inches by 60 inches (81.28 cm by 152.4 cm).
- D. Type: Center Drain.
1. Size: 48 inches by 48 inches (121.92 cm by 121.92 cm).
 2. Size: 36 inches by 48 inches (91.4 cm by 121.92 cm).
 3. Size: 32 inches by 60 inches (81.28 cm by 1152.4 cm).

2.7 TRIM

- A. Profile: Bullnose trim as manufactured by JetProducts.
1. Size: as indicated or required.
 2. Provide internal and external corners as scheduled or required.
 3. Material: Brass.
 4. Material: Stainless Steel.
 5. Material: PVC.
 6. Material: Aluminum.
 7. Material: Anodized Aluminum or Powder-Coated.
- B. Profile: Square trim as manufactured by JetProducts.
1. Material: Stainless Steel.
 - a. Length: 98 inches (250 cm).
 - b. Height: 23/64 inch / 7/16 inch / 31/64 inch (9 / 11 / 12.5 mm).
 - c. Finish: Natural / high gloss with peel-off strip.
 - d. Finish: Brushed with peel-off strip
 - e. Accessories: Int. and ext. corner Y (available in Stainless steel imitation, not available in natural finish)
 2. Material: Brass.
 - a. Length: 98 inches (250 cm).
 - b. Height: 23/64 inch / 7/16 inch / 31/64 inch / 19/32 inch (9 / 11 / 12.5 / 15 mm).
 - c. Finish: Chrome plated.
 - d. Accessories: Interior and exterior corner Y.
 3. Material: PVC.
 - a. Length: 98 inches (250 cm).
 - b. Height: 9/32 inch / 23/64 inch / 7/16 inch (7 / 9 / 11 mm).
 - c. Finish: White.
 - d. Finish: Jasmine.
 - e. Finish: Black.
 - f. Finish: Silver Grey
 - g. Accessories: Interior and exterior corner Y.
 4. Material: Aluminum.
 - a. Length: 98 inches (250 cm).
 - b. Height: 4,5 / 7 / 9 / 11 / 12.5 (mm)
 - c. Finish: Natural.
 - d. Finish: Silver anodized.
 - e. Finish: Titanium anodized.
 - f. Finish: Silver high gloss anodized.
 - g. Finish: Gold high gloss anodized.
 - h. Finish: Silver high gloss anodized brushed.
 - i. Finish: Titanium high gloss anodized brushed.
 - j. Accessories: Interior and exterior corner Y. (not available in natural finish).
- C. Profile: L trim as manufactured by JetProducts.
1. Size: as indicated or required.
 2. Material: Stainless Steel (Natural or High Gloss Finish).
 3. Material: Brass (Natural or High Gloss Finish).
 4. Material: Chrome Plated Brass.
 5. Material: Aluminum.
 6. Material: Anodized Aluminum or Powder-Coated.
- D. Profile: Triton Edge Stair Nosing trim as manufactured by JetProducts,
1. Size: As indicated or required.
 2. Tread Safe.
 3. Florento Step.
 4. Dura Step.

2.8 ACCESSORIES

- A. Fasteners: Corrosion resistant #8 coarse thread screws minimum 2.5 times board thickness or approved equivalent as directed by the engineer of record to meet the following:
 - 1. Lateral Capacity: 89 lbf (395 N).
 - 2. Withdrawal Capacity: 135 lbf (600 N).
 - 3. Head Pull-Through Capacity: 125 lbf (556 N).
- B. Sealants: Comply with ASTM C 920, Type S, Grade NS, compatible with board products and adjacent materials.
- C. Tape: Glass fiber mesh, nominal 2 inches (50 mm) wide of type recommended by the manufacturer for use with silicone sealants.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until adjacent construction is within manufacturer's acceptable tolerance and substrates have been properly prepared. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Do not use materials with defects that would interfere with installation quality.

3.2 INSTALLATION

- A. Install materials in accordance with manufacturer's recommendations and in proper relationship with adjacent construction.
- B. Do not bridge building expansion joints, maintain alignment to structural elements.

3.3 BOARD INSTALLATION

- A. Arrange to minimize joints and cutouts to fit tightly against adjacent construction.
 - 1. Joints and edges must be located over and supported by framing members or structural components acceptable to the project engineer.
 - 2. Allow minimum 1/4 inch (6mm) set back of all edges and cuts for penetrations and obstructions.
 - 3. Butt joints over 1/8 inch (3mm) will not be accepted.
 - 4. Extend beyond backer board minimum 3 inches (75 mm).
- B. Fasten tightly directly into building structure until screw heads are flush with the surface but do not cut into facing materials. Fasten at perimeter and fields no less than 8 inches (200 mm) on center and 1 inch (25 mm) from edges and corners.
- C. Overlap waterproofing between adjacent boards to ensure a watertight seal. Roll seams with manufacturers recommended tools.
- D. Coordinate construction sequence with installation of adjacent materials provided by others.

3.4 DECOUPLING MAT INSTALLATION

- A. Prior to installation of mat, the substrate shall be level, clean and free of any debris or other material that could impair adhesion. Use adhesive that is suitable for the substrate according to ANSI 118.1-118.11.
- B. Lay out and dry fit the mat using a utility knife to cut to size, while leaving a 1/4 inch (6 mm)

gap around the perimeter for expansion.

- C. Adhere mat to substrate with thin set mortar and roll sheet to provide 100% coverage.
- D. For watertight applications, use manufacturer's watertight seam tape, pre-formed inside corners, and outside corners adhered with and embedded in thin-set mortar.
- E. Adhere tile to mat with thin-set mortar making sure to fill the dimpled geometry of the mat completely before placing tile.

3.5 CLEANING

- A. Remove all excess and waste materials from the job site in accordance with the Owner's construction waste management requirements.

3.6 PROTECTION

- A. Protect installed products until Substantial Completion.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION