

SECTION 093000 – WATERPROOF SLOPED SHOWER BASE

PART 1 - GENERAL

This specification includes the sheet membrane used as waterproofing for slope shower base, with tile installations and floor drains. The content of this section should be combined with the specification for the tile finishes including the setting materials required to complete the sheet membrane shower base installation.

1.1 SUMMARY

Typical Floors: **ProBase®** shower base may be installed for waterproofing floor substrates for tile installation.

Acceptable Floor Substrates: Concrete, primed gypsum underlayment, plywood, backer board.

Acceptable Backer Boards: Cementitious backer board, glass mat water-resistant gypsum board, fiber-cement backer board, fiber-reinforced water-resistant gypsum backer board, cementitious coated extruded foam backer board in accordance with TCNA Handbook.

A. Section Includes:

1. Sloped, waterproof shower base for custom tile shower installations.
 - a. Composite made from polypropylene honeycomb with a Noble sheet membrane laminated to the top.
 - b. Sheet membrane shower base bonded to tile substrate with thin-set mortar for shower floors.

1.2 REFERENCES

- A. ANSI A108.13 - Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone.
- B. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation.
- C. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation.
- D. ASTM C365/C365M - Test Method for Flatwise Compressive Properties of Sandwich Cores.
- E. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
- F. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

G. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

H. TCNA Handbook - TCNA Handbook for Ceramic, Glass, and Stone Tile Installation.

1.3 ACTION SUBMITTALS

A. Product Data: For each specified product.

B. LEED Submittals:

Include the next paragraph for LEED NC, LEED CS, and LEED for Schools.

1. Certificates for Credit MR 5: For regional materials, indicating location of manufacturer and point of extraction, harvest, or recovery. Include distance to Project, cost, and fraction by weight for regional components.

Include the next paragraph for LEED CI, only.

2. Certificates for Credit MR 5: For regionally manufactured [**and regionally extracted and manufactured**] materials indicating location of manufacturer [**and point of extraction, harvest, or recovery**]. Include distance to Project, cost, [**and fraction by weight**] for regional components.

Include the next paragraph for LEED NC, LEED CI, and LEED CS.

3. Data for Credit IEQ 4.1: For [**adhesives**] [**and**] [**sealants**], statement of VOC content.

Include the next paragraph for LEED for Schools.

4. Laboratory Test Reports for Credit IEQ 4.1: For [**adhesives**] [**and**] [**sealants**], indicating compliance with California Department of Health Services "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources using Small-Scale Environmental Chambers."

C. Shop Drawings:

1. Include details sheet membrane waterproofing installation, with flashings and terminations.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 SLOPED, WATERPROOFING SHOWER BASE READY FOR THIN-BED TILE INSTALLATION

- A. Sloped Waterproof Shower Base: ANSI A118.10; sloped composite, made from high-strength polypropylene, with composite sheet membrane made from Chlorinated Polyethylene (CPE), with non-woven fiber laminated to the top.
 - 1. Basis of Design Manufacturer: Noble Company.
 - 2. Basis of Design Product: ProBase.
- B. Performance:
 - 1. Moisture Vapor Transmission Rate: ASTM ASTM E96/E96M, Procedure E; maximum 0.2 perms.
 - 2. Compressive Strength (Bare Honeycomb): ASTM C365, 235 psi.
 - 3. Drain Area: Depressed for standard clamping ring drains.
 - 4. Slope: 1/4 inch/ft.

2.2 ACCESSORIES

- A. Bonding Mortar:
 - 1. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4.
- B. Kit Accessories:
 - 1. Flashing Perimeter:
 - a. Basis of Design Manufacturer: Noble Company.
 - b. Basis of Design Product: NobleSeal®, 14 inch wide.
 - 2. Preformed Corners:
 - a. Inside Corner: 4 pieces.
 - b. Outside/Dam: 4 pieces.
 - 3. Seam and Perimeter Sealant: Type recommended by sheet membrane manufacturer [**with VOC less than LEED allowable limits**].
 - a. Basis of Design Product: NobleSealant 150.
 - 4. Weep Protector: Patented weep hole protector (U.S. Patent #5,022,430), clear rigid PVC, 0.20 inch thick.
 - a. Basis of Design Manufacturer: Noble Company.
 - b. Basis of Design Product: Positive Weep Protector®.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for unacceptable conditions affecting sheet membrane shower base installation. Substrate must be smooth, solid, and flat and acceptable for shower application.
- B. Examine roughing-in for plumbing piping to verify actual locations of piping connections before sheet membrane installation.
- C. Correct unacceptable conditions before installing sheet membrane.

3.2 PREPARATION

Floor slab moisture content may be measured by moisture emission test or by relative humidity test, or both.

- A. Examine, prepare, and test concrete floors for finish flooring installation in accordance with ASTM F710. Perform one **[moisture emission test in accordance with ASTM F1869]** **[relative humidity test in accordance with ASTM F2170]** and one alkalinity test for every 2,000 sf (185 sq m). Obtain instructions corrective measures from flooring and adhesive manufacturers when test results are not within specified limits.

Consider requiring more restrictive substrate tolerances when installing large format tile. Verify acceptable limits with tile manufacturer.

1. Surface Tolerance: Maximum variation from plane of 3/16 inch (4.5 mm) in 10 feet (3000 mm).

Include moisture emission rate or relative humidity requirements, or both. Coordinate with tests specified above.

2. Moisture Emission Rate: Maximum 3 lbs. per 1000 sq ft (1.4 kg 100 sq m) per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 3. Relative Humidity: Maximum 80 percent.
 4. Alkalinity Range: pH of 7.0 to 9.0.
- B. When tested moisture emission rate exceeds specified maximum, consult membrane manufacturer and tile manufacturer for acceptable mitigation methods and materials.

3.3 INSTALLATION - SHEET MEMBRANE WATERPROOFING FOR SLOPED SHOWER BASE

Include this article when sheet membrane is installed on solid substrates including floors and tile backer boards.

- A. Comply with ANSI A108.13, TCNA Handbook, and the manufacturer's instructions for installation of sheet membrane waterproofing shower base.

Include the next paragraph for thin-set floor applications.

- B. Bonded Installation for Thin-Set Applications:
 - 1. Apply bonding [**mortar**] [**adhesive**] for full coverage of substrate.
 - 2. Install sheet membrane shower base and fully embed into bonding material.
- C. Measure and cut shower base to size with 1/8 inch gap around perimeter.
- D. Lay base over shower floor; secure drain with clamping collar and cut drain opening.
- E. Turn flashing which has been sealed to floors up vertical surfaces minimum 3 inches (75 mm) higher than flood plane and bond to substrate.
 - 1. Shower Walls: When sheet membrane is turned up and terminated behind backer board, extend minimum 3 inches (75 mm) above flood plane and fasten to substrate with no penetrations less than 2 inches (50 mm) above flood plane.

3.4 FIELD QUALITY CONTROL

Include this article for flood testing floor waterproofing installations, only.

- A. Upon completion of sheet membrane waterproofing installation, allow sealant to cure 20 hours prior to flood testing.
- B. Plug drains, dam perimeter of waterproofing and fill with water and test per code.
 - 1. Inspect waterproofing for leaks.
 - 2. Repair leaks and re-test until watertight.
- C. Prepare test and inspection reports. Indicate corrective measures required to make installation watertight.

3.5 PROTECTION

- A. Protect sheet membrane from pedestrian and vehicular traffic and prolonged exposure to sunlight.
- B. Keep sheet membrane clean until tile finishes are installed.

END OF SECTION 093000



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