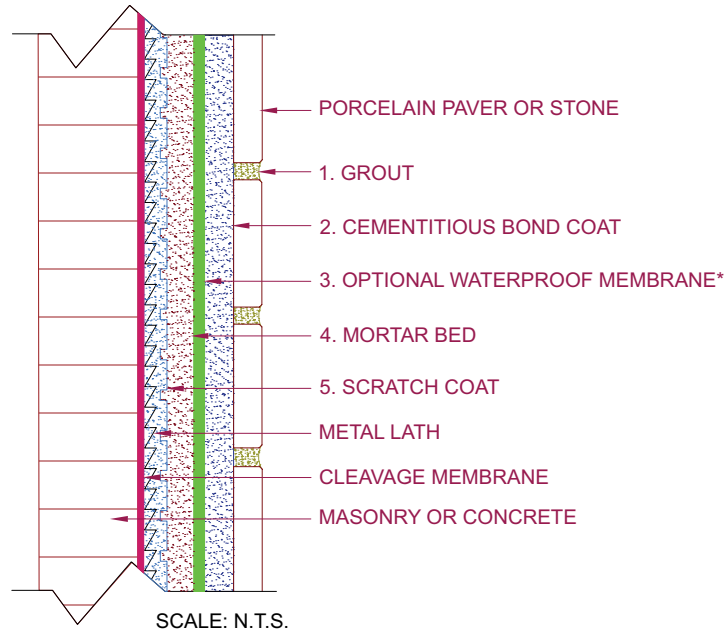


EXTERIOR WALLS

Masonry or Concrete
Metal Lath
Mortar Bed
Optional Waterproof Membrane
Porcelain Paver or Stone

Ver. 12.05.22
Freeze/Thaw Climate
MAPEI: MW201
TCNA: W201



*SEE MEMBRANE OPTIONS IN CURRENT TCNA HANDBOOK

MAPEI Products Assembly	ANSI	ISO 13007
1. Grout:		
A. <i>Ultracolor® Plus FA</i>	A118.7, A138.1	CG2WAF
2. Cementitious Bond Coat:		
A. <i>Ultraflex® LFT™ Rapid</i>	A118.4FHT, A118.11, A118.15FHT, A138.1	C2TFS1P1
3. Optional Waterproof Membrane:		
A. <i>Mapelastic® AquaDefense</i>	A118.10, A118.12	
1) <i>Reinforcing Fabric</i>		
4. Mortar Bed:		
A. <i>Modified Mortar Bed</i>	A108.1C	
5. Scratch Coat:		
A. <i>Modified Mortar Bed</i>	A108.1C	
Flexible Sealant:		
A. <i>Mapesil® T Plus</i>	A118.01, 3.7	
1) With caulking backer rod and/or bond breaker tape		

Minimum Performance Requirements from TCNA Guidelines

- Cementitious Grout: ANSI A118.7 or better, or ISO 13007 CG2 or better
- Cementitious Bond Coat: ANSI A118.4 or better, or ISO 13007 C2S1 or better
- Waterproof Membrane: ANSI A118.10
- Crack-Isolation Membrane: ANSI A118.12
- Movement Joints: EJ171 and ASTM C1193
- Flexible Sealant: ANSI A118.01, 3.7 and ASTM C920

Environmental Classifications

- Res6; Com6

Materials for Green/Sustainable Design

Installation Materials that meet ANSI A138.1, *The American National Standard Specifications for Sustainable Ceramic Tiles, Glass Tiles, and Tile Installation Materials*.

EXTERIOR WALLS

Masonry or Concrete
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PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile materials.
- B. Mortar materials.
- C. Setting materials.
- D. Grout materials.
- E. Waterproof membrane.
- F. Crack-isolation membrane.
- G. Flexible sealant.

1.02 RELATED SECTIONS

- A. Section 04 20 00 – Unit Masonry; CMU wall substrates.
- B. Section 07 60 00 – Flashing and Sheet Metal.
- C. Section 07 91 23 – Backer Rods.
- D. Section 07 92 13 – Elastomeric Joint Sealants.
- E. Section 09 34 00 – Waterproofing-Membrane Tiling.
- F. Section 09 75 00 – Stone Facing.

1.03 REFERENCES

- A. American National Standards Institute (ANSI) Installation Specifications:
 - 1. ANSI A108 Series – Installation Specifications.
 - 2. ANSI A108.13 – Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone.
- B. American National Standards Institute (ANSI) Material Specifications:
 - 1. ANSI A118 Series – Material Specifications.
 - 2. ANSI A118.15 – Improved Modified Dry-Set Mortar.
 - 3. ANSI A137.1 – Ceramic Tile.
- C. Green Squared American National Standards Institute (ANSI) Material Specifications:
 - 1. ANSI A138.1 – Sustainable Tiles, Glass Tiles, and Tile Installation Materials – Version 2.
- D. ASTM International (ASTM):
 - 1. ASTM A1064 – Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - 2. ASTM C144 – Standard Specification for Aggregate for Masonry Mortar. Jobsite mix.
 - 3. ASTM C150 – Standard Specification for Portland Cement. Jobsite mix.
 - 4. ASTM C645 – Standard Specification for Nonstructural Steel Framing Members.
 - 5. ASTM C847 – Standard Specification for Metal Lath.
 - 6. ASTM C920 – Standard Specification for Elastomeric Joint Sealant.
- E. NSI (DSDM) – Dimension Stone Design Manual; Natural Stone Institute.
- F. TCNA (HB) – Handbook for Ceramic Tile, Glass, and Stone Installation; Tile Council of North America.
- G. TTMAC – Specifications Guide 09 30 00 Tile Installation Manual.
- H. International Organization for Standardization (ISO):
 - 1. ISO 13007 – Ceramic tiles – Grout and adhesives.
- I. Leadership in Energy and Environmental Design (LEED) – U.S. Green Building Council.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 – Administrative Requirements.

- B. Product Data: Manufacturer's technical information for each product specified.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
- D. Samples: Color charts for selection of grout.
- E. Manufacturer's Certificates: Certify that products meet or exceed specified requirements. When applicable, submit a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1 and/or ANSI A137.3.
- F. Installation Instructions: Manufacturer's printed instructions for each product.

1.05 QUALITY ASSURANCE

- A. To ensure single-source warranty requirements and compatibility of products: Please provide tile grout, setting materials, underlayments, additives, accessories and factory-prepared dry-set mortars manufactured by MAPEI Corporation (to qualify for warranty).
- B. Installer Qualifications:
 - 1. Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance. Installer to have a minimum of five years' experience.
 - 2. Five-Star member of the National Tile Contractors Association or a Trowel of Excellence member of the Tile Contractors' Association of America.
 - 3. Installer's supervisor for the project must hold the International Masonry Institute's Foreman Certification.
 - 4. Installer employs Ceramic Tile Education Foundation Certified Installers or installers recognized by the U.S. Department of Labor as Journeyman Tile Layers.
- C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
- D. Provide a Daltile Xteriors Hardscape Installation System Warranty. All tile products and MAPEI-brand setting materials to be purchased from a Daltile facility. For further details, see the Daltile Xteriors Hardscape System Warranty Brochure.

1.06 PRE-INSTALLATION CONFERENCE

- A. Convene one week prior to commencing work of this section.
- B. Require attendance of installation material manufacturer, tile supplier, tile installer and installers of related work. Review installation procedures and coordination required with related work.
- C. Meeting agenda includes but is not limited to:
 - 1. Tile and installation material compatibility.
 - 2. Grouting procedure.
 - 3. Surface preparation.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Prevent damage or contamination to materials by water, freezing, foreign matter and other causes.
- B. Protect setting materials from freezing and overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing and overheating.
- D. Do not use frozen materials unless specifically allowed by manufacturer.
- E. Deliver and store materials on site at least 24 hours before work begins.
- F. Provide heated and dry storage facilities on site.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Comply with requirements of referenced standards and recommendations of material manufacturers for environmental conditions before, during, and after installation.
- B. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's printed recommendations.
- C. For Exterior Applications:
 - 1. Build a temporary shelter and when needed use indirect auxiliary heaters to maintain an adequate temperature level in the working environment and surfaces.
 - 2. Exhaust temporary heaters to exterior to prevent damage to the work or injury to personnel from carbon monoxide emissions.
 - 3. Maintain substrate and ambient temperatures in tiled areas between 50°F (10°C) and 95°F (35°C) during installation and for at least 7 days after completion, unless otherwise indicated in the product instructions and/or ANSI A108 installation standards.

1.09 WARRANTY

- A. The manufacturer to provide standard system warranty against defect covering materials and labor reimbursement of associated replacement costs.
 - 1. Warranty Period: 15-year MAPEI Installation Systems Warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer:

MAPEI Corporation
 1144 E. Newport Center Dr.
 Deerfield Beach, FL 33442
 www.mapei.us
 Toll-Free Tel.: 1-800-992-6273
 Fax: 954-246-8805
 Contact Mike Granatowski at (949) 212-2363 or email mgranatowski@mapei.com
- B. Acceptable Manufacturer:

Daltile Corporation
 7834 C.F. Hawn Freeway
 Dallas, TX 75217
 www.daltile.com/xteriors
 Contact Daltile Customer Service at (800) 449-3591, Fred Davis at (469) 964-3246 or email fred.davis@daltile.com
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 – Product Requirements.
- D. Substitutions: Not permitted.

2.02 TILE MATERIALS

- A. Subject to conformity with enclosed requirements, provide products coming from the following manufacturer.
 - 1. Daltile Xteriors Hardscape Program.

	Area:	Area:	Area:	Area:
Collection				
Size				
Color				
Finish				
Rectified (Y/N)				
Product Number				
Trim (Y/N)				

2.03 MORTAR BED ACCESSORY MATERIALS

- A. Portland Cement Mortar (Thick-Set) Installation Materials: ANSI A108.02.
 - 1. Cleavage Membrane: Asphalt felt, ASTM D226, Type I (No. 15).
 - 2. Expanded Metal Lath: Diamond-mesh lath complying with ASTM C847.
 - a. Base Metal and Finish for Interior Applications: Uncoated or zinc-coated (galvanized) steel sheet, with uncoated steel sheet painted after fabrication into lath.
 - b. Base Metal and Finish for Exterior Applications: Zinc-coated (galvanized) steel sheet.
 - c. Configuration over Studs and Furring: Flat.
 - d. Configuration over Solid Surfaces: Self-furring.
 - e. Weight: 2.5 lbs./sq. yd. (1.4 kg/m²).
 - f. Weight: 3.4 lbs./sq. yd. (1.8 kg/m²).

2.04 MORTAR BED / RENDER COAT MATERIALS

- A. Thick-Bed (Dry-Pack) and Render Mortar: Pre-blended polymer-modified, dry-pack, scratch coat and wall render, and concrete patch; can be applied at 1/4 inch to 2 inches (6 mm to 5 cm), ANSI A108.1C.
 - 1. Product: MAPEI, *Modified Mortar Bed*.

2.05 SETTING MATERIALS

- A. Improved Modified Dry-Set Cement Mortar, for Large and Heavy Tile and Stone, Non-Sag, Rapid-Setting: ANSI A118.4FHT, ANSI A118.11, ANSI A118.15FHT, and ISO 13007 C2TFS1P1.
 - 1. Product: MAPEI, *Ultraflex LFT Rapid*.

2.06 GROUT MATERIALS

- A. High-Performance Cement Tile Grout: For grout joints from 1/16 inch to 3/4 inch (1.5 mm to 19 mm), ANSI A118.7 and ISO 13007 CG2WAF.
 - 1. Product: MAPEI, *Ultracolor Plus FA*.

2.07 WATERPROOF/CRACK-ISOLATION MEMBRANES (OPTIONAL: TYPE OF PROJECT DICTATES USE)

- A. General: Manufacturer's standard product that complies with ANSI A118.10 and ANSI A118.12, and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.
 - 1. Product: Products from MAPEI.
- B. Fluid-Applied Membrane: Advanced liquid-rubber; extremely quick-drying, premium waterproofing and crack-isolation membrane, IAPMO-listed, ANSI A118.10 and A118.12.
 - 1. Product: MAPEI, *Mapelastic AquaDefense*.
 - a. With MAPEI, *Reinforcing Fabric*.

2.08 FLEXIBLE SEALANT

- A. 100%-Silicone Sealant with Enhanced Adhesion: Heavy-traffic expansion and movement joints, horizontal and vertical complying with ASTM standards; ASTM: Meets G21, C920, Type S, Grade NS, Class 25, Use T1, T2, NT, I, M, G, A and O, and conforms to C794 adhesion properties, (#23 Clear meets ASTM C920, Type S, Grade NS, Class 50, Use NT).
 - 1. Product: MAPEI, *Mapesil T Plus*.
 - a. With caulking backer rod and/or bond breaker tape.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates for compliance with requirements for conditions affecting performance of the work. Refer to ANSI A108.01, ANSI A108.02 and if applicable ANSI A108.19 and/or ANSI A108.20.
- B. Do not proceed with tilework until surfaces and conditions comply with requirements indicated in reference tile installation standard and manufacturer's printed instructions.
- C. When underlayment, patching, leveling and rendering materials are needed, they must be from the setting materials supplier. For improved warranty and single-source responsibility.

3.02 DETAILING / FLASHING

- A. All detailing and flashing must be completed prior to installation of field waterproofing membrane.
- B. All detailing and flashing must be installed per manufacturer's standard details.

3.03 MIXES

- A. General: Proportion and mix products, in clean containers, in accordance with manufacturer's most current written instructions and applicable ANSI standards.

3.04 INSTALLATION

- A. Install tile in accordance with manufacturer's printed instructions and the applicable requirements of ANSI A108 Series for the materials being used.
- B. Apply waterproof membrane only in dry weather, when ambient and substrate temperatures are above 40°F (4°C).
- C. Waterproofing: Install necessary components to form a watertight installation. Dry film thickness (DFT) must comply with manufacturers' recommendations.
- D. Install tile in accordance with TCNA and/or MAPEI methods specified on the drawings.
- E. Install tile in accordance with TCNA and/or MAPEI methods listed below.
 - 1. Wall Tile at _____: TCNA method W201.
- F. Install expansion and control joints in accordance with TCNA method EJ171. Install proper sealant and backing material (backer rod and/or bond breaker tape) per TCNA method EJ171. Sealant must not bond to backing material and must only form a 2-sided bond. For above-ground installations, additional movement joints are required.

3.05 GROUTING

- A. Grout joints in accordance with manufacturer's instructions and ANSI A108.10.
- B. Remove standing water, dust, and foreign substances from joints to be grouted.
- C. Clean and dry tile surfaces.
- D. After grouting, remove all grout residue promptly.

3.06 PROTECTION

- A. Walls: Protect from impact, vibration and heavy hammering on adjacent and opposite walls for 14 days after installation, unless manufacturer's instructions allow a shorter period.
- B. Protect from freezing for at least 21 days after installation.
- C. Refer to manufacturer's product data sheet for recommendations regarding protection.

END OF SECTION