POOLS AND WATER FEATURES
Concrete Tank
Cementitious Waterproofing
Bonded Mortar Bed
Ceramic Tile

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ALTERNATE DECK PROFILE

COPING / DECKING
FLEXIBLE SEALANT

CERAMIC TILE
CEMENTITIOUS WATERPROOFING
1). GROUT
2). LATEX-PORTLAND CEMENT BOND COAT
3). MORTAR BED
4). SCRATCH COAT
5). MORTAR BED BOND COAT
6). OPTIONAL WATERPROOFING MEMBRANE

WATERTIGHT CONCRETE, SHOTCRETE, OR GUNITE TANK

ALTERNATE BOTTOM PROFILE

FLEXIBLE SEALANT

MAPEI Products Assembly

1. Grout Options:
   A. Kerapoxy®, Opticolor™ or Kerapoxy CQ
   B. Ultracolor®

   Cementsitious Grout: ISO 13007 RG
   Epoxy Grout: ISO 13007 RG or ANSI A118.3 or better

2. Latex-Portland Cement Options:
   A. Kerabond™ T / Keralastic™ System
   B. Kerabond/Keralastic™ System
   C. Granirapid® System
   D. Ultraflex™ LFT™
   E. Ultraflex LFT Rapid
   F. Adesilex™ P10 with Keraply™

   Cementitious Bond Coat: ISO 13007 C2 or ANSI A118.4 or better

3. Mortar:
   A. Modified Mortar Bed

4. Scratch Coat:
   A. Modified Mortar Bed

5. Mortar Bed Bond Coat:
   A. Modified Mortar Bed

6. Optional Waterproofing Membrane:
   A. Mapelastic™ 315

Minimum Performance Requirements from TCNA 2015 Guidelines

Cementitious Grout: ISO 13007 CG1 or ANSI A118.6 or better
Epoxy Grout: ISO 13007 RG or ANSI A118.3 or better
Cementitious Bond Coat: ISO 13007 C2 or ANSI A118.4 or better

Environmental Classifications
Res 3, 4, 6
Comm 3, 4, 6

Drawings are developed from the Tile Council of North America’s (TCNA) 2015 TCNA Handbook for Ceramic Tile Installation and the Terrazzo, Tile and Marble Association of Canada’s (TTMAC) Tile Installation Manual. MAPEI products are listed as options and are substituted for TCNA’s and TTMAC’s listed ANSI and ISO (ISO 13007) standards. Please refer to the referenced handbooks and current data sheets for complete instructions and application limitations. Some installation methods and component materials are not referenced. MAPEI encourages the user to consult all approved resources to ensure a complete assembly.
PART 1 GENERAL

1.1 SECTION INCLUDES

A. Tile setting mortars and adhesives.
B. Grout for tile.
C. Waterproofing membrane for tile.

1.2 RELATED SECTIONS

A. Section 09 30 00 - Tiling: Ceramic tile materials.

1.3 REFERENCES

E. ISO 13007 - International Standards Organization; classification for Grout and Adhesives.
F. LEED® - Leadership in Energy and Environmental Design.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00.
B. [Product Data]: Manufacturer's technical information for each product specified.
C. Samples: Color charts for selection of grout.
D. Installation Instructions: Manufacturer's printed instructions for each product.

1.5 QUALITY ASSURANCE

A. To ensure warranty requirements and compatibility of products; please provide all tile grout, setting materials, additives, accessories, and factory-prepared dry-set mortars from the same manufacturer.

B. Installer Qualifications:

1. Installer is [a five-star member of the National Tile Contractors Association] [or] [a Trowel of Excellence member of the Tile Contractors’ Association of America]
2. Installer's supervisor for the Project holds the International Masonry Institute’s Foreman
Certification.
3. Installer employs [Ceramic Tile Education Foundation Certified Installers] [or] [installers recognized by the U.S. Department of Labor as Journeyman Tile Layers].

1.6 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. Maintenance and cleaning products and methods.
   4. Surface Preparation.

1.7 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 or other causes.
B. Do not use frozen materials unless specifically allowed by manufacturer.
C. Deliver and store materials on site at least 24 hours before work begins.
D. Provide heated and dry storage facilities on site.

1.8 ENVIRONMENTAL REQUIREMENTS
Comply with requirements of referenced standards and recommendations of material manufacturers for environmental conditions before, during, and after installation.

A. For interior applications:
   1. Do not begin installation until building is completely enclosed and maintaining temperature and humidity conditions consistent with "after occupancy" conditions for a minimum of 2 weeks.
   2. Maintain continuous and uniform building temperatures of not less than 10°C (50°F) during installation.
   3. Ventilate spaces receiving tile in accordance with material manufacturer’s instructions.

B. 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 10°C (50°F) and 35°C (95°F) during installation and for at least 7 days after completion, unless otherwise indicated in the product instructions and/or ANSI A108 installation standards.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturer: MAPEI Americas U.S.A., 1144 E. Newport Center Rd., Deerfield Beach, FL 33442; ASD. Toll Free Tel: 800-42-MAPEI; Tel: 954-246-8888; Fax: 954-246-8801; Email: mapeitechsvcs@mapei.com; Web: www.mapei.us.
B. Acceptable Manufacturer: MAPEI, Inc. Canada, 2900 Francis-Hughes, Laval, PQ, Canada, H7L3J5. Toll Free Tel: 800-361-9309; Tel: 450-662-1212; Fax: 450-662-0444; Email: TServicesCA@mapei.com; Web: www.mapei.ca.

C. Substitutions: Not permitted.

D. Sustainability:
   1. Selected MAPEI products may help contribute to LEED® certification of projects up to two (2) points for points for MR Credit 4: Recycled content, MR Credit 5: Regional Materials (point are awarded based on contribution of all project materials).
   2. Credit 4.1: Low-Emitting Materials – Adhesives & Sealants;
   3. Credit 4.2: Low-Emitting Materials – Paints & Coatings;

2.2 TILE

A. Acceptable manufacturers: Subject to conformity with the enclosed requirements, provide products coming from one of the following manufacturers:

2.3 MORTAR, SCRATCH COAT, MORTAR BED BOND COAT

A. Pre-blended, cement-based, polymer-modified thick-bed and render mortar that includes a blend of select aggregates requiring the addition of water only; MAPEI, "Modified Mortar Bed"

2.4 OPTIONAL WATERPROOF MEMBRANE

A. Professional Cement Based Waterproofing: trowel-applied, two-component, flexible, fiber-reinforced waterproofing and crack-isolation membrane complying with ANSI A118.10 and having IAPMO certification as a shower pan liner; MAPEI, "Mapelastic 315".

2.5 MORTAR MATERIALS

A. Improved modified dry-set cement mortar for thin-set applications complying with ANSI A118.15E, A118.4, A118.11 and ISO 13007 C2ES2P2; MAPEI "Kerabond/Keralastic System" consisting of factory-prepared dry-set mortar with MAPEI latex additive.

B. Improved modified dry-set cement mortar for large and heavy tile thin-set applications complying with A118.15E, A118.4, A118.11 and ISO 13007 C2ES2P2; MAPEI "Kerabond T / Keralastic System" consisting of factory-prepared dry-set mortar with MAPEI latex additive.

C. Improved modified dry-set cement mortar, fast setting for large and heavy tile thin-set applications complying with ANSI A118.15F, A118.4, A118.11 and ISO 13007 C2FS2P2; MAPEI “Granirapid” two-component system, of hydraulic mortar and flexible liquid polymer additive.

D. Modified non-sagging dry-set cement mortar for large and heavy tile thin-set applications, complying with ANSI A118.4, A118.11 and ISO 13007 C2TES1P1; MAPEI "Ultraflex LFT".

E. Improved modified dry-set cement mortar, fast setting non-sagging for large and heavy tile thin-set applications, complying with ANSI A118.5, A118.11 and ISO 13007 C2TFS1P1; MAPEI "Ultraflex LFT Rapid".

F. Modified dry-set cement mortar premium glass tile mortar with polymer: single-component, bright white, polymer-modified thin-set mortar with none sag properties cement mortar, mixed with Keraply complying with ANSI A118.4, A118.11 and ISO 13007 C2TES1P1; MAPEI "Adesilex P10" mixed with "Keraply" latex additive for wet or exterior areas.
2.6 GROUT MATERIALS

A. Epoxy Grout: 100-percent solids, water cleanable, complying with ANSI A118.3 and ISO 13007 RG; MAPEI “Kerapoxy”.
   1. Color: __________.

B. Epoxy Grout: 100-percent solids, water cleanable with improved cleanability, non sagging complying with ANSI A118.3 and ISO 13007 RG; MAPEI “Opticolor”.
   1. Color: __________.

C. Epoxy Grout: Premium Epoxy Grout and Mortar with Coated Quartz, 100-percent solids, water cleanable, complying with ANSI A118.3 and ISO 13007 RG; MAPEI “Kerapoxy CQ”.
   1. Color: __________.

D. Grout: Fast-setting sanded polymer-modified grout, complying with ANSI A118.6, ANSI A118.7 and ISO 13007 CG2WAF, for joints between 1/16 inch and 1 inch (1,5 mm and 25 mm) wide; MAPEI “Ultracolor Plus”.
   1. Color: __________.

2.7 CERAMIC TILE, SEALERS, CLEANERS AND MAINTENANCE PRODUCTS

A. Complete line of sealers, cleaners and maintenance products for use with ceramic tile and grout.

2.8 MIXES

A. Proportion and mix materials in accordance with manufacturer’s most current written instructions and applicable ANSI standards.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for conditions affecting performance of the work. Refer to ANSI A108.01; General requirements for sub-surfaces and preparations by other trades materials or TTMAC’s Tile Specification Guide 09 30 00 Tile Installation Manual.

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. Installation of flooring materials indicates the acceptance of substrate.

3.2 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. Install tile using TCNA or TTMAC methods specified on the drawings.

C. Install expansion and control joints in accordance with TCNA method EJ171 (or TTMAC 301MJ method in Canada)

3.3 GROUTING

A. Grout joints in accordance with manufacturer’s instructions and ANSI A108.10 or ANSI 108.6.

B. Clean standing water, dust, and foreign substances from joints to be grouted.

C. Clean and dry tile surfaces.
D. After grouting, remove all grout residues promptly.

3.4 PROTECTION

A. Protect installed tile work from damages by other trades and general abuse until substantial work completion and acceptance.

B. Refer to manufacturer’s product data sheet for recommendations regarding protection.

END OF SECTION