



# CUSTOM®

SECTION 09 30 00

SUGGESTED SPECIFICATION FOR  
CERAMIC TILING

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## PART 1 GENERAL

### 1.1 SECTION INCLUDES

- A. Tile
  - 1. Color Body Porcelain
  - 2. Glazed Porcelain
  - 3. Quarry and Saltillo
  - 4. Terrazzo
  - 5. Floor and Wall Glazed
  - 6. Wall and Counter Glazed
  - 7. Mosaics Floor and Wall
  - 8. Natural Stone
  - 9. Manufactured Stone
- B. Surface Preparation Products:
  - 1. Cement Backer Board
  - 2. Self-Leveling Underlayment
  - 3. Waterproofing Membrane
  - 4. Crack Isolation Membrane
  - 5. Uncoupling Membrane



6. Sound Reduction Mat Underlayment
  - C. Setting Materials: Architecturally Engineered Mortar Systems
    1. Polymer Modified Thin Set Mortar
    2. Polymer Modified Medium Bed Mortar
    3. Rapid Setting Mortar
    4. Chemical Resistant Bonding Mortar
    5. Ceramic Tile Adhesive
  - D. Colored Tile Grouts:
    1. Sanded Cement Based Grout
    2. Non-Sanded Cement Based Grout
    3. Epoxy Grout
    4. Single Component High Performance Grout
  - E. Tile & Stone Care and Maintenance Products.
    1. Penetrating Stain Protecting Sealer
    2. Color Enhancing Sealer
- 1.2 RELATED SECTIONS
- A. Section 03 30 00 - Cast-in-Place Concrete
  - B. Section 06 16 43 – Gypsum Sheathing
  - C. Section 07 90 00 – Joint Protection
  - D. Section 09 20 00 – Plaster and Gypsum Board
  - E. Section 09 28 12 – Cementitious Backing Boards
  - F. Section 09 60 13 – Acoustic Underlayment
  - G. Section 10 28 00 - Toilet, Bath, and Laundry Accessories
- 1.3 REFERENCES
- A. ANSI A108 Series/A118 Series - American National Standards for Installation of Ceramic Tile.
  - B. ANSI A136.1 - American National Standard for Organic Adhesives for Installation of Ceramic Tile.
  - C. TCNA Handbook for Ceramic, Glass and Stone Tile Installation
- 1.4 SUBMITTALS



- A. Submit under provisions of Section 01 33 00.
- B. [Product Data]: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products of this section with minimum ten years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience.
  - 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].
  - 4. For Surface Preparation scope - INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and fabrication and installation.
  - 1. Locate mock-ups on site in locations and size directed by Architect.
  - 2. Finish areas designated by Architect.
  - 3. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
  - 4. Refinish mock-up area as required to produce acceptable work.
  - 5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of Work.
  - 6. Obtain Architect's acceptance of mock-ups before start of final unit of Work.
- D. Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements of ANSI A137.1 for labeling sealed tile packages.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter and other causes.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having



jurisdiction.

## 1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Environmental: Install mortar, set and grout tile when surfaces and ambient temperature is minimum 50 degrees F (10 degrees C) and maximum 90 degrees F (32 degrees C). Consult with manufacturer for specific requirements.
- C. Do not install mortar, set or grout tile exterior when inclement weather conditions are expected within 48 hours after work is completed unless properly protected.
- D. Protection: Protect adjacent work surfaces during tile work. Close rooms or spaces to traffic of all types until mortar and grout has set.
- E. Safety: Observe the manufacturer's safety instructions including those pertaining to ventilation.

## 1.8 WARRANTY

- A. Provide manufacturers standard warranty as follows:
  - 1. Installation Systems Limited Warranty:
    - a. \_\_\_\_\_.
  - 2. For Surface Preparation scope - INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).

## 1.9 EXTRA STOCK MATERIALS

- A. Supply an amount equal to 3 percent of each size, color, and surface finish of tile specified.

## PART 2 PRODUCTS

### 2.1 TILE MANUFACTURERS

- A. Acceptable Manufacturer:
- B. Substitutions: Not permitted.
- C. Substitutions: Comply with Division 01 requirements.

### 2.2 INSTALLATION MATERIAL MANUFACTURERS

- A. Custom® Building Products, which is located at: 7711 Center Avenue, Suite 500; Huntington Beach, CA 92647; Toll Free Tel: 800-282-8786; Email: [request info \(jackiel@cbpmail.net\)](mailto:requestinfo@jackiel@cbpmail.net); Web: [www.custombuildingproducts.com](http://www.custombuildingproducts.com)
- B. Substitutions: Not permitted.
- C. Substitutions: Comply with Division 01 requirements.

### 2.3 TILE

- A. General: Provide tile that complies with ANSI A137.1, A137.2 (glass) or A137.3



(gauged) for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings and identified in the Schedule and the end of this Section. Tile shall also be provided in accordance with the following:

1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
  2. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the manufacturer, unless otherwise specified.
  3. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.
- B. ColorBody Porcelain Tile:
1. Product as specified:
  2. Size and Shape as specified:
  3. Surface Finish as specified::
  4. Color as specified
  5. Pattern as specified
- C. Glazed Porcelain Tile:
1. Product as specified
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
- D. Quarry and Saltillo Tile:
1. Product as specified:
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
- E. Terrazzo Tile:
1. Product as specified:
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
- F. Floor and Wall Glazed Tile:
1. Product as specified:
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
- G. Wall and Counter Glazed Tile:
1. Product as specified:
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
- H. Mosaics Floor and Wall Tile:
1. Product as specified:
  2. Size and Shape as specified:



3. Surface Finish as specified:
  4. Color as specified:
  5. Pattern as specified:
- I. Natural Stone:
1. Product as specified
  2. Size and Shape as specified:
  3. Surface Finish as specified:
  4. Color as specified:
  5. Pattern as specified:
- J. Manufactured Stone:
1. Product as specified:
  2. Edges as specified:
  3. Size and Shape as specified:
  4. Surface Finish as specified:
  5. Color to be specified:
- K. Glass Tile:
1. Product as specified:
  2. Edges as specified:
  3. Size and Shape as specified:
  4. Surface Finish as specified:
  5. Color to be specified:
- L. Gauged Thin Porcelain:
1. Product as specified:
  2. Edges as specified:
  3. Size and Shape as specified:
  4. Surface Finish as specified:
  5. Color to be specified:

## 2.4 TILE INSTALLATION MATERIALS

- A. Anti-Fracture Membrane/Cleavage Membrane complying with ANSI A118.12: Where indicated on the Drawings, and elsewhere as required for isolating the installation from cracking due to minor substrate movement and normal structural deflections as specified in ANSI A108.17.
1. Custom Building Products RedGard® Waterproofing and Crack Prevention Membrane – Liquid Applied Membrane
  2. Custom Building Products Crack Buster® Pro Crack Prevention Mat Underlayment – Sheet Applied Peel N Stick Membrane
  3. Custom Building Products EasyMat® Tile and Stone Underlayment – controls sound transmission with SoundGard® Technology & lightweight alternative to backerboard
  4. Custom Building Products RedGard® Uncoupling Mat – for installations over “young” concrete.
  5. Custom Building Products Peel & Stick Primer - for use with self adhesive membrane.
  6. Custom Building Products Custom® 9240 Waterproofing and Anti-Fracture Membrane – Fabric Reinforced Liquid Applied membrane for Extra Strength
- B. Waterproofing Membrane complying with ANSI A118.10: Where indicated on the Drawings, and elsewhere as required for waterproofing tile assembly as specified in ANSI A108.13.



1. Custom Building Products RedGuard® Waterproofing and Crack Prevention Membrane – Liquid Applied Membrane
  2. Custom Building Products Custom® 9240 Waterproofing and Anti-Fracture Membrane – Fabric Reinforced Liquid Applied Membrane for Extra Strength
  3. Custom Building Products RedGuard® SpeedCoat Waterproofing Membrane – for rapid installation and early flood testing.
- C. Sound Control/Acoustical Underlayment complying with ANSI A118.13: Where indicated on the drawings, and elsewhere as required to be load bearing, shock and vibration resistant.
1. Custom Building Products EasyMat® Tile and Stone Underlayment with SoundGard Technology – installs with conventional polymer modified thin set mortar- 0.12 inch (3 mm) or 0.20 inch (5 mm) thickness available.
  2. Custom Building Products EasyMat® Tile and Stone Underlayment with SoundGard Technology with peel and stick adhesive backing for easy installation – 0.12 inch (3 mm) or 0.20 inch (5 mm) thickness available.
  3. Custom Building Products Crack Buster® Pro Crack Prevention Mat Underlayment – For high traffic areas
  4. Custom Building Products Peel & Stick Primer for self adhesive membrane
- D. Moisture Barrier System: Where indicated on the Drawings and elsewhere as required for thin-set tile installations.
1. RedGuard® Waterproofing and Crack Prevention Membrane. See moisture barrier installation instructions for RedGuard. Reduces MVT from 12 lbs/24 hr/1000 sq ft (305 m) to less than 3 lbs/24 hr/ 1000 sq ft (305 m).
  2. CUSTOM TechMVC Moisture Vapor and Alkalinity Barrier – When moisture vapor emission is 100% rh or 25 lbs/24hr/1000 sq ft.
- E. Self-Leveling Underlayment: Where indicated on the drawings, and elsewhere as required to provide a flat, level surface for direct receipt of tile and other floor coverings on dry, interior installations.
1. Custom Building Products LevelQuik® Rapid Setting Self-Leveling Underlayment for fills up to 1 inch (25 mm) thick.
  2. Custom Building Products LevelQuik® Extended Setting Self-Leveling Underlayment for fills up to 1 inch (25 mm) thick and extended workability.
  3. Custom Building Products LevelLite® Self-Leveling Underlayment for fills up to 2 inches (51 mm) thick. Just 3 lbs / sq ft at ½" (13 mm) thick.
  4. Custom Building Products LevelQuik® Latex Primer for surface preparation when installing self leveling underlayments.
- F. Mortar Bed Installations: Where indicated on the Drawings, and elsewhere as required for mortar bed or brown coat as the substrate for tile work; work to conform to ANSI A108.1.
1. Custom Building Products CustomFloat® Bedding Mortar
  2. CUSTOM SpeedSlope™ Rapid Setting Sloping Mortar – for fast installation of mortar bed
- G. Cementitious Backer Units complying with ANSI A118.9. Where indicated on the Drawings, and elsewhere as required for floors and walls, interior and/or exterior, wet areas, and dry as recommended substrate for tile, fire rated wall installations, heat shield with UL listing for floors and walls; installation to comply with ANSI A108.11 and manufacturer's installation instructions.
1. 7/16 inch (11 mm) WonderBoard® Lite Backerboard (Exterior or Interior Floors, Walls, Ceilings, Countertops).
  2. 1/4 inch (6 mm) WonderBoard® Lite Backerboard (Exterior or Interior Floors



and Countertops).

H. Cementitious Tile Adhesives:

1. ANSI A118.4 / A118.15 / A118.11: Polymer-Enhanced Mortars: Where indicated on the Drawings, and elsewhere as required for setting tile as specified by ANSI A108.5 or A108.12, Dry-Set Portland Cement Mortar or Latex Portland Cement Mortar, over substrates prepared accordingly.
  - a. For installing large format ceramic or natural stone tile (tile with one edge greater than 15 inches (381 mm)), utilizing an LHT (formerly medium bed) mortar System.
    - 1) Custom Building Products MegaLite® Ultimate Crack Prevention Large Format Tile Mortar. With Shear Bond Strengths greater than 650 psi, per ANSI A118.15 Section 7.2.5. For wall and floor assemblies where maximum strength is desired.
    - 2) Custom Building Products ProLite® Premium Large Format Tile Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5. Excellent non-sag and non-slump qualities for wall application; also floors.
    - 3) Custom Building Products Natural Stone and Large Tile Premium Mortar. With Shear Bond Strengths greater than 300 psi, per ANSI A118.4 Section 5.2.4. Suitable for Natural Stone Tile and Large Format Porcelain tile. Should not be used with Moisture Sensitive Natural Stone; use only Epoxy Bonding Mortars with Moisture Sensitive Stone Tile.
    - 4) Custom Building Products Versabond®-LFT Professional Large Format Tile Mortar. With Shear Bond Strengths greater than 300 psi, per ANSI A118.4 Section 5.2.4. Economical alternative for standard large format tile installations.
  - b. For Crack Prevention due to Movement in Substrate
    - 1) Custom Building Products FlexBond® Premium Crack Prevention Thin-Set Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5. For tiles less than 15" on one side. To minimize crack propagation from the substrate through the tile assembly, from cracks up to 1/16" (1.6 mm) wide.
  - c. For Installation of Glass Tile
    - 1) Custom Building Products Glass Tile Premium Thin-Set Mortar – for use with mosaic and large format glass (greater than 3 square inches)
  - d. For Maximum LEED Credit for Sustainable Projects
    - 1) Custom Building Products MegaLite® Ultimate Crack Prevention Large Format Tile Mortar. With Shear Bond Strengths greater than 650 psi, per ANSI A118.15 Section 7.2.5. For wall and floor assemblies where maximum strength is desired.
    - 2) Custom Building Products ProLite® Premium Large Format Tile Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5. Excellent non-sag and non-slump qualities for wall application; also floors.
  - e. For Time Sensitive Applications where a Rapid Setting Mortar is needed for early use of tile assembly.
    - 1) Custom Building Products MegaLite® RS Ultimate Rapid Set Crack Prevention Large Format Tile Mortar. With Shear Bond Strengths greater than 650 psi, per ANSI A118.15 Section 7.2.5.





For applications where maximum strength is required.

- 2) Custom Building Products ProLite® RS Premium Rapid Set Large Format Tile Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5. For installing large format tiles in areas that will be open for use in a short period of time.
  - 3) Custom Building Products Complete Contact-LFT Premium Rapid Setting Large Format Tile Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5. To assure maximum coverage between the tile and substrate, with the least amount of effort.
- f. Standard Thin-set Mortars.
- 1) Custom Building Products Porcelain Tile Professional Thin-Set Mortar. With Shear Bond Strengths greater than 400 psi, per ANSI A118.15 Section 7.2.5.
  - 2) Custom Building Products VersaBond Flex® Professional Thin-Set Mortar. With Shear Bond Strengths greater than 350 psi, per ANSI A118.4 Section 5.2.4.
- I. Organic Tile Adhesives:
1. ANSI A136.1: Where indicated on the Drawings, and elsewhere as required for setting tile as specified by ANSI 108.4, Organic Adhesives, over substrates prepared accordingly.
    - a. Custom Building Products OmniGrip® Premium Lightweight Tile Adhesive (Type I). Maximum Strength that is lightweight for easy application on walls.
    - b. Custom Building Products ReliaBond® Professional Tile Adhesive (Type I). Non-sagging for support on vertical surfaces.
- J Epoxy Tile Adhesives:
1. ANSI A118.3: Where indicated on the Drawings, and elsewhere as required for setting tile as specified by ANSI A108.6 Chemical Resistant, Water-Cleanable Tile Setting and Grouting Epoxy, over substrates prepared accordingly.
    - a. Custom Building Products EBM-Lite™ Premium Epoxy Bonding Mortar. Excellent non-sag and non-slump properties to support tile. Use with water sensitive natural stone and tile.
    - b. Custom Building Products CEG-Lite™ 100% Solids Commercial Epoxy Grout and Mortar. Easy clean up. Non-sag and non-slump properties. Matches grout color.
- K. Tile Grout: Where indicated on the drawings, and elsewhere as required for filling the joints between tiles. Where indicated on the Drawings, and elsewhere as required for grouting tile as specified by ANSI A108.10 Installation of Grout in tile work.
1. Polymer-Modified Portland Cement Grout:
    - a. Custom Building Products Polyblend® Sanded Tile Grout; ANSI A118.6, for joints 1/8 inch (3 mm) - 1/2 inch (13 mm). Standard cement grout for wide joints.
    - b. Custom Building Products Polyblend® Non-Sanded Tile Grout; ANSI



- A118.6 or joints up to 1/8 inch (3 mm). Standard cement grout for narrow joints.
- c. Custom Building Products Prism® Consistent Color Tile Grout, ANSI A118.7 for joints 1/16 inch (1 mm) to 1/2 inch (13 mm). Eliminates efflorescence and shade variation throughout tile assembly.
- 2. Dry-Set Grout:
    - a. Custom Building Products Polyblend® White Dry Tile Grout; ANSI A118.6, for joints up to 1/8 inch (3 mm).
  - 3. Chemical Resistant, Water-Cleanable Tile Setting and Grouting Epoxy; ANSI A118.3:
    - a. Custom Building Products CEG-Lite™ 100% Solids Commercial Epoxy Grout. Easy to clean up, non-sagging epoxy grout. Excellent stain and chemical resistance.
    - b. Custom Building Products CEG-IG 100% Solids Industrial Grade Epoxy Grout. Easy to clean up, non-sagging epoxy grout. Excellent stain and chemical resistance in heavy use areas.
    - c. Custom Building Products Fusion Pro™ Single Component Grout. Meeting the performance requirement of ANSI A118.3 and A118.7. No mixing required and is stain resistant.
  - L. Elastomeric Joint Caulk: Provide where indicated on the Drawings, and elsewhere as required at joints between floors and walls and at joints between tile and dissimilar materials.
    - 1. Custom Building Products Commercial 100% Silicone Caulk. Conforms to ASTM C 920 for movement joints in heavy traffic areas and ASTM C 794.
  - M. Ceramic and Natural Stone Tile Care and Maintenance: Required for proper maintenance of the completed tile assembly.
    - 1. Aqua Mix® Sealer's Choice® Gold. Water-based, penetrating sealer to provide maximum stain protection. Ready for use in as little as 4 hours.
    - 2. Aqua Mix® Enrich N Seal™. 100% polymer-solid, penetrating sealer formulated to darken, enrich, and highlight the character and beauty of unsealed natural stone.
    - 3. Aqua Mix® AquaShield™ Cleaner & Resealer. Daily tile cleaner that renews the sealed surface as it cleans.
    - 4. Aqua Mix® NanoScrub®. A mild abrasive cleaner that removes stubborn residue from the surface of the tile.
    - 5. Aqua Mix® Grout Haze Cleanup. Removes grout residue from freshly installed tile assemblies.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces, which are to receive tile.
- B. Do not proceed with work until defects or conditions which would adversely affect quality, execution and permanence of finished tile work are corrected.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Surface Preparation for Tile and Stone Work.
  - 1. General:
    - a. All supporting surfaces shall be structurally sound, solid, stable, level,



plumb, and true to a tolerance in plane of 1/4 inch (6 mm) in 10 feet 0 inch (3 m) for walls, 1/4 inch (6 mm) in 10 feet (3 m) for floors when specified for thin-set method. When installing large format tile (one side greater than 15 inches or 38 cm) the tolerance is reduced to 1/8 inch in 10 feet (3 mm in 3 m). ANSI A108.01 Section 2.6.2

- b. They shall be clean and free of dust, oil, grease paint, tar, wax, curing compound, primer, sealer, form release agent, laitance, loosely bonded topping, loose particles or any deleterious substance and debris which may prevent or reduce adhesion.
  - c. Mechanically sand and scarify the substrate to completely remove all paint, loosely bonded topping, loose particles and construction debris.
  - d. Neutralize any trace of strong acid or alkali.
  - e. All substrates shall be dry. The moisture content shall not exceed 50 percent.
  - f. Turn off all forced ventilation and radiant heating systems and protect work against drafts during installation and for a period of at least 72 hours after completion. Use indirect auxiliary heaters to maintain the temperatures in the area at the recommended workable level. Vent temporary heater to exterior to prevent damage to tile work from carbon dioxide build-up.
  - g. Presswood, particleboard, chipboard, masonite, gypsum floor patching compounds, asbestos board, Luan and similar dimensionally unstable materials are not acceptable substrates.
  - h. Before work commences examine the areas to be covered and report any flaw or adverse condition in writing to the architect and to the general contractor. Do not proceed with work until surfaces and conditions comply with the requirements indicated in ANSI A108 standard.
2. Concrete:
    - a. Concrete and Masonry surfaces must comply with ANSI A108.01 Section 3.2
    - b. All concrete substrates shall be at least 28 days old, completely cured and free of hydrostatic conditions, and/or moisture problems.
  3. Plywood:
    - a. Plywood subfloor and underlayment must comply with ANSI A108.01 Section 3.4
  4. OSB Panels
    - a. OSB panel is not a suitable surface for direct bonding ceramic tile. The OSB panel should be coated with Custom Building Products RedGuard Waterproofing and Anti-fracture membrane prior to the installation of ceramic tile.
  5. Backerboard Units Installation of Floors, Decks or Countertops:
    - a. Cementitious Backerboard shall be installed per the guidelines in ANSI A108.11.
  6. Wall and Ceiling Installation
    - a. Wall and Ceiling surfaces must comply with ANSI A108.01 Section 2.5.
  7. Gypsum Board surfaces:
    - a. Gypsum Board shall be installed per the guidelines of ANSI A108.01 Section 3.5.
  8. Steel:
    - a. Steel substrates shall be rigid, solidly fixed, dry, well sanded and free of dust, oil, grease, primer and deleterious substances, which may prevent or diminish the bond.
  9. Tiling over old substrates: Old cement terrazzo, ceramic tile paver, quarry tile,



vinyl and vinyl composition floor coverings other than cushion vinyl shall be sound, solidly in place, flawless, stripped or sanded, clean, free of dust, wax, grease, sealers, soap residue and other deleterious substances which may prevent or reduce the adhesion. For further details see ANSI A108.01 Article 2.6.2.

- B. Condition of surface to receive tile.
  - 1. Assure that surfaces to receive tile are stable, flat, firm, dry, clean and free of oil, waxes and curing compounds.
  - 2. Deflection of substrate not to exceed 1/360th of the span 1/2 inch (12 mm) in 15 feet (4.6 m) in accordance with ANSI A108.01-2.3. Allow for live and impact load as well as dead load weight of tile and setting bed.
  - 3. Protect adjacent surfaces prior to beginning tile work.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install tile using TCNA methods indicated on the drawings.
  - 1. Floor Tile: Install in accordance with TCNA method \_\_\_\_\_.
  - 2. Wall Tile: Install in accordance with TCNA method \_\_\_\_\_.
  - 3. Tile on Ceilings and Soffits: Install in accordance with TCNA method \_\_\_\_\_.
  - 4. Tile Countertops: Install in accordance with TCNA method \_\_\_\_\_.
  - 5. Tile in Showers and Tub Surrounds: Install in accordance with TCNA method \_\_\_\_\_.
  - 6. Tile in Pools and Water Features: Install in accordance with TCNA method \_\_\_\_\_.
  - 7. Tile in Refrigerated Rooms: Install in accordance with TCNA method \_\_\_\_\_.
  - 8. Tile in Steam Rooms: Install in accordance with TCNA method \_\_\_\_\_.
  - 9. Tile on Stairs: Install in accordance with TCNA method \_\_\_\_\_.
- C. Expansion joints, control joints, insulation joints, etc., must be located in compliance with TCNA EJ171 and filled with appropriate materials.
  - 1. Joints must be carried through layers of installation materials including tile, setting bed, mortar bed and reinforcing wire. Refer to TCNA Handbook, EJ171 and ANSI AN-3.8 for details on placement, size and specifications of materials.
- D. Install grout in accordance with Grout ANSI A108.10 standard and manufacturer's directions.



- E. Install elastomeric tile caulk around sinks, tubs and showers and where tile meets tile or another surface. Surfaces should be clean, dry and free of contamination. Maximum joint width and depth should not exceed 1/4 inch (6 mm).
- F. Seal grout, stone and unglazed tile with an appropriate sealer 48 - 72 hours after grout application.

#### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION



# CUSTOM<sup>®</sup>

## SECTION 03 54 16

### SUGGESTED SPECIFICATION FOR HYDRAULIC CEMENT UNDERLAYMENT

Display hidden notes to specifier. (Don't know how? [Click Here](#))

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Surface Preparation Products:
  - 1. Self-leveling underlayment – flow-able, self-leveling, hydraulic cement underlayment compounded to level and smooth substrate for suitable finishes.
  - 2. Primers– to be used in conjunction with moisture vapor retarders, to permit the installation of hydraulic cement self leveling underlayment and patches.
  - 3. Moisture reduction barriers- liquid-applied water vapor emission and alkalinity control coating that is applied to interior concrete slabs that will receive moisture sensitive floor coverings and/or adhesives.
  - 4. Cement patching materials – hydraulic cement compound that is used to correct imperfections in substrates prior to the installation of floor finishes.

##### 1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-place concrete
- B. Section 07 26 19 – Moisture Vapor Control

##### 1.3 REFERENCES

- A. ASTM F 1869 - Standard test method for measuring moisture vapor emission rate of concrete subfloor using anhydrous Calcium Chloride.
- B. ASTM F 2170 - Standard test method for determining relative humidity in concrete floor slabs using in situ probes.
- C. ASTM 710 - Standard practice for preparing concrete floors to receive resilient flooring

- D. ASTM C1708 - 12 Standard test methods for self leveling mortars containing hydraulic cements
- E. ASTM C 109 - Compressive strength of cement mortars

#### 1.1 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Moisture vapor emission test results.
- C. [ Product Data ]: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.

#### 1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products of this section with minimum ten years documented experience.
- B. Installer Qualifications:
  - 1. Company specializing in performing the work of this section with minimum five years documented experience.
  - 2. INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).
- C. Company specializing in performing the work of this section with minimum five years documented experience.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and fabrication and installation.
  - 1. Locate mock-ups on site in locations and size directed by Architect.
  - 2. Finish areas designated by Architect.
  - 3. Do not proceed with remaining work until workmanship is approved by Architect.
  - 4. Refinish mock-up area as required to produce acceptable work.
  - 5. Retain and maintain mock-ups during construction in undisturbed condition as a standard for judging completed unit of work.
  - 6. Obtain Architect's acceptance of mock-ups before start of final unit of work.
- E. Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."

#### 1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.
- B. Prevent damage or contamination to materials by water, freezing, foreign matter and other causes.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

#### 1.4 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Environmental: Install underlayment when surfaces and ambient temperature is minimum 50 degrees F (10 degrees C) and maximum 90 degrees F (32 degrees C). Consult with manufacturer for specific requirements.
- C. Do not install underlayment exterior when inclement weather conditions are expected within 48 hours after work is completed unless properly protected.
- D. Protection: Protect adjacent work surfaces during installation. Close rooms or spaces to traffic of all types until underlayment has set.
- E. Safety: Observe the manufacturer's safety instructions including those pertaining to ventilation.

## 1.5 WARRANTY

- A. Provide manufacturers standard warranty as follows:
  - 1. Installation Systems Limited Warranty:
    - a. \_\_\_\_\_.
  - 2. INSTALL Substrate Prep Certified installer / [www.installfloors.org](http://www.installfloors.org).

## PART 2 PRODUCTS

### 2.1 UNDERLAYMENT MANUFACTURERS

- A. Custom® Building Products, which is located at: 13001 Seal Beach Blvd. ; Seal Beach, CA 90740; Toll Free Tel: 800-282-8786; Email: [request info \(jackiel@cbpmail.net\)](mailto:requestinfo@jackiel@cbpmail.net); Web: [www.custombuildingproducts.com](http://www.custombuildingproducts.com)
- B. Substitutions: Not permitted.
- C. Substitutions: Comply with Division 01 requirements.

### 2.4 UNDERLAYMENT MATERIALS

- A. SELF LEVELING UNDERLAYMENT
  - 1. Custom Building Products CL-XP1 / TechLevel XP1 Self-Leveling Underlayment
    - a. High strength, low prep self-leveling underlayment that levels floors prior to wide variety of floor covering.
    - b. Suitable for traffic during construction
    - c. Applies feather edge to 2 inches
    - d. Ready for traffic in 2-4 hours and floor covering in 16 hours
    - e. Compressive strength 5000 psi
  - 1. Custom Building Products CL-150 / TechLevel 150 Self-Leveling Underlayment
    - a. High quality, low prep self-leveling underlayment that levels floors prior to a wide variety of floor covering.
    - b. Applies feather edge to 1 1/2 inches
    - c. Ready for traffic in 2-4 hours and floor covering in 18 hours
    - d. Compressive strength 4000 psi



- B. PATCHING
  - 1. Custom Building Products General Patch / GENPATCH Cement Patch
    - a. Fast setting, calcium aluminate compound that provides a smooth finish on interior and exterior subfloors prior to the installation of a wide variety of floor coverings.
    - b. Applies up to 2 inches over concrete and plywood
    - c. Install floor covering in 30 – 90 minutes
  - 2. Custom Building Products Feather Patch / SILK Cement Patch
    - a. Fast curing, calcium aluminate compound that provides a smooth finish on interior and exterior subfloors prior to the installation of a wide variety of floor coverings.
    - b. Install floor covering in as little as 30 minutes
    - c. Applies up to 1 inch over concrete and plywood
- C. PRIMERS
  - 1. Custom Building Products CP-A / TechPrime A Water Based Primer
    - a. Advanced acrylic primer/sealer that prepares surface for the application of self-leveling underlayment.
    - b. Seals porous and non-porous surfaces
    - c. Fast drying formulation
  - 2. Custom Building Products CP-E / TechPrime E Epoxy Primer
    - a. Low viscosity, two-component, 100%-solids epoxy primer for surface preparation before installing self-leveling underlayment.
    - b. Improves the bond of the self-leveling underlayment.
    - c. Use for interior and exterior applications.
    - d. Ready for traffic in 6 hours.
  - 3. Custom Building Products CP-WE / TechPrime WE Modified Epoxy Primer
    - a. high-strength, solvent-free primer that improves the adhesion of self-leveling underlayment
    - b. Applies over smooth, non-porous substrates and epoxy coatings.
    - c. Cures in as little as 3 hours.
- D. MOISTURE BARRIER COATING
  - 1. Custom Building Products CMVC / Tech MVC moisture vapor control
    - a. A single coat, high density moisture and alkali resistant, two-component, 100% solids epoxy coating, specifically formulated to control concrete moisture vapor emission and alkalinity beneath finished flooring.
    - b. Use on concrete substrates with up to 100% rH (per ASTM F2170 or 25 lbs MVT (per ASTM F1869) and pH 14.
    - c. Ready for traffic in as little as 5-6 hours.
    - d. High bond strength to concrete

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine surfaces, which are to receive underlayment.
- B. Do not proceed with work until defects or conditions which would adversely affect quality, execution and permanence of finished tile work are corrected.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 SURFACE PREPARATION

- A. They shall be clean and free of dust, oil, grease paint, tar, wax, curing compound, primer, sealer, form release agent, laitance, loosely bonded topping, loose particles or any deleterious substance and debris which may prevent or reduce adhesion.
- B. Mechanically abrade the substrate to completely remove all paint, loosely bonded topping, loose particles and construction debris. Surface profile should achieve ICRI CSP #3. Surface should be vacuumed to remove loose debris.
- C. Neutralize any trace of strong acid or alkali.
- D. All substrates shall be dry. The moisture emissions should not exceed floor covering manufacturer's recommendations. If so the concrete should be treated with moisture vapor remediation membrane.
- E. Turn off all forced ventilation and radiant heating systems and protect work against drafts during installation and for a period of at least 72 hours after completion. Use indirect auxiliary heaters to maintain the temperatures in the area at the recommended workable level. Vent temporary heater to exterior to prevent damage to tile work from carbon dioxide build-up.
- F. Before work commences examine the areas to be covered and report any flaw or adverse condition in writing to the architect and to the general contractor.

### 3.3 INSTALLATION

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

### 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION