

PART 1 GENERAL

1.1 SUMMARY

- A. Scope of work - Provide stone, stone installation systems and accessories as indicated on drawings, as specified herein, and as needed for complete and proper installation.
- B. Related Documents - provisions within General and Supplementary General Conditions of the Contract, Division 1 -General Requirements, and the Drawings apply to this Section.

1.2 SECTION INCLUDES

- A. Stone
- B. Installation Products; adhesive, mortars, thin fiber reinforced mortar and grouts
- C. Waterproof membranes for stonework
- D. Anti-fracture membranes for stonework
- E. Sound control underlayments
- F. Thresholds, trim, cementitious backer units, sealants, and other accessories specified herein.

NOTE TO SPECIFIER: *Edit for applicable procedures & materials*

NOTE TO SPECIFIER: *Verify dimensional stability of stone used. Some stones (e.g. Green, red, black marble and some agglomerate stones) may be moisture sensitive and may warp when installed with water and latex based adhesives.*

1.3 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

NOTE TO SPECIFIER: *Edit for applicable products*

1.4 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

NOTE TO SPECIFIER: *Edit for applicable products*

1.5 RELATED SECTIONS

- A. Section 03300 Cast-in-Place Concrete (monolithic slab finishing for ceramic tile)
- B. Section 03305 Concrete Curing
- C. Section 03410 Structural Precast Concrete
- D. Section 03532 Concrete Floor Topping
- E. Section 04200 Unit Masonry (CMU wall substrates)
- F. Section 04300 Stone
- G. Section 06100 Rough Carpentry (plywood subfloors)
- H. Section 07110 Membrane Waterproofing
- I. Section 07920 Elastomeric Joint Sealants
- J. Section 09250 Gypsum Board Assemblies
- K. Section 09385 Stone Tile
- L. Section 10800 Washroom Accessories
- M. Section 15440 Plumbing Fixtures

NOTE TO SPECIFIER: *Above are examples of typical broadscope and narrowscope sections related to stone installation. Edit for applicable related sections*

1.6 ALLOWANCES

NOTE TO SPECIFIER: *Edit for detail of applicable ALLOWANCES ; coordinate with Section 01020 Allowances. Allowances in the form of unit pricing are sometimes used when the scope of the stone work at time of bid is undetermined.*

1.7 ALTERNATES

NOTE TO SPECIFIER: *edit for applicable ALTERNATES. Alternates may be used to evaluate varying levels of performance of setting systems or to assist in the selection of the stone by economy.*

1.8 REFERENCE STANDARDS

- A. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI-current edition)
- B. TILE COUNCIL OF AMERICA (TCA-current edition)
- C. AMERICAN SOCIETY for TESTING & MATERIALS (ASTM - current edition)
- D. EUROPEAN STANDARD (EN current – edition)

NOTE TO SPECIFIER: edit for additional applicable ANSI and ASTM references

1.9 SYSTEM DESCRIPTION

- A. Stone installed using latex fortified Portland cement mortar slurry bond coat over a plastic Portland cement mortar bed with latex fortified, polymer fortified, or epoxy grouted joints.

NOTE TO SPECIFIER: The above systems are example descriptions; edit for additional applicable systems

1.10 SUBMITTALS

- A. Submit shop drawings and manufacturers' product data under provisions of Section (01300.) (01340.)
- B. Submit samples of each type/style/finish/size/color of stone under provisions of Section (01300.) (01340.)
- C. Submit manufacturers' installation instructions under provisions of Section (01300.) (01340.)
- D. Submit manufacturer's certification under provisions of Section (01405) that the materials supplied conform to ANSI 137.1.
- E. Submit proof of warranty.
- F. Submit sample of installation system demonstrating compatibility/functional relationships between adhesives, mortars, grouts and other components under provision of Section (01300.) (01340.)
- G. Submit list from manufacturer of installation system/adhesive/mortar/grout identifying a minimum of three (3) similar projects, each with a minimum of ten (10) years service.
- H. For alternate materials, submit independent laboratory test results confirming compliance with specifications listed in Part 2 - Products at least thirty (30) days before bid date.

1.11 QUALITY ASSURANCE

- A. Stone Manufacturer (Single source responsibility): Company specializing in stone with (three) (3) years minimum experience. Obtain stone from a single source with resources to provide products of consistent quality in appearance and physical properties.
- B. Installation System Manufacturer (single source responsibility): Company specializing in installation systems/adhesives/mortars/grouts with ten (10) years minimum experience (and ISO 9001 certification) Obtain products from single source manufacturer to insure consistent quality and compatibility.
- C. Submit laboratory confirmation of installation systems/adhesives/mortars/grouts:
 - 1. Identify proper usage of specified materials using positive analytical method.
 - 2. Identify proper color matching of specified materials using a positive analytical method.
- D. Installer qualifications: company specializing in installation of stone, mosaics, pavers, trim units and thresholds with (5) years documented experience with installations of similar scope, materials and design.

1.12 MOCK-UPS

- A. Provide mock-up of each type/style/finish/size/color of stone along with respective installation system/adhesive/mortar/grout, under provisions of Section (01400) (01405).

1.13 PRE-INSTALLATION CONFERENCE

Pre-installation conference: At least three weeks prior to commencing the work attend a meeting at the jobsite to discuss conformance with requirements of specification and job site conditions. Representatives of owner, architect, general contractor, tile subcontractor, Installation System Manufacturer, and other parties who are involved in the scope of this installation must attend the meeting

1.14 DELIVERY, STORAGE AND HANDLING

- A. Acceptance at Site: deliver and store packaged materials in original containers with seals unbroken and labels, including grade seal, intact until time of use, in accordance with manufacturer's instructions.

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- B. Store stone and installation system materials in a dry location; handle in a manner to prevent chipping, breakage, and contamination.
- C. Protect latex additives, and epoxy grouts from freezing or overheating in accordance with manufacturer's instructions; store at room temperature when possible.
- D. Store Portland cement mortars and grouts in a dry location.

1.15 PROJECT/SITE CONDITIONS

- A. Provide ventilation and protection of environment as recommended by manufacturer.
- B. Prevent carbon dioxide damage to installation mortars, adhesives, grouts, and stone by venting temporary heaters to the exterior.
- C. Maintain ambient temperatures not less than 50 F (10 C) or more than 100 F (38 C) during installation and for a minimum of seven (7) days after completion. Setting of Portland cement is retarded by low temperatures. Protect work for extended period of time and from damage by other trades. Installation with Latex Portland cement mortars requires substrate, ambient and material temperatures at least 37° F/3° C. There should be no ice in slab. Freezing after installation will not damage Latex Portland cement mortars. Protect Portland cement based mortars and grouts from direct sunlight, radiant heat, forced ventilation (heat & cold), and drafts until cured to prevent premature evaporation of moisture. Epoxy grouts require surface temperatures between 60°F/16°C and 90°F/32°C at time of installation. **It is the General Contractor's responsibility to maintain temperature control.**

1.16 SEQUENCING AND SCHEDULING

- A. Coordinate installation of stone work with related work.
- B. Proceed with stone work only after curbs, vents, drains, piping, and other projections through substrate have been installed and when substrate construction and framing of openings have been completed.

NOTES FOR SPECIFIER: Edit for project specific sequence and scheduling

1.17 WARRANTY

The Contractor warrants the work of this Section to be in accordance with the Contract Documents and free from faults and defects in materials and workmanship for a period of 10 years. The manufacturer of installation systems, adhesives, grouts and mortars shall provide a written ten-(10) year warranty, which covers materials and labor. Reference LATICRETE Warranty Data Sheet 230.12 for complete details.

1.18 MAINTENANCE

Submit maintenance data under provisions of Section 01730. Include cleaning methods, cleaning solutions recommended, stain removal methods, and polishes and waxes recommended.

1.19 EXTRA MATERIALS STOCK

Upon completion of the work of this Section, deliver to the Owner 2% minimum additional stone and trim shape of each type, color, pattern and size used in the work, as well as extra stock of installation mortar, grouts, adhesives and accessories for the Owner's use in replacement and maintenance. Extra stock must be from same production run or batch as original stone and installation materials.

PART 2 - PRODUCTS**2.1 STONE MANUFACTURERS**

Subject to compliance with paragraphs 1.12 and performance requirements, provide stone from the following manufacturer: **MILESTONE IMPORTS; 1000 Cordova Place; Santa Fe, New Mexico 87505; Toll Free: (866) 641-1999; (505) 989-1999; Fax: (505) 989-7121; www.milestoneimports.com ; info@milestoneimports.com**

NOTE TO SPECIFIER: Provide list of acceptable tile manufacturers.

2.2 STONE MATERIALS [NOTE TO SPECIFIER: edit for each tile type]

- A. Stone:
- B. Grade:
- C. Size:
- D. Edge
- E. Finish:
- F. Color
- G. Special shapes
- H. Location:

2.3 MORTAR, GROUT AND ADHESIVE MANUFACTURER

- A. Mortar, grout, adhesive supplied by **LATICRETE INTERNATIONAL, Inc.; 1 LATICRETE Park North; Bethany, CT 06524-3423; Toll Free: (800) 243-4788; USA Phone: (203) 393-0010; Fax: (203) 393-1948; support@laticrete.com ; www.laticrete.com**

NOTE TO SPECIFIER: Use either the following performance specification or the proprietary specification.

2.4 MATERIAL PERFORMANCE SPECIFICATIONS

- A. Latex Portland Cement Mortar for Thick Bed Mortars, Screeds and Leveling Beds to be weather, frost, shock resistant meeting the following physical requirements:
 - 1. Compressive strength: Thick bed, Screeds & Leveling mortars 5000 psi (34.5 MPa) Min. (ANSI A118.4)
 - 2. Water absorption: 5% Max. (ANSI A118.6)
 - 3. Smoke & Flame contribution factors: 0 (ASTM E84 – Modified)
- B. Latex Portland Cement Grouting Mortar to be weather, frost, shock resistant meeting the following physical requirements:
 - 1. Compressive strength: 3500 psi (24 MPa) Min. (ANSI A118.6)
 - 2. Water absorption: 5% Max. (ANSI A118.6 – Modified)
 - 3. Smoke & Flame contribution factors: 0 (ASTM E84 – Modified)
- C. Epoxy Grout shall be non-toxic, non-flammable, non-hazardous during storage, mixing, application and when cured and shall meet the following minimum physical requirements:
 - 1. Compressive Strength 6600 psi (464 kg/cm²) min. (ANSI A118.3)
 - 2. Shear Bond Strength 100 psi (70kg/cm²) min. (ANSI A118.3)
 - 3. Water Absorption 1/2% max. (ANSI A118.3)
 - 4. Service Temperature up to 230°F (110°C)
 - 5. The finished epoxy grout to be chemically and stain resistant to ketchup, mustard, tea, coffee, milk, soda, beer, wine, bleach (5% solution), ammonia, juices, vegetable oil, brine, sugar, cosmetics, and blood and chemically resistant to dilute acids and alkalis, gasoline, turpentine, and mineral spirits.

NOTE: Some stones may be scratched by the Epoxy grout. Conduct a test area to verify compatibility and results.

2.6 INSTALLATION SYSTEM ACCESSORIES PERFORMANCE SPECIFICATIONS

- A. Waterproofing membrane to be thin, cold applied, single component liquid, load bearing and non-toxic. It shall be certified by IAPMO as a shower pan liner. Reinforcing fabric to be non-woven rot-proof specifically intended for waterproof membrane. Materials to be non-toxic, non-flammable, and non-hazardous during storage, mixing, application and when cured. Equal to LATICRETE 9235 Waterproof Membrane manufactured by LATICRETE International, Inc. and meeting following physical requirements:
 - 1. Water Permeability(at 30ft.hydro/0.9 atmos/91.2kPa) Nil (Fed. Spec. TT-C-00555 Modified)
 - 2. Elongation at break 20-30% (ASTM D751)
 - 3. Service Temperatures -20°to+280°F(-28°to +137°C) (LIL 1016-92)
 - 4. Tensile breaking strength 2950psi (20.4MPa;207kg/cm²) (ASTM D751)
 - 5. Thickness 20 mils (0.5mm) (LIL 1013-92)
 - 6. Bond strength 250 PSI (1.72 MPa) (ANSI A118.4)
 - 7. Service Rating (TCA) Extra Heavy

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- B. Reinforcing Mesh: 2 inch x 2 inch (50 x 50 mm) x 16 ASW gage or .0625 inch (1.5mm) diameter galvanized steel welded wire mesh complying with ASTM A185 and ASTM A82 except for minimum wire size.
- C. Cleavage membrane: 15 pound asphalt saturated, non-perforated roofing felt ASTM D226, or 4.0 mils /0.1 mm thick polyethylene plastic film ASTM D4397
- D. Joint Sealant: as specified in Section 07920.
- E. Cementitious backerboard units: size and thickness as specified, comply with ANSI A118.9
- F. Thresholds: Provide marble saddles complying with ASTM C503 requirements for exterior use and abrasion resistance in compliance with ASTM C241 in color, size, shape and thickness as indicated on drawings.

NOTE TO SPECIFIER: *Edit / add applicable accessory products.*

2.8 MORTAR, GROUT, ADHESIVE, & ACCESSORY FOR OPTIONAL PROPRIETARY PRODUCT SPECIFICATION

- A. Installation system components as manufactured by LATICRETE International, Inc. Bethany, CT 06524 USA. Phone 800-243-4788
- B. Latex-Portland cement leveling bed/scratch and render coat mortar: LATICRETE 226 Thick Bed Mortar gauged with LATICRETE 3701 Mortar Admix as manufactured by LATICRETE International, Inc.
- C. Latex-Portland Cement Thick Bed Mortar: LATICRETE 226 Thick Bed Mortar gauged with LATICRETE 3701 Mortar Admix as manufactured by LATICRETE International, Inc.
- D. Waterproof Membrane- Liquid Applied: LATICRETE 9235 Waterproof Membrane or LATAPOXY 24hr Hydroproofing Membrane; as manufactured by LATICRETE International, Inc.
- E. Crack Suppression and Anti-Fracture Membrane: LATICRETE Blue 92 Anti-Fracture Membrane; as manufactured by LATICRETE International, Inc.
- F. Latex-Portland Cement Mortar: LATICRETE 211 Crete Filler Powder gauged with LATICRETE 4237 Latex Thin Set Mortar Additive as manufactured by LATICRETE International, Inc.
- G. Chemical resistant, water cleanable grouting epoxy: LATICRETE SpectraLOCK Grout or LATAPOXY SP-100 Stainless Grout for Floors n' Walls as manufactured by LATICRETE International, Inc.
- H. Polymer Modified Tile Grouts for Tile/Stone Installation: LATICRETE Tri-Poly Fortified Sanded Grout (1500 Series) or LATICRETE Tri-Poly Fortified Unsanded Grout (1600 Series) gauged with LATICRETE 1776 Admix Plus, as manufactured by LATICRETE International, Inc.
- I. Roof Deck System; LATICRETE Plaza & Deck System
- J. LATICRETE Silicone Sealant: LATICRETE Latasil Tile and Stone Sealant

PART 3 - EXECUTION**3.1 SUBSTRATE EXAMINATION**

- A. Verify that surfaces to be covered with stone or waterproofing are:
 - 1. Sound, rigid and conform to good design/engineering practices;
 - 2. With maximum deflection under all live, dead and impact loads, including concentrated loads, of L/480 for stone;
 - 3. Clean and free of dust, dirt, oil, grease, sealers, curing compounds, laitance, efflorescence, form oil or loose plaster, paint and scale;
 - 4. Not leveled with gypsum or asphalt based compounds;
 - 5. Dry as per American Society for Testing and Materials (ASTM) D4263 **“Standard Test for Determining Moisture in Concrete by the Plastic Sheet Method.”**
- B. Concrete surfaces shall also be:
 - 1. Cured a minimum of 28 days at 70 °F/20 °C, including an initial (7) day period of wet curing;

NOTE TO SPECIFIER: LATICRETE® Latex Portland cement Mortars do not require a minimum cure time for concrete substrates or mortar beds;
- C. Advise General Contractor and Architect of any surface or substrate conditions requiring correction before stone work commences. **Beginning of work constitutes acceptance of substrate or surface conditions.**

3.2 SURFACE PREPARATION

- A. CONCRETE SUBSTRATES
 - (Insert any Special Means of Preparation in addition to the surface preparation requirements listed in § 3.1)
- B. (List other Substrates as required and means of preparation as required)
 - (Insert any Special Means of Preparation in addition to the surface preparation requirements listed in § 3.1)

NOTE TO SPECIFIER: edit substrate and preparation section based on project specific surfaces and conditions.

3.3 INSTALLATION - ACCESSORIES

A. *Waterproofing: (Optional)*

NOTE TO SPECIFIER: Adhesives/mastics, mortars and grouts for ceramic tile, mosaics, pavers, brick and stone are not replacements for waterproof membranes and will not prevent water penetration into occupied or storage spaces below.

Install waterproof membrane in compliance with current revisions of ANSI A108.1 (A-1 through A-3) and ANSI A108.13. Review the installation and plan the application sequence. Pre-cut LATICRETE® 9235 Waterproofing Membrane Reinforcing Fabric, allowing 2" (50 mm) for overlap at ends and sides. Roll up the pieces for easy handling and placement. Shake or stir LATICRETE 9235 Waterproofing Membrane Liquid before using. Pre-treat all substrate cracks, cold joints, control joints, coves, corners and penetrations according to Manufacturer's specific recommendations. Allow pre-treated areas to dry to the touch. Apply a liberal coat of LATICRETE 9235 Waterproofing Membrane Liquid with brush or roller over substrate including pre-treated areas. Before the coat dries, unroll LATICRETE 9235 Waterproofing Membrane Reinforcing Fabric, smooth out any wrinkles and press with brush or roller until LATICRETE 9235 Waterproofing Membrane Liquid "bleeds" through to surface. Apply another liberal coat of LATICRETE 9235 Waterproofing Membrane Liquid and allow it to dry to the touch, ~1-3 hours @ 70°F (21°C) & 50% RH. Apply a third liberal coat of LATICRETE 9235 Waterproofing Membrane Liquid to seal membrane. When last coat has dried to the touch, inspect final surface for pinholes, voids or thin spots. Use additional LATICRETE 9235 Waterproofing Membrane Liquid to seal such defects. Allow LATICRETE 9235 Waterproofing Membrane to cure for at least 7 days @ 70°F (21°C) & 50% RH before running water penetration tests.

Use the following LATICRETE System Materials:

LATICRETE 9235 Waterproofing Membrane

References:

Applicable Standard: current revision of ANSI A118.10

LATICRETE Data Sheets: 236.0; WPAF.5

LATICRETE Technical Data Sheets: 188, 189

3.4 INSTALLATION –STONE

A. **General:** Install in accordance with current versions of American National Standards Institute, Inc. (ANSI) "**A108 American National Standard for Installation of Ceramic Tile**" and TCA "**Handbook for Ceramic Tile Installation**." Cut and fit stone neatly around corners, fittings, and obstructions. Perimeter pieces to be minimum half tile, brick or stone. Chipped, cracked, split pieces and edges are not acceptable. Make joints even, straight, plumb and of uniform width to tolerance +/- 1/16" over 8' (1.5mm in 2.4m). Install divider strips at junction of flooring and dissimilar materials.

B. **Thick Bed Method Over Cleavage Membrane (OR Cured Optional Waterproofing Membrane):** Verify that allowance for minimum bed thickness of 2" (50mm) has been made. Install cleavage membrane complying with the current revision of ANSI A108.1 (A-2.1.8 Membrane or cleavage membrane Materials, A-4.1.5.3). Place latex-Portland cement thick bed mortar to a depth approximately one-half finished bed thickness in compliance with current revision of ANSI A108.1 (A-1 through A-3; A-4.1a.5.3). Lay 2" x 2" (50mm x 50 mm), 16 gauge (1.5mm), galvanized, welded reinforcing wire fabric, complying with ANSI A108.1 (A-2 Materials; A-4.1.5.3) and ASTM A185, over mortar. Place additional thick bed mortar over wire fabric and compact mortar by tamping with flat trowel. Screed mortar bed level and provide correct slopes to drains. Spread latex-Portland cement thin bed mortar with flat trowel over surface of "green"/fresh mortar bed as a slurry bond coat approximately 1/16" (1.5 mm) thick. Apply latex-Portland cement thick bed mortar slurry bond coat to back of stone and place each piece/sheet while slurry bond coats are wet and tacky. Beat with a hardwood block or rubber mallet to level/imbed pieces before mortar bed takes initial set. Clean excess mortar/adhesive from finished surfaces.

Use the following LATICRETE System Materials:

LATICRETE 3701 Mortar Admix

LATICRETE 226 Thick Bed Mortar

LATICRETE 4237 Latex Thin-Set Mortar Additive and LATICRETE 211 Crete Filler Powder

LATICRETE 254 Platinum Multipurpose Thin-Set Mortar

References:

Applicable Standard: current revision of ANSI A118.4
LATICRETE Data Sheets: : 231.0, 239.1, 230.1, 239.0, 677.0
LATICRETE Technical Data Sheets: 106, 114, 129

- C. **Bonded Thick Bed Method (Horizontal Surfaces):** Verify 1“(25mm) nominal bed thickness has been allowed. Apply latex-Portland cement mortar with flat trowel as a slurry bond coat approximately 1/16” (1.5mm) thick over clean concrete slab in compliance with current revision of ANSI A108.1 (A-1 through A-3; A-4.1a.5.2). Place latex-Portland cement thick bed mortar over slurry bond coat while bond is wet and tacky. Omit reinforcing wire fabric and fully compact bed by tamping. Spread epoxy adhesive with flat trowel over surface of "green"/fresh mortar bed as a slurry bond coat approximately 1/16” (1.5 mm) thick. Apply latex Portland cement slurry bond coat to back of stone and place each piece/sheet while slurry bond coats are wet and tacky. Beat with a hardwood block or rubber mallet to level/imbed pieces before mortar bed takes initial set. Clean excess mortar/adhesive from finished surfaces.

Use the following LATICRETE System Materials:

LATICRETE 4237 Latex Thin-Set Mortar Additive
LATICRETE 211 Crete Filler Powder
LATICRETE 3701 Mortar Admix
LATICRETE 226 Thick Bed Mortar
LATICRETE 254 Platinum Multipurpose Thin-Set Mortar

References:

LATICRETE Data Sheets: 230.1, 231.0, 239.0, 239.1, 631.5, 633.0, 633.3
LATICRETE Technical Data Sheets: 106, 114, 123, 129, 143

- E. **Grout/Pointing Joint:** Allow stone installation to cure a minimum of 24 hours @ 70°F (21°C). Verify grout joints are free of dirt, debris or tile spacers. Sponge or wipe dust/dirt off veneer face and remove any water standing in joints. Apply a sealer or grout release to face of absorptive, abrasive, non-slip or rough textured stone to facilitate cleaning. Surface temperature must be between 40-90°F (4-32 °C).

NOTE TO SPECIFIER: select one of following, if an epoxy-based grout is desired, and specify color for each type/color of stone:

1. chemical resistant, water cleanable grouting epoxy for grout joints 1/16” (1.5mm) wide and larger);

Use the following LATICRETE System Materials:

LATICRETE® SpectraLOCK™ Grout

References:

LATICRETE Data Sheets: 638.0, 638.5,
LATICRETE Technical Data Sheets: 194, 207

Storage

Condition the components at 70°F/21°C to allow for easier application. Protect Part A and Part B liquids from freezing.

Surface Preparation

Make sure tile surface and open grout joints are clean, and free from debris or standing water. Surface temperature range for installation must be 40°F/4°C and rising, and less than 95°F/35°C.

Mixing

1. Cut open Part A and B pouches, and pour the liquids (A first, then B) into a clean mixing pail. Make sure to squeeze all the liquids out of the pouches. **HINT:** Fold in half and roll up like a toothpaste tube. Mix liquids thoroughly, completely blending all liquid from sides and bottom of pail. Mix with a margin trowel or slow speed drill mixer (< 300 RPM).

2. The SpectraLOCK™ unit is designed to **use all the Part C color powder** for most applications. For narrow joints, and wall applications; use SpectraLOCK Narrow Joint Additive, available at authorized SpectraLOCK distributors. The pure white powder additive provides a smooth non-sag, paste-like consistency for easier packing of grout joints less than 1/8”

(3mm) wide with increased hang and workability on walls. Pour the powder additive into blended AB liquids and mix thoroughly. Then add Part C powder and mix to consistency. This requires leaving out a small amount of Part C powder.

3a. If using Part D Dazzle: Mix Dazzle powder into the liquids before adding the Part C color powder. Use one 1 Dazzle cup for a mini unit, four cups for a full unit. Be careful in mixing as Part D Dazzle is light and will become airborne easily. Please note that using Part D Dazzle eliminates the need to use SpectraLOCK Narrow Joint Additive.

3b. Once blended, add Part C color powder to the mix, leaving out an amount approximately equal to the volume of Dazzle used (Use the empty Dazzle cups to hold back the Part C). **NOTE:** You will not be able to add all the Part C color powder when using Part D Dazzle.

Grouting

4a. Wipe stone surface with a damp sponge before grouting (avoid standing water). Spread grout using a sharp edged, firm rubber float. Work the grout diagonally across the joints, packing them full. **4b.** “Cut” excess grout off the tile surface using the edge of the float like a squeegee. Working time of SpectraLOCK grout is approximately 30 minutes. Please note that working time is affected by many variables including grout mix, surface, and room temperatures. Warmer climates, for example will shorten working time while colder conditions extend working time.

5a. Initial Cleaning: Begin cutting excess grout off stone, cleaning grout haze within 20 minutes of grouting an area. Use clean water and a damp sponge. Wipe the tile surface in a light circular motion to loosen grout residue and to smooth out the joints. **HINT:** Using approximately 1/2 cup pure white vinegar mixed with every two gallons clean water will help reduce grout haze residue and prevent sponge from becoming gummed up. Certain stone clean up more easily than others, so be sure to rinse sponge frequently, checking your work as you progress. **5b. Final Cleaning:** Begin final cleaning of all areas grouted within two hours to ensure no grout haze or contaminants (ex. footprints) exist on the tile surface. A solution of clean water and automatic dishwashing detergent is recommended to completely remove any residual grout film/haze. Using a clean sponge, clean stone surface with a light circular motion. The sponge should not drag but glide across the stone surface, indicating that the stone surface is clean. **5c.** Next, using a new sponge and clean water, pull across stone to pick up any remaining residue. Rinse the sponge after every pass; **USE EACH SIDE ONLY ONCE BETWEEN RINSING.** Use clean water, changing water frequently; use clean sponges if they become gummy with residue. Check work as you clean. Repair any low spots with additional grout.

Final Inspection & Follow Up Cleaning

6. Check stone surface after water dries from final cleaning (approximately one hour @ 70°F/21°C). If any film or haze is visible, clean with a sponge or nylon pad with soapy water. **NOTE:** LATICRETE® SpectraLOCK Grout is an epoxy based product with similar characteristics to cement grout. However, unlike cement grout haze that can be buffed off the following day, SpectraLOCK film/haze that is allowed to cure on the stone surface may be difficult to remove. Make certain to check the stone surface with adequate lighting after the stone surface is dry. It may be necessary to clean stone surface again with plenty of clean water and sponges or nylon pads. A final buffing is recommended to further remove any slight grout film/haze.

Protection of Surface - Time to Traffic @ 70°F (21°C)

Tack Free; 6-8 hours

Ready for light foot traffic; 12 hours

Ready for heavy foot traffic; 24 hours

Stain resistance, food spills, household cleaners; 7 days

Full cure; 28 days

2. NOTE TO SPECIFIER: select one of following if a latex-fortified, Portland cement based grout is desired, and specify color for each type/color of stone:

- a. latex-Portland cement sanded floor grout for joint widths $\geq 1/16"$ (1.5mm) and $\leq 3/8"$ (10mm);

Use the following LATICRETE System Materials:

LATICRETE® 1776 Grout Admix Plus mixed with LATICRETE Tri-Poly Fortified Sanded Grout (1500 Series)

References:

LATICRETE Data Sheets: 256.0, 265.0

LATICRETE Technical Data Sheets: 110, 194, 201

- b. latex-Portland cement unsanded grout for soft glazed tiles and soft/polished stone with joints widths $\leq 1/8"$ (3 mm).

Use the following LATICRETE System Materials:

LATICRETE 1776 Grout Admix Plus mixed with LATICRETE Tri-Poly Fortified Unsanded Grout (1600 Series)

References:

LATICRETE Data Sheets: 258.0, 265.0

LATICRETE Technical Data Sheets: 110, 194, 201

Thoroughly shake or stir LATICRETE 1776 Grout Admix Plus with Microban and pour into a clean mixing container. Add LATICRETE 1500 Series Tri-Poly Fortified Sanded Grout or LATICRETE 1600 Series Tri-Poly Fortified Unsanded Grout powder, in approximately the proportions indicated in the chart below, to the container while mixing. Mix by hand or with a slow speed mixer to a smooth, stiff consistency.

| LATICRETE® 1776 Grout Admix Plus | LATICRETE 1500 Series Tri-Poly Fortified Sanded Grout | LATICRETE 1600 Series Tri-Poly Fortified Unsanded Grout |
|----------------------------------|---|---|
| 26 fl oz (0.8 l) Bottle | 10 lbs (4.5kg) Bag | |
| 48 fl oz (1.4 l) Bottle | | 8 lbs (3.6kg) Bag |
| 64 fl oz (1.9 l) Bottle | 25 lbs (11.3kg) Bag | |

Install latex Portland cement grout in compliance with current revisions of ANSI A108.1 (A-1 through A-3) and ANSI A108.10 (A-4.7.3.5.4, A-4.7.4 through A-4.7.8). Dampen dry surfaces with clean water. Spread using a sharp edged, hard rubber float and work grout into joints. Using diagonal (at 45o angle to direction of grout line) strokes, pack joints full and free of voids/pits. Hold float face at a 90o angle to grouted surface and use float edge to "squeegee" off excess grout, stroking diagonally to reduce pulling grout out of filled joints. Initial cleaning can begin as soon as grout has become firm, typically 20-30 minutes after grouting depending on temperature. Drag a clean towel dampened with water, or wipe a clean, dampened sponge, diagonally over the stone face to remove any grout haze left after "squeegeeing." Rinse towel/sponge frequently and change rinse water at least every 200 ft2 (2 m2). Repeat this cleaning sequence again if grout haze is still present. Allow grout joints to become firm. Buff surface of grout with clean coarse cloth. Inspect joint for pinholes/voids and repair them with freshly mixed grout. Within 24 hours, check for remaining haze and remove it with warm soapy water and a nylon scrubbing pad, using a circular motion, to lightly scrub surfaces and dissolve haze/film. Do not use acid cleaners on latex Portland cement mortar grout less than 7 days old.

NOTE TO SPECIFIER: select one of following and specify color for each type/color of ceramic tile, mosaic, paver, trim unit:

- c. latex-Portland cement sanded floor grout for joint widths $\geq 1/16"$ (1.5mm) and $\leq 3/8"$ (10mm);
- d. latex-Portland cement unsanded grout for soft glazed tiles and soft/polished stone with joints widths $\leq 1/8"$ (3 mm).

F: Expansion and Control Joints:

Provide control or expansion joints as located in contract drawings and in full conformity, especially in width and depth, with architectural details.

1. Substrate joints must carry through, full width, to surface of stone.
2. Install expansion joints in stone work over construction/cold joints or control joints in substrates.
3. Install expansion joints where stone abut restraining surfaces (such as perimeter walls, curbs, columns), changes in plane and corners.
4. Optimum ratio of joint length: joint width is 1:1 and must not exceed 2:1. Sealant joint width: joint depth should be ~2:1.
5. Joint width and spacing depends on application - follow TCA "**Handbook for Ceramic Tile Installation**" Detail "EJ-171 Expansion Joints" or consult sealant manufacturer for recommendation based on project parameters.

6. Joint width must be $\geq 3/8"$ (3mm) and $\leq 1/2"$ (12mm).

Remove all contaminants and foreign material from joint spaces/surfaces, such as dirt, dust, oil, water, frost, setting/grouting materials, sealers and old sealant/backer. Use LATICRETE Latacil 9118 Swimming Pool Primer for underwater or permanent wet area applications. Install appropriate Backing Material (e.g. closed cell backer rod) based on expansion joint design and as specified in § 07920. Apply masking tape to face stone. Use caulking gun, or other applicator, to completely fill joints with sealant. Within 5-10 minutes of filling joint, 'tool' sealant surface to a smooth finish. Remove masking tape immediately after tooling joint. Wipe smears or excess sealant off the face of stone or other absorptive surfaces immediately.

Use the following LATICRETE System Materials:

LATICRETE Latasil Tile & Stone Sealant

LATICRETE Latasil 9118 Swimming Pool Primer

References:

Applicable Standard: current revision of ASTM C920

LATICRETE Detail Drawings: 3010, 3011 (Sealant treatments only)

LATICRETE Data Sheets: 6200.1, 6524.1, 6526.1

LATICRETE Technical Data Sheets: none

3.5 CLEANING

Clean excess mortar from stone surfaces with water before they harden and as work progresses. Do not contaminate open grout/caulk joints while cleaning. Sponge and wash stone diagonally across joints. Do not use acids for cleaning. Polish with clean dry cloth. Remove surplus materials and leave premises broom clean.

3.6 PROTECTION

- A. Protect finished installation under provisions of §01500 and §01535. Close areas to other trades and traffic until tile being installed has set firmly. Keep traffic off horizontal thick bed mortar installations for at least 72 hours at 70°F (21°C).
- B. Use kneeling boards, or equivalent, to walk/work on newly installed stone floors. Cure stonework in swimming pools, fountains and other continuous immersion applications minimum 14 days for latex Portland cement based grout @ 70°F (21°C) before flood testing or filling installation with water. Extend period of protection of stonework at lower temperatures, below 60°F (15°C), and at high relative humidity (>70% R.H.) due to retarded set times of mortar/adhesives. Replace or restore work of other trades damaged or soiled by work under this section.

PART 4 – HEALTH AND SAFETY

The use of personal protection such as rubber gloves, suitable dust masks, safety glasses and industrial clothing is highly recommended. Discarded packaging, product wash and waste water should be disposed of as per local, state or federal regulations.

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