

PART 1 – GENERAL

NOTE TO SPECIFIER: This specification does not apply to large, thin porcelain tile installations. Refer to 'LATICRETE Master Specification – Large, Thin Porcelain Tiles.'

1.1 SUMMARY

- A. Scope of work - Provide ceramic tile, tile installation materials 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

NOTE TO SPECIFIER: Edit for applicable procedures & materials

- A. Thin Brick veneer
- B. Masonry veneer
- C. Manufactured masonry veneer
- D. Special purpose tile
- E. Installation Products; adhesives, mortars, grouts and sealants
- F. Waterproofing membranes for ceramic tile work
- G. Anti-fracture membranes for ceramic tile work
- H. Thresholds, trim, cementitious backer units and other accessories specified herein.

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 ENVIRONMENTAL PERFORMANCE REQUIREMENTS

- A. Environmental Performance Criteria: The following criteria are required for products included in this section. Refer to Division 1 for additional requirements:
 1. Products manufactured regionally within a 100 mile radius of the Project site;
 2. Adhesive products must meet or exceed the VOC limits of South Coast Air Quality Management District Rule (SCAQMD) #1168 and Bay Area Air Quality Management District (BAAQMD) Reg. 8, Rule 51.

1.6 RELATED SECTIONS

NOTE TO SPECIFIER: Below are examples of typical broad scope and narrow scope sections related to Ceramic tile installation. Edit for applicable related sections

- A. Section 03 30 00 Cast-in-Place Concrete
- B. Section 03 39 00 Concrete Curing
- C. Section 03 41 00 Precast Structural Concrete
- D. Section 03 53 00 Concrete Topping
- E. Section 04 20 00 Unit Masonry (CMU wall substrates)
- F. Section 04 43 00 Stone Masonry
- G. Section 07 13 00 Sheet Waterproofing
- H. Section 07 14 00 Fluid Applied Waterproofing
- I. Section 07 50 00 Membrane Roofing
- J. Section 07 92 00 Joint Sealants
- K. Section 09 28 00 Backing Boards and Underlayments
- L. Section 09 29 00 Gypsum Board

1.7 ALLOWANCES

NOTE TO SPECIFIER: Edit for detail of applicable ALLOWANCES; coordinate with Section 01 21 00 Allowances. Allowances in the form of unit pricing are sometimes used when the scope of the tile work at time of bid is undetermined.

1.8 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 tile by economy.



1.9 REFERENCE STANDARDS**NOTE TO SPECIFIER:** [edit for applicable reference standards](#)

- A. American Iron and Steel Institute (AISI) Specification for the Design of Cold-Formed Steel Structural Members
- B. American National Standards Institute (ANSI) A137.1 American National Standard Specifications For Ceramic Tile
- C. American National Standards Institute (ANSI) A137.2 American National Standard Specifications For Glass Tile
- D. American National Standards Institute (ANSI) A108.01 - A108.17 American National Standard Specifications For The Installation Of Ceramic Tile
- E. American National Standards Institute (ANSI) A118.1 - A118.15 American National Standard Specifications For The Installation Of Ceramic Tile
- F. American Society For Testing And Materials (ASTM) C144 Standard Specification for Aggregate for Masonry Mortar
- G. American Society For Testing And Materials (ASTM) C150 Standard Specification for Portland Cement
- H. American Society For Testing And Materials (ASTM) C482 Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement
- I. American Society For Testing And Materials (ASTM) C503 Standard Specification for Marble Dimension Stone (Exterior)
- J. American Society For Testing And Materials (ASTM) C794 Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
- K. American Society For Testing And Materials (ASTM) C847 Standard Specification for Metal Lath
- L. American Society For Testing And Materials (ASTM) C920 Standard Specification for Elastomeric Joint Sealants
- M. American Society For Testing And Materials (ASTM) C955 Standard Specification for Load Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Board and Metal Plaster Bases
- N. American Society For Testing And Materials (ASTM) D226 Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing And Waterproofing
- O. American Society For Testing And Materials (ASTM) D227 Standard Specification for Coal-Tar Saturated Organic Felt Used in Roofing and Waterproofing
- P. American Society For Testing And Materials (ASTM) D1248 Standard Test Method for Staining of Porous Substances by Joint Sealants
- Q. American Society For Testing And Materials (ASTM) D4397 Standard Specification for Polyethylene Sheeting for Construction, Industrial and Agricultural Applications
- R. American Society For Testing And Materials (ASTM) D4716 Standard Test Method for Determining the (In Plane) Flow Rate Per Unit Width and Hydraulic Transmissivity of a Geo-synthetic Using a Constant Head
- S. American Society For Testing And Materials (ASTM) E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- T. American Society For Testing And Materials (ASTM) E96 Standard Test Methods for Water Vapor Transmission of Materials
- U. Canadian Sheet Steel Building Institute (CSSBI) Lightweight Steel Framing Binder {Publication 52M}
- V. Federal Housing Administration (FHA) Bulletin No. 750 Impact Noise Control in Multifamily Dwellings
- W. Housing and Urban Development (HUD) TS 28 A Guide to Airborne, Impact and Structure-borne Noise-Control in Multifamily Dwellings
- X. International Organization for Standardization (ISO) 13007 Standards for Grouts and Adhesives
- Y. Materials And Methods Standards Association (MMSA) Bulletins 1-16
- Z. Metal Lath/Steel Framing Association (ML/SFA) 540 Lightweight Steel Framing Systems Manual
- AA. Steel Stud Manufacturers Association (SSMA) Product Technical Information and ICBO Evaluation Service, Inc. Report ER-4943P
- BB. Terrazzo, Tile And Marble Association Of Canada (TTMAC) Specification Guide 09300 Tile Installation Manual
- CC. Tile Council Of North America (TCNA) Handbook For Ceramic, Glass, and Stone Tile Installation

1.10 SYSTEM DESCRIPTION**NOTES TO SPECIFIER:** [The systems below are examples; edit based on project specific conditions.](#) Additionally, building code waivers may need to be obtained for large format "adhered veneer" exterior façade installations where:

1. Exceed 36 inches (914 mm) in any face dimension
2. Exceed 5 square feet (0.46 square meters) in total facial area, or
3. Are less than .25 inches (6 mm) thick



Consult with local building code / building code officials as required.

- A. Thin brick veneer, ceramic tile, or manufactured masonry veneer, installed over concrete walls using latex Portland cement mortar and latex Portland cement grout.

1.11 SUBMITTALS

NOTE TO SPECIFIER: [Edit for applicable requirements](#)

- A. Submittal Requirements: Submit the following "Required LEED Criteria" certification items as listed below. Refer to Division 1 for additional requirements:
1. A completed LEED Environmental Building Materials Certification Form. Information to be supplied generally includes:
 - a. Manufacturing plant locations for tile installation products.
 - b. LEED Credits as listed in Part 1.4B "LEED Credit Submittals"
 - c. Recycled content; pre-consumer or post-consumer; or;
Project specific information gathered using the LATICRETE LEED Project Certification Assistant available at www.laticrete.com/green.
 2. UL GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings, UL 2818 or UL GREENGUARD Gold certificates provided by the tile installation materials manufacturer on UL GREENGUARD letterhead stating "This product has been UL GREENGUARD Gold Product Certified For Low Chemical Emissions by the UL Environment under the UL GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings" for each tile installation product used to verify Low VOC product information.
 3. Contractor's certification of LEED Compliance: Submit Contractor's certification verifying the installation of specified LEED Compliant products.
 4. Product Cut Sheets for all materials that meet the LEED performance criteria. Submit Product Cut Sheets with Contractor or Sub-contractor's stamp, as confirmation that submitted products were installed on Project.
 5. Material Safety Data Sheets for all applicable products.
- B. LEED Credit Submittals for the following:
1. LEED Reference Guide for Green Building Design and Construction, LEED v4 MR Credit Building Product Disclosure and Optimization – Material Ingredients: Manufacturer's product data for tile installation materials, including Health Product Declaration (HPD) on HPD Collaborative letterhead.
 2. LEED Reference Guide for Green Building Design and Construction, LEED v4 MR Credit Building Product Disclosure and Optimization – Sourcing of Raw Materials Option 2 (Recycled Content): Manufacturer's product data for tile installation materials.
 3. LEED Reference Guide for Green Building Design and Construction, LEED v4 MR Credit: Building Product Disclosure and Optimization – Sourcing of Raw Materials Option 2 (Regional Materials): Product data indicating location of material manufacturer for regionally manufactured Materials (within 100 miles of project site).
 4. LEED Reference Guide for Green Building Design and Construction, LEED v4 Edition MR Credit Construction and Demolition Waste Management: Path 1 (Divert 50% and Three Material Streams) Manufacturer's packaging showing recycle symbol for appropriate disposition in construction waste management.
 5. LEED Reference Guide for Green Building Design and Construction, LEED v4 Edition MR Credit Construction and Demolition Waste Management: Path 1 (Divert 75% and Four Material Streams) Manufacturer's packaging showing recycle symbol for appropriate disposition in construction waste management.
 6. LEED Reference Guide for Green Building Design and Construction, LEED v4 EQ Credit Low-Emitting Materials: Manufacturer's product data for tile installation materials, including UL GREENGUARD Gold Certificate on UL GREENGUARD letterhead stating product VOC emissions.
 7. LEED Schools Reference Guide (Educational Projects Only), 2007 Edition Credit EQ 9 (Enhanced Acoustical Performance): Impact noise reduction test reports and product data on sound control product(s).
 8. LEED Schools Reference Guide (Educational Projects Only), 2007 Edition Credit EQ 10 (Mold Prevention): Manufacturer's packaging and/or data showing anti-microbial protection in product(s).
- C. Submit shop drawings and manufacturers' product data under provisions of Section (01 30 00) (01 34 00)
- D. Submit samples of each type/style/finish/size/color of ceramic tile, thin brick, manufactured masonry veneer, mosaic, and trim unit under provisions of Section (01 30 00) (01 34 00)
- E. Submit manufacturers' installation instructions under provisions of Section (01 30 00) (01 34 00)
- F. Submit manufacturer's certification under provisions of Section (01 45 00) that the materials supplied conform to ANSI A137.1 for ceramic tile or ANSI A137.2 for glass tile.



- G. Submit proof of warranty.
- H. Submit Health Product Declarations (HPD) for each tile installation material.
- I. Submit sample of installation system demonstrating compatibility/functional relationships between adhesives, mortars, grouts and other components under provision of Section (01 30 00) (01 34 00). Submit proof from ceramic tile manufacturer or supplier verifying suitability of tile or stone veneer for specific application and use; including dimensional stability, water absorption, freeze/thaw resistance (if applicable), resistance to thermal cycling, and other characteristics that the may project may require. These characteristics must be reviewed and approved by the project design professional(s).
- J. 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.
- K. For alternate materials, at least thirty (30) days before bid date submit independent laboratory test results confirming compliance with specifications listed in Part 2 - Products.

1.12 QUALITY ASSURANCE

NOTES TO SPECIFIER:

1. It is strongly recommended to use installers who have demonstrated their commitment to their craft and taken the time to stay current with the latest materials and methods. Requiring references and a portfolio along with a bid or estimate is a good way to ensure the installer has successfully completed work of similar size, scope, and complexity.
2. Pools, exterior facades, mortar beds, shower pans, steam showers, etc. require different skills. Matching installer ability to the project at hand requires close evaluation of their experience, training, state licensing (where applicable), and certifications/credentials (where applicable). The Ceramic Tile Education Foundation (CTEF) provides a Contractor Questionnaire that can be used to aid in evaluating and comparing contractors (www.tilecareer.com).
3. Various programs administered by associations, non-profit educational organizations, unions, and private companies serve the tile industry by providing education, hands-on training, and evaluation of the skills and competency of installers and contractors. It is important to distinguish between the many programs available:
 - Hands-on training
 - Evaluation/certification of installation skills
 - On-line training
 - On-line knowledge evaluation (without a hands-on component)

As with all programs, the rigor and credibility of the program must also be considered.

The following non-profit programs are well-established and recognized by the Tile Council of North America's (TCNA) Handbook Committee (listed alphabetically):

Ceramic Tile Education Foundation (CTEF) Certified Tile Installer Program: CTEF tests hands-on installation skills and knowledge. Installers must achieve the minimum required score on both tests to earn the "CTEF Certified Installer" designation. Contractors that employ CTEF Certified Installers are listed in the CTEF Contractor Directory, found in this *Handbook* and on the CTEF website. See www.tilecareer.org for more information.

International Masonry Institute (IMI) Contractor College Program: IMI conducts professional and technical courses for union masonry and tile contractors, which lead to certification in installation and project supervision. See www.imiweb.org for more information.

Journeyman Tile Layer Apprenticeship Programs: Installers recognized by the U.S. Department of Labor (DOL) as Journeyman Tile Layers are required to fulfill and document several years of training and on-the-job experience as apprentices to become Journeymen. The majority of these setters earn their Journeyman status through union-affiliated training programs, although some non-union tile contractors administer their own DOL-recognized apprenticeship programs and employ journeyman tile layers. Contractors that employ union Journeyman Tile Setters can be found through the union locals that list their signatory contractors, primarily the Bricklayer and Allied Craftworkers (BAC) and the United Brotherhood of Carpenters (UBC). See www.bacweb.org and www.carpenters.org for more information.

National Tile Contractors Association (NTCA) Five Star Contractor Program: NTCA is a tile contractors association, with membership open to all tile contractors. Their Five Star program is a peer review program to recognize NTCA members who have demonstrated a track record of providing successful installations. Earning the Five Star designation requires recommendations from customers, suppliers, and peers as well



as participation in continuing education, training, and safety programs. See www.tile-assn.com for more information.

Tile Contractors' Association of America (TCAA) Trowel of Excellence Program: TCAA is a contractors association for BAC signatory contractors. Its Trowel of Excellence program is a peer review program to recognize TCAA members who have demonstrated a track record of providing successful installations. Earning the Trowel of Excellence designation requires letters of reference, submittal of a detailed project description and photos, employee participation in educational programming, and proof of financial responsibility. See www.tcaainc.org for more information.

- A. Tile Manufacturer (single source responsibility): Company specializing in ceramic tile, thin brick, manufactured masonry veneer, mosaic, and trim unit with three (3) years minimum experience. Obtain tile 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 adhesives, mortars, grouts and other installation materials with ten (10) years minimum experience and ISO 9001 certification. Obtain installation materials from single source manufacturer to insure consistent quality and full compatibility.
- C. Submit laboratory confirmation of adhesives, mortars, grouts and other installation materials:
 - 1. Identify proper usage of specified materials using positive analytical method.
 - 2. Identify compatibility of specified materials using positive analytical method.
 - 3. Identify proper color matching of specified materials using a positive analytical method.
- D. Installer qualifications: company specializing in installation of ceramic tile, thin brick, manufactured masonry veneer, mosaic, and trim unit with five (5) years documented experience with installations of similar scope, materials and design.

1.13 MOCK-UPS

- A. Provide mock-up of each type/style/finish/size/color of ceramic tile, thin brick, manufactured masonry veneer, mosaic, and trim unit along with respective installation adhesives, mortars, grouts and other installation materials, under provisions of Section(s) (01 43 00) (01 43 39).

1.14 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, Tile Manufacturer, Installation System Manufacturer and any other parties who are involved in the scope of this installation must attend the meeting.

1.15 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.
- B. Store tile and stone veneers and installation system materials in a dry location; handle in a manner to prevent chipping, breakage, and contamination.
- C. Protect latex additives, organic adhesives, epoxy adhesives and sealants 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.

1.16 PROJECT/SITE CONDITIONS

- A. Provide ventilation and protection of environment as recommended by manufacturer.
- B. Prevent carbon dioxide damage to ceramic tile, thin brick, manufactured masonry veneer, mosaic, and trim unit as well as adhesives, mortars, grouts and other installation materials, 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 is to be no ice in substrates. 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 mortars and 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.



1.17 SEQUENCING AND SCHEDULING

NOTES TO SPECIFIER: [Edit for project specific sequence and scheduling](#)

- A. Coordinate installation of tile work with related work.
- B. Proceed with tile 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.

1.18 WARRANTY

NOTE TO SPECIFIER: [Select one of the following LATICRETE system warranties.](#)

- A. 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 as determined by local or project requirements. The manufacturer of adhesives, mortars, grouts and other installation materials shall provide a written twenty five (25) year warranty, which covers materials and labor - reference LATICRETE Warranty Data Sheet 025.0 for complete details and requirements.
- B. For exterior facades over steel or wood framing, the manufacturer of adhesives, mortars, grouts and other installation materials shall provide a written fifteen (15) year warranty, which covers materials and labor - reference LATICRETE Warranty Data Sheet 230.15 for complete details and requirements.

1.19 MAINTENANCE

Submit maintenance data under provisions of Section(s) (01 74 13) (01 74 16) (01 74 23). Include cleaning methods, cleaning solutions recommended, stain removal methods, as well as polishes and waxes recommended.

1.20 EXTRA MATERIALS STOCK

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

PART 2 - PRODUCTS

2.1 EXTERIOR ADHERED VENEER MANUFACTURERS

NOTE TO SPECIFIER: [Provide list of acceptable tile manufacturers.](#)

Subject to compliance with paragraphs 1.12 and performance requirements, provide products by one of the following manufacturers:

2.2 EXTERIOR ADHERED VENEER MATERIALS

NOTE TO SPECIFIER: [edit for each tile type](#)

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

2.3 INSTALLATION MATERIALS MANUFACTURER

- A. LATICRETE International, Inc., 1 Laticrete Park North, Bethany, CT 06524-3423 USA Phone 800-243-4788, (203) 393-0010 technicalservices@laticrete.com, www.laticrete.com; www.laticrete.com/green

2.4 INSTALLATION ACCESSORIES – EXTERIOR ADHERED VENEER

NOTE TO SPECIFIER: [Edit applicable tile installation accessories. Refer to the LATICRETE membrane product data sheet, and the physical test data contained therein, for information to be used by the Project Design Professional to determine suitability, placement, building code conformance and over-all construct appropriateness of a given installation assembly.](#)

- A. Waterproofing / Crack Suppression / Air & Water Barrier Membrane to be thin, cold applied, single component liquid and load bearing. Reinforcing fabric to be non-woven rot-proof specifically intended for waterproofing membrane. Waterproofing Membrane to be non-toxic, non-flammable, and non-hazardous



during storage, mixing, application and when cured. It shall be certified by IAPMO and ICC approved as a shower pan liner and shall also meet the following physical requirements:

1. Hydrostatic Test (ASTM D4068):	Pass
2. Elongation @ break (ASTM D751):	20-30%
3. System Crack Resistance (ANSI A118.12):	Pass (High)
4. 7 day Tensile Strength (ANSI A118.10):	>265 psi (1.8 MPa)
5. 7 day Shear Bond Strength (ANSI A118.10):	>200 psi (1.4 MPa)
6. 28 Day Shear Bond Strength (ANSI A118.4):	>214 psi (1.48 – 2.4 MPa)
7. Service Rating (TCA/ASTM C627):	Extra Heavy
8. Total VOC Content:	< 0.05 mg/m ³

(Basis of Design: LATICRETE® MVIS™ Air & Water Barrier)

- B. Epoxy Waterproofing Membrane/Flashing Mortar to be 3 component epoxy, trowel applied specifically designed to be used under masonry veneer, stone or thin brick and requires only 24 hours prior to flood testing:

1. Breaking Strength (ANSI A118.10):	450-530 psi (3.1-3.6 MPa)
2. Waterproofness (ANSI A118.10):	No Water penetration
3. 7 day Shear Bond Strength (ANSI A118.10):	110-150 psi (0.8-1 MPa)
4. 28 Day Shear Bond Strength (ANSI A118.10):	90-120 psi (0.6–0.83 MPa)
5. 12 Week Shear Bond Strength (ANSI A118.10):	110-130 psi (0.8-0.9 MPa)
6. Total VOC Content:	<3.4 g/L

(Basis of Design: LATAPOXY® Waterproof Flashing Mortar)

- C. Sealer (Exterior Masonry Veneers): water-based formula specifically designed for topical application on porous stones in exterior applications.

(Basis of Design: LATICRETE STONETECH® Heavy Duty Exterior Sealer)

- D. Galvanized, diamond metal lath: flat expanded type, weighing not less than 3.2 lb. per yd² (1.4 kg/m²). Metal lath shall comply with ASTM C847.
- E. Cleavage membrane: 15 pound asphalt saturated, non-perforated roofing felt complying with ASTM D226, 15 pound coal tar saturated, non-perforated roofing felt complying with ASTM D227 or 4.0 mils (0.1 mm) thick polyethylene plastic film complying with ASTM D4397.
- F. Cementitious backer board units: size and thickness as specified, complying with ANSI A118.9.

2.5 INSTALLATION MATERIALS – EXTERIOR ADHERED VENEER

NOTE TO SPECIFIER: [Edit section based on project specific installation methods and requirements](#)

- A. Latex Portland Cement Mortar for thick beds, and scratch/plaster coats to be weather, frost, shock resistant and meet the following physical requirements:

1. Compressive Strength (ANSI A118.7 Modified):	>4000 psi (27.6 MPa)
2. Total VOC Content:	< 0.05 mg/m ³

(Basis of Design: LATICRETE MVIS™ Premium Mortar Bed)

- B. Latex Portland Cement Thin Bed Mortar for thin set to be weather, frost, shock resistant, non-flammable and meet the following physical requirements:

1. Compressive strength (ASTM C270):	≥2900 psi (20 MPa)
2. Shear bond strength (ANSI A118.4 5.2.4):	≥300 psi (2.1 MPa)
3. Sag On Wall (EN 1308):	0.0mm
4. Total VOC Content:	< 0.05 mg/m ³

(Basis of Design: LATICRETE® MVIS™ Hi-Bond Veneer Mortar)

- C. Latex Portland Cement Pointing Mortar to be weather, frost and shock resistant, as well as meet the following physical requirements:



LATICRETE Master Guide Specification:

LATICRETE® MVIS™

04 26 00-8
Adhered Masonry Veneer

- | | |
|-------------------------------------|--------------------------|
| 1. Compressive Strength (ASTM C91): | ≥4100 psi (28.3 MPa) |
| 2. Total VOC Content: | < 0.05 mg/m ³ |

(Basis of Design: LATICRETE MVIS Premium Pointing Mortar)

- D. Expansion and Control Joint Sealant to be a one component, neutral cure, exterior grade silicone sealant and meet the following requirements:
- | | |
|---|--|
| 1. Tensile Strength (ASTM C794): | 280 psi (1.9 MPa) |
| 2. Hardness (ASTM D751; Shore A): | 25 (colored sealant) /15 (clear sealant) |
| 3. Weather Resistance (QUV Weather-ometer): | 10000 hours (no change) |

(Basis of Design: LATICRETE LATASIL™)

PART 3 – EXECUTION

3.1. SUBSTRATE EXAMINATION

NOTES TO SPECIFIER:

- The project design should include the intended use and necessary allowances for the expected live load, concentrated load, impact load, and dead load including the weight of the finish and installation materials.
 - In addition to deflection considerations, above-ground installations are inherently more susceptible to vibration. Consult grout, mortar, and membrane manufacturer to determine appropriate installation materials for above-ground installations. A crack isolation and higher quality setting materials can increase the performance capabilities of above-ground applications. However, the upgraded materials cannot mitigate structural deficiencies including substrates not meeting code requirements and/or over loading and other abuse of the installation in excess of design parameters.
 - Should the architect/designer require a more stringent finish tolerance (e.g. 1/8" in 10' [3mm in 3m]), the subsurface specification must reflect that tolerance, or the tile specification must include a specific and separate requirement to bring the subsurface tolerance into compliance with the desired tolerance.
 - Wall flashings and weeps for exterior adhered veneers are to be designed by the Project Architect / Engineer
- A. Verify that surfaces to be covered with ceramic tile, mosaic, masonry veneer, trim unit, and waterproofing are:
- Sound, rigid and conform to good design/engineering practices;
 - Systems, including the framing system and panels, over which ceramic tile will be installed shall be in conformance with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes.
 - Clean and free of dust, dirt, oil, grease, sealers, curing compounds, laitance, efflorescence, form oil, loose plaster, paint, and scale;
 - For thin-bed Ceramic tile installations when a cementitious bonding material will be used, including medium bed mortar: maximum allowable variation in the tile substrate – for tiles with edges shorter than 15" (375mm), maximum allowable variation is 1/4" in 10' (6mm in 3m) from the required plane, with no more than 1/16" variation in 12" (1.5mm variation in 300mm) when measured from the high points in the surface. For tiles with at least one edge 15" (375mm) in length, maximum allowable variation is 1/8" in 10' (3mm in 3m) from the required plane, with no more than 1/16" variation in 24" (1.5mm variation in 600mm) when measured from the high points in the surface. For modular substrate units, such as exterior glue plywood panels or adjacent concrete masonry units, adjacent edges cannot exceed 1/32" (0.8mm) difference in height. For thick bed (mortar bed) ceramic tile and stone installations, maximum allowable variation in the installation substrate to be (1/4" in 10' (6mm in 3m).
 - Not leveled with gypsum or asphalt based compounds
- B. Concrete surfaces shall be:
- Cured a minimum of 28 days at 70°F (21°C), including an initial seven (7) day period of wet curing;
NOTE TO SPECIFIER: LATICRETE® MVIS™ Hi-Bond Veneer Mortar does not require a minimum cure time for concrete substrates or mortar beds;
 - Wood float finished, or better, if the installation is to be done by the thin bed method;
- C. Advise General Contractor and Architect of any surface or substrate conditions requiring correction before tile work commences. **Beginning of work constitutes acceptance of substrate or surface conditions.**

3.2. SURFACE PREPARATION – EXTERIOR ADHERED VENEERS – FRAMED CONSTRUCTS

NOTE TO SPECIFIER: Select one of the following options based on project design intent



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2015 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.

- A. SHEATHING (e.g. EXTERIOR OSB , EXTERIOR GRADE PLYWOOD, & OTHER EXTERIOR RATED SHEATHING) OVER FRAMING
- All designs, specifications and construction practices shall be in accordance with industry standards. Refer to latest editions of:
American Iron and Steel Institute (AISI) “**Specification for the Design of Cold-Formed Steel Structural Members**” [www.steel.org];
Canadian Sheet Steel Building Institute (CSSBI) “**Lightweight Steel Framing Binder {Publication 52M}**” [www.cssbi.ca];
Steel Stud Manufacturers Association (SSMA) “**Product Technical Information**” and “**ICBO Evaluation Service, Inc. Report ER-4943P**” [www.ssma.com];
Metal Lath/Steel Framing Association “**Steel Framing Systems Manual.**”
 - Prior to commencing work, installer must submit to Architect/Structural Engineer for approval, shop drawings showing wall/façade construction and attachment details. All attachments must be designed to prevent transfer of building or structural movement to the wall/façade.
 - Construct all framing with galvanized or other rust resistant steel studs and channels; minimum requirements:
Stud Gauge: 16 gauge (1.5mm);
Stud Steel: conforming to ASTM A570 with a minimum yield point of 50 ksi (345 MPa);
Stud Spacing: not to exceed 16” (400mm) on center;
Stud Width: 6” (150mm);
Horizontal Bridging: Not to exceed 4’ (1.2m) on center; 16 gauge CR channel typical ***or as specified by structural engineer.***
 - Studs shall be seated squarely in the channel tracks with the stud web and flange abutting the track web, plumbed or aligned, and securely attached to the flanges or web of both the upper and lower tracks as specified. Similarly connect horizontal bridging/purlins and anti-racking diagonal bracing ***as determined by structural engineer.*** Finished frame and components must be properly aligned, square and true.
 - Provide adequate support of framing elements during erection to prevent racking, twisting or bowing. Lay out the exterior rated sheathing installation so all board edges are supported by metal framing (studs vertically and purlins horizontally). Cut/fit the exterior rated sheathing and add additional framing elements as required to support board edges. Stagger boards in courses to prevent continuous vertical joints and allow 1/8-3/16” (3-5mm) between sheets.
 - Fasten the exterior rated sheathing with 7/8” (22mm) minimum length, non-rusting, self-imbedding screws for metal studs (BUILDEX® Catalog item 10-24 17/16 Wafer T3Z or equivalent). Fasten the boards every 6” (150mm) at the edges and every 8” (200mm) in the field. Stagger placement of screws at seams. Place screws no less than 3/8” (9mm), and no more than 1” (25mm), from board edges.
 - Follow board manufacturer’s installation instructions.
 - Compliance with design criteria and state and local building codes must approved and certified by a qualified structural engineer. Use more stringent design criteria when necessary to comply with state and local building code stiffness requirements for thin veneers.
- B. CEMENTITIOUS BACKER UNIT (CBU) OVER STEEL FRAMING
- All designs, specifications and construction practices shall be in accordance with industry standards. Refer to latest editions of:
American Iron and Steel Institute (AISI) “**Specification for the Design of Cold-Formed Steel Structural Members**” [www.steel.org];
Canadian Sheet Steel Building Institute (CSSBI) “**Lightweight Steel Framing Binder {Publication 52M}**” [www.cssbi.ca];
Steel Stud Manufacturers Association (SSMA) “**Product Technical Information**” and “**ICBO Evaluation Service, Inc. Report ER-4943P**” [www.ssma.com];
Metal Lath/Steel Framing Association “**Steel Framing Systems Manual.**”
 - Prior to commencing work, installer must submit to Architect/Structural Engineer for approval, shop drawings showing wall/façade construction and attachment details. All attachments must be designed to prevent transfer of building or structural movement to the wall/façade.
 - Construct all framing with galvanized or other rust resistant steel studs and channels; minimum requirements:
Stud Gauge: 16 gauge (1.5mm);
Stud Steel: conforming to ASTM A570 – latest edition with a minimum yield point of 50 ksi;
Stud Spacing: not to exceed 16” (400mm) on center;
Stud Width: 6” (150mm);
Horizontal Bridging: Not to exceed 4’ (1.2m) on center; 16 gauge CR channel typical ***or as specified by structural engineer.***



4. Studs shall be seated squarely in the channel tracks with the stud web and flange abutting the track web, plumbed or aligned, and securely attached to the flanges or web of both the upper and lower tracks as specified. Similarly connect horizontal bridging/purlins and anti-racking diagonal bracing **as determined by structural engineer**. Finished frame and components must be properly aligned, square and true.
5. Provide adequate support of framing elements during erection to prevent racking, twisting or bowing. Lay out the CBU installation so all board edges are supported by metal framing (studs vertically and purlins horizontally). Cut/fit CBU and add additional framing elements as required to support board edges. Stagger boards in courses to prevent continuous vertical joints and allow 1/8"-3/16" (3-5mm) between sheets.
6. Fasten the CBU with 7/8" (22mm) minimum length, non-rusting, self-embedding screws for metal studs (BUILDEX® Catalog item 10-24 17/16 Wafer T3Z or equivalent). Fasten the boards every 6" (150mm) at the edges and every 8" (200mm) in the field. Stagger placement of screws at seams. Place screws no less than 3/8" (9mm), and no more than 1" (25mm), from board edges.
7. Tape all the board joints with the alkali resistant 2" (50mm) wide reinforcing mesh provided by the CBU manufacturer imbedded in the same mortar used to install the ceramic tile, mosaic, pavers, brick or stone.
8. Compliance with design criteria and state and local building codes must approved and certified by a qualified structural engineer. Use more stringent design criteria when necessary to comply with state and local building code stiffness requirements for thin veneers.

3.3 INSTALLATION ACCESSORIES – EXTERIOR ADHERED VENEERS

- A. Weather Resistant Barrier (WRB) or equivalent - 2 layers or as detailed and specified by project architect
1. Install as per WRB manufacturer's written installation instructions

B. **Air and Water Barrier (exterior adhered veneers):**

NOTE TO SPECIFIER: Adhesives, mortars and pointing mortars for thin brick, mosaics, pavers, masonry veneer, and stone are not replacements for waterproofing membranes or air and water barriers and will not prevent penetration by windblown rain and other moisture through façades/walls. Refer to the LATICRETE membrane product data sheet, and the physical test data contained therein, for information to be used by the Project Design Professional to determine suitability, placement, building code conformance and over-all construct appropriateness of a given installation assembly.

Install the vapor permeable air and water barrier in compliance with current revisions of manufacturer's written installation instructions. Review the installation and plan the application sequence. Pre-cut LATICRETE® Waterproofing/Anti-Fracture Fabric (if required), allowing 2" (50mm) for overlap at ends and sides to fit the areas as required. Roll up the pieces for easy handling and placement. Shake or stir LATICRETE MVIS™ Air & Water Barrier before using.

Pre-Treat Cracks and Joints - Install sheathing panels and treat joints in accord with the respective sheathing panel manufacturer's installation instructions, including installation of board joint treatment. Pack any gaps around pipes, lights or other penetrations with LATAPOXY® Waterproof Flashing Mortar and allow to harden. Treat substrate joints and seams up to 1/8" (3 mm) by applying a liberal coat[^] of LATICRETE MVIS Air & Water Barrier approximately 8" (200 mm) wide over seam using a paint roller (heavy napped), brush or trowel. While LATICRETE MVIS Air & Water Barrier is still wet embed 6" (150 mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric pressing the fabric in firmly so that the LATICRETE MVIS Air & Water Barrier liquid bleeds through the fabric, then immediately apply another liberal coat[^] of LATICRETE MVIS Air & Water Barrier liquid over the fabric using a paint roller, brush or trowel. For substrate joints and seams greater than 1/8" (3 mm); fill seams to a smooth finish with a LATICRETE Polymer Fortified Veneer Mortar. Allow mortar to set 24 hours, then treat seams by applying a liberal coat[^] of LATICRETE MVIS Air & Water Barrier approximately 8" (200 mm) wide over seam. While LATICRETE Air & Water Barrier is still wet embed 6" (150mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric pressing the fabric in firmly so that the LATICRETE MVIS Air & Water Barrier liquid bleeds through the fabric, then immediately apply another liberal coat[^] of LATICRETE MVIS Air & Water Barrier liquid over the fabric. LATICRETE MVIS Air & Water Barrier will dry to a uniform olive green color when it's dry to touch.

Pre-Treat Coves and Floor/Wall Intersections - Fill all substrate coves and floor/wall transitions to a smooth finish and changes in plane using a LATICRETE latex-fortified thin-set. Alternatively, a liberal coat^{*} of LATICRETE MVIS Air & Water Barrier applied with a paint brush or trowel may be used to fill in cove joints and floor/wall transitions <1/8" (3mm) in width. Apply a liberal coat^{*} of LATICRETE MVIS Air & Water Barrier



approximately 8" (200mm) wide over substrate cracks, cold joints, and control joints using a paint brush or heavy napped paint roller.

Movement Joint Loop (Slip Joint) Treatment - Apply a liberal coat[^] of LATICRETE MVIS Air & Water Barrier, approximately 8" (200 mm) wide over the areas. Then immediately embed and loop the 6" (152 mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric into the substrate movement joint and allow to bleed through. Then top coat with a second liberal coat of LATICRETE MVIS Air & Water Barrier liquid fully encapsulating the LATICRETE Waterproofing/Anti-Fracture Fabric. Repeat process to ensure that all movement joints receive two (2) layers of LATICRETE Waterproofing/Anti-Fracture Fabric.

Main Application - Allow any pre-treated areas to dry to the touch. Apply a liberal coat[^] of LATICRETE MVIS Air & Water Barrier using a paint roller (heavy napped) or paint brush over substrate including pre-treated areas and allow to dry to the touch approximately 1–2 hours at 70°F (21°C) and 50% RH. Apply a second liberal coat[^] of LATICRETE MVIS Air & Water Barrier over the first coat of LATICRETE MVIS Air & Water Barrier. Let topcoat dry to the touch, approximately 1–2 hours at 70°F (21°C) and 50% RH. When last coat has dried to the touch, inspect final surface for pinholes, voids, thin spots or other defects and re-apply as necessary. LATICRETE MVIS Air & Water Barrier will dry to a uniform olive green color when it's dry to touch. Use additional LATICRETE MVIS Air & Water Barrier to seal pinholes, voids, thin spots or other defects and re-apply as necessary. Bring main application of LATICRETE MVIS Air and Water Barrier up to all penetrations through the membrane.

NOTE: Proper integration involves transitioning between different materials. LATAPOXY Waterproof Flashing Mortar may be required between some connections, protrusions, details, joints and transitions. Where transitioning between different materials terminate the LATICRETE MVIS Air & Water Barrier at the edge of the transition, allow main application to dry, then apply LATAPOXY Waterproof Flashing Mortar with a trowel overlapping both sides of the transition by at least 2" to 4" [50mm to 100mm] (see Illustration 1,2,4 & 7).

*** Dry coat thickness is 20 – 30 mil (0.02 - 0.03" or 0.5 - 0.8mm); consumption per coat is approximately 0.01 gal/ft² (approx. 0.4 L/m²); coverage is approximately 100 ft² /gal (approx. 2.5 m²/L). LATICRETE® Waterproofing/Anti-Fracture Fabric can be used to pre-treat cracks, joints, curves, corners, drains, and penetrations with LATICRETE MVIS™ Air & Water Barrier.**

Spray Application of LATICRETE MVIS Air & Water Barrier - Follow all installation and surface preparation requirements outlined in this document and TDS 410M "Spraying LATICRETE MVIS Air & Water Barrier". The sprayer being used for the application of LATICRETE MVIS Air & Water Barrier should be capable of producing a maximum of 3300 psi (22.8 MPa) with a flow rate of 0.95 to 1.6 GPM (3.6 to 6.0 LPM) using a 0.521 or a 0.631 reversible tip. Keep the unit filled with LATICRETE MVIS Air & Water Barrier to ensure continuous application of liquid. The hose length should not exceed 100' (30 m) in length and 3/8" (10 mm) in diameter.

Apply a continuous LATICRETE MVIS Air & Water Barrier film with an overlapping spray[^]. The wet film has a sage green appearance and dries to a darker olive green color. When the first coat has dried to a uniform olive green color, approximately 45 to 90 minutes at 70°F (21°C), visually inspect the coating for any voids or pinholes. Fill any defects with additional material and apply the second coat[^] at right angles to the first. The wet film thickness should be checked periodically using a wet film gauge.

Check application thickness with a wet film gauge periodically as the LATICRETE MVIS Air & Water Barrier is being applied to ensure that the appropriate thickness and coverage is achieved. Bounce back and overspray will consume more product. To achieve the required film thickness, the coating must be free from pinholes and air bubbles. Bring main application of LATICRETE® Air and Water Barrier up to all penetrations through the membrane. Do not back roll the spray applied coating. Allow the LATICRETE MVIS Air & Water Barrier to cure in accord with the instructions in this document and TDS 410M prior to the installation of finish materials. It is important to note that areas not scheduled to receive the LATICRETE MVIS Air & Water Barrier should be taped off and protected from any potential overspray.

Protection - Provide protection for newly installed membrane, even if covered with a thin-bed stone, masonry veneer, or thin brick installation against exposure to rain or other water for a minimum of 2 hours at 70°F (21°C) and 50% RH. For temperatures between 45°F and 69°F (7°C to 21°C) allow a minimum 24 hour cure period.



Use the following LATICRETE System Materials:
LATICRETE MVIS™ Air & Water Barrier

References:

LATICRETE Detail Drawings: [LATICRETE MVIS 103](#), [LATICRETE MVIS E101](#), [LATICRETE MVIS E102](#),
[LATICRETE MVIS E103](#), [LATICRETE MVIS E104](#)
LATICRETE Data Sheets: [661.0](#), [661.5](#)
LATICRETE MSDS: [Air & Water Barrier](#), [Fabric](#)
LATICRETE Technical Data Sheets: [177](#), [217](#), [410M](#)

4. INSTALLATION - EXTERIOR ADHERED VEENERS**NOTES TO SPECIFIER:**

1. Exterior adhered veneer installation techniques can be performed in several ways depending upon the finish type. Specifier to select one of the following installation methods (3.4 A, B, C, D, or E), based on finish type(s) project specific requirements.
 2. The optimum conditions for installation of direct adhered cladding are temperatures between 60° and 80°F (16° and 27°C), with 50% relative humidity and minimal wind. However, these conditions are atypical, so provisions must be made for variations in climatic conditions.
 3. Protection and corrective action primarily requires temporary enclosures or tarpaulins prior to, during, and immediately after installation to shield from rain. If prolonged exposure occurs, surfaces that appear dry may be saturated internally and require testing to determine suitability of certain overlay substrates, membranes or adhesives. Protection applies to the substrate, the installation of adhesives and joint grouts, post-installation (rain and temperature protection) until suitable cure, and also the storage and handling of the cladding material. For every 18°F (10°C) above 70°F (21°C) cementitious and epoxy materials cure twice as fast. For every 18°F (10°C) below 70°F (21°C) cementitious and epoxy materials take twice as long to cure.
 4. Tent / shade and heat areas that will be subjected to the elements and /or freezing temperatures during installation and cure periods.
 5. In addition to installing waterproofing membrane where required, provide proper architectural detailing (water-stops, flashings, weeps, etc.) to conduct water to the building exterior, especially at critical areas such as window heads/sills, penetrations and parapet walls
 6. Consult LATICRETE [TDS 176M](#) "Hot Weather Veneer Installations", available at www.laticrete.com, for more information.
 7. Consult LATICRETE [TDS 175M](#) "Cold Weather Veneer Installation", available at www.laticrete.com, for more information.
- A. **Pre-float Method (exterior adhered veneers):** Over clean, dimensionally stable and sound concrete and masonry substrates, apply latex-Portland cement thick-bed mortar as scratch/leveling coat in compliance with current revision of Masonry Veneer Manufacturer's Association (MVMA) "[Installation Guide for Adhered Concrete Masonry Veneer](#)" and/or veneer manufacturer's specific written installation instructions. Float surface of scratch/leveling coat plumb, true and allow mortar to set until firm. For installation of thin brick, masonry veneer, and stone, follow appropriate "[Exterior Adhered Veneers Method](#)" for "[Stacked Veneer](#)" or "[Pointed / Grouted](#)" veneer installations.

Use the following LATICRETE® System Materials:
LATICRETE MVIS™ Premium Mortar Bed

References:

LATICRETE Data Sheets: [263.0](#)
LATICRETE MSDS: [Premium Mortar Bed](#)
GREENGUARD Certificates: [Premium Mortar Bed](#)
LATICRETE Technical Data Sheets: [105](#), [114](#), [122](#), [204](#)

- B. **Lath & Plaster Method (exterior adhered veneers):** Install cleavage membrane/water resistive barrier complying with current revision of ASTM D226 (No. 15 Type 1), 2 separate layers of cleavage membrane/water resistive barrier complying with ICC-ES AC38 or a combination of both using corrosion resistant fasteners complying with ASTM C1063 Sec. 7.10.2. Install metal lath complying with the local building code requirements and/or 2.5 lb. (1.1 kg) or 3.4 lb. (1.5 kg) diamond mesh lath (ASTMC847-10, ASTMC1780). Apply latex-Portland cement mortar as scratch/leveling coat over wire lath, concrete or masonry in compliance with current revision of Masonry Veneer Manufacturer's Association (MVMA) "[Installation Guide for Adhered Concrete Masonry Veneer](#)" and/or veneer manufacturer's specific written installation



instructions and/or ASTM C1780 Standard Practice for Installation Methods for Adhered Manufactured Stone Masonry Veneer. Float surface of scratch/leveling coat plumb, true and allow mortar to set until firm. For installation of thin brick, masonry veneer, or stone, follow the appropriate “**Exterior Adhered Veneers**” installation method for “**Stacked Veneer**” or “**Pointed / Grouted**” veneer installations.

Use the following LATICRETE System Materials:
LATICRETE MVIS™ Premium Mortar Bed

References:

LATICRETE Data Sheets: [263.0](#)LATICRETE MSDS: [Premium Mortar Bed](#)GREENGUARD Certificates: [Premium Mortar Bed](#)LATICRETE Technical Data Sheets: [105](#), [114](#), [122](#), [204](#)**C. Exterior Adhered Veneers (Tile Council of North America / Marble Institute of America Methodology):**

Install latex Portland cement mortar in compliance with current revisions of ANSI A108.02 (3.11), A108.1B and ANSI A108.5. Use the appropriate trowel notch size to ensure proper bedding of the tile, brick or stone selected. Work the latex Portland cement mortar into good contact with the substrate and comb with notched side of trowel. Spread only as much latex Portland cement mortar as can be covered while the mortar surface is still wet and tacky. When installing large format (>8" x 8"/200mm x 200mm) tile/stone, rib/button/lug back tiles, pavers or sheet mounted ceramics/mosaics, spread latex Portland cement mortar onto the back of (i.e. 'back-butter') each piece/sheet in addition to trowelling latex Portland cement mortar over the substrate. Beat each piece/sheet into the latex Portland cement mortar with a beating block or rubber mallet to insure full bedding and flatness. Allow installation to set until firm. Clean excess latex Portland cement mortar from tile or stone face and joints between pieces.

Use the following LATICRETE System Materials:
LATICRETE® MVIS™ Hi-Bond Veneer Mortar

References:

LATICRETE Data Sheet: [246.0](#)LATICRETE MSDS: [Hi-Bond Veneer Mortar](#)GREENGUARD Certificate: [Hi-Bond Veneer Mortar](#)LATICRETE Technical Data Sheets: [105](#), [126](#), [195](#), [208](#)

- D. Exterior Adhered Veneers (Pointed/Grouted – Masonry Veneer Manufacturer’s Association Methodology):** Moisten the back of each veneer unit and the top of the scratch coat so the surfaces appear damp but are free of standing water. Install masonry veneer adhesive mortar in compliance with current revisions of Masonry Veneer Manufacturer’s Association (MVMA) “**Installation Guide for Adhered Concrete Masonry Veneer**” and/or veneer manufacturer’s specific written installation instructions. Use the appropriate installation tools to ensure proper bedding of veneer unit. Work the masonry veneer adhesive mortar into good contact with the back of the veneer unit making sure the entire unit is buttered to a nominal ½" (12mm) thickness. DO NOT COVER JUST THE PERIMETER! Buttered masonry veneer units should be firmly worked onto the scratch coat and slid slightly back and forth or with a slight rotating motion. Allow installation to set until firm. Clean excess latex Portland cement mortar from masonry veneer or stone face and joints between pieces. Installing masonry veneer from the top down will minimize cleanup requirements.

Use the following LATICRETE System Materials:
LATICRETE MVIS™ Hi-Bond Veneer Mortar

References:

LATICRETE Data Sheet: [246.0](#)LATICRETE MSDS: [Hi-Bond Veneer Mortar](#)GREENGUARD Certificate: [Hi-Bond Veneer Mortar](#)LATICRETE Technical Data Sheets: [105](#), [126](#), [195](#), [208](#)

- E. Exterior Adhered Veneers (Stacked Veneer - Masonry Veneer Manufacturer’s Association Methodology):** Moisten the back of each veneer unit and the top of the scratch coat so the surfaces appear damp but are free of standing water. Install masonry veneer adhesive mortar in compliance with current revisions of Masonry Veneer Manufacturer’s Association (MVMA) “**Installation Guide for Adhered**



Concrete Masonry Veneer” and/or veneer manufacturer’s specific written installation instructions. Use the appropriate installation tools to ensure proper bedding of veneer unit. Work the masonry veneer adhesive mortar into good contact with the back of the veneer unit making sure the entire unit is buttered to a nominal ½” (12mm) thickness. DO NOT COVER JUST THE PERIMETER! Buttered masonry veneer units should be firmly worked onto the scratch coat and slid slightly back and forth or with a slight rotating motion. Allow installation to set until firm. Clean excess latex Portland cement mortar from masonry veneer or stone face and joints between pieces. Tight fitted masonry veneer should be applied from the corners toward the middle of the wall, and from the bottom toward the top of the wall.

Use the following LATICRETE System Materials:

LATICRETE MVIS™ Hi-Bond Veneer Mortar

References:

LATICRETE Data Sheet: [246.0](#)

LATICRETE MSDS: [Hi-Bond Veneer Mortar](#)

GREENGUARD Certificate: [Hi-Bond Veneer Mortar](#)

LATICRETE Technical Data Sheets: [105](#), [126](#), [195](#), [208](#)

F. Grouting or Pointing (Exterior Adhered Veneers):

NOTE TO SPECIFIER: Specify grout / pointing mortar color for each type/color of thin brick, masonry veneer, and stone:

Pointing Mortar (for joints up to ½” (12mm): Allow thin brick, masonry, and stone installations 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. Surface temperature must be between 40-90° F (4-32°C). Use 2 quarts (1.9 L) of clean potable water for 25 lb. (11.4 kg) of LATICRETE® MVIS™ Premium Pointing Mortar. Place water in a clean mixing container and add mortar slowly. Mix with a slow speed mixer to a smooth stiff consistency. Allow mortar to slake for 5 minutes. Remix mortar. Pointing mortar/grout may be installed using a grout bag, filling the joints to the desired depth, ensuring the mortar is forced into all voids. The curing time will vary significantly with temperature and humidity. Once applied allow to firm to “thumbprint” hardness, trowel, rake and/or dry, soft bristled brush to the desired finish.

Use the following LATICRETE System Materials:

LATICRETE MVIS Premium Pointing Mortar

References:

LATICRETE Data Sheets: [274.0](#)

LATICRETE MSDS: [Premium Pointing Mortar](#)

GREENGUARD Certificate: [Premium Pointing Mortar](#)

LATICRETE Technical Data Sheets: [201](#), [400](#)

- G. Waterproofing / Flashing:** To be designed and detailed by project architect / engineer. The function of wall flashing, or through-wall flashing, is to divert moisture which may penetrate the exterior face of the facade, or divert moisture which may condense within the wall from water vapor migration to or from the interior spaces. Flashings are commonly used at changes in configuration of the facade, and between different components of the wall. Typical locations requiring flashing are at the intersection of roof and wall assemblies, under roof parapet and wall copings, over window and door openings, under window sills, at shelf or relieving angles, and at bases of hollow or cavity walls. Flashings must always turn up against the area or material which is being protected in order to prevent water penetration. Provision must be made to divert any trapped water back to the outside and away from the face of the building facade. This is commonly done by placing weep holes, tubes or absorbent wicks from 24 – 33 inches (600 – 840 millimeters) at the base of the flashing. Flashings must form a drip edge and extend a minimum of 3/8 inch (10 millimeters) beyond the face of the facade to prevent water from dripping down the face of the facade. Check local building code for proper design, placement and implementation of flashing and weep systems. Copings, which protect the top of a parapet wall from water penetration, must be flashed, at a minimum, at the joints between the coping material (metal, stone, ceramic tile, pre-cast concrete), but preferably continuous along and beneath the entire length of the coping. Flashings which cannot be adhered or imbedded in the wall construction are either attached to reglets, which are pre-fabricated and pre-cast into the wall assembly, or attached to the wall assembly with mechanical attachments and sealed with sealants. In selecting a flashing, it is very important to verify compatibility of metals used in the window frame and the flashing in order to avoid corrosion from galvanic reactions of dissimilar metals.



- H. **Weeps / Pressure Equalization Vents:** To be designed and detailed by project architect / engineer. Most building codes permit weeps no less than 3/16 inch (5 millimeters) in diameter and spaced no more than 33 inches (840 millimeters) on-center. Wick and tube weep spacing recommended at no more than 16 inches (400 millimeters) on-center. Install weeps and/or vent tubes through movement joints, conforming to the size, type and composition specified and as per weep/vent manufacturer's recommendations, on 2 foot (600 millimeters) centers minimum, and at all locations indicated in shop drawings, plans and details. Ensure that all weeps and/or equalization tubes are properly placed to reach the waterproofing membrane and/or cavity they are designed to drain/vent, and are clear of dirt, debris, sealant or other obstructions.
- I. **Vapor Barrier:** Install vapor barrier, conforming to the type and composition specified and as per vapor barrier manufacturer's recommendations, on the side of wall cavity insulation that will be "warm in winter." Complete vapor barrier within two (2) weeks after enclosure of the building. Placement, composition and detail to be provided by project design professional.
- J. **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 tile, brick, masonry veneer, or stone.
 2. Install expansion joints in tile, brick, masonry veneer, or stone work over construction/cold joints or control joints in substrates.
 3. Install expansion joints where tile, brick, masonry veneer, or stone abut restraining surfaces (such as perimeter walls, curbs, and columns), changes in plane and corners.
 4. Joint placement depends on application – Follow the Masonry Veneer Manufacturers Association's (MVMA) Installation Guide and Detailing Options for Compliance with ASTM C1780.
 5. Joint width: $\geq \frac{1}{8}$ " (3mm) and ≤ 1 " (25mm).
 6. Joint width: depth ~2:1 but joint depth must be $\geq \frac{1}{8}$ " (3mm) and $\leq \frac{1}{2}$ " (12mm).

Layout (field defined by joints): 1:1 length: width is optimum but must be $\leq 2:1$. 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 LATASIL™ 9118 Primer for underwater and permanent wet area applications, or for porous stone (e.g. limestone, sandstone etc...) installations. Install appropriate backing material (e.g. closed cell backer rod) based on expansion joint design and as specified in section 07 92 00. Apply masking tape to face of tile, brick or stone veneer. 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 non-glazed tile, brick, stone or other absorptive surfaces immediately.

Use the following LATICRETE System Materials:

LATICRETE LATASIL™
LATICRETE LATASIL 9118 Primer

References:

LATICRETE Detail Drawings: [WP300](#), [WP301](#), [WP302](#), [WP303](#), [EJ-01](#), [EJ-06](#), [EJ-08](#), [EJ-09](#), [EJ-10](#), [EJ-12](#), [EJ-13](#), [EJ-14](#)
(Sealant treatments only)
LATICRETE Data Sheets: [6200.1](#), [6526.1](#)
LATICRETE MSDS: [LATICRETE LATASIL](#), [Primer](#)
LATICRETE Technical Data Sheets: [211](#), [252](#)

- K. **Sealer (Exterior Adhered Veneers):**
NOTE TO SPECIFIER: Different finish types may require different sealers. Impervious ceramic, and porcelain tiles do not require sealing. However, some matte finish, and textured finish ceramic and porcelain tiles, may require a pre-grouting sealer, or grout release agent. For finishes other than natural stone, consult LATICRETE Technical Services at 888-786-6343 extension 2, or via email, at technicalservices@laticrete.com.

Read entire label before using. Use only as directed. Always test in a small inconspicuous area with a 24-hour cure time to determine ease of application and desired results. Allow new grout installations to cure for 72 hours prior to application. Make sure surface is clean and free of waxes and coatings. Sealer may be



applied to damp surfaces one hour after standing water has been removed. Surface temperature is to be between 50 degrees Fahrenheit and 80 degrees Fahrenheit (10 degrees Celsius and 26.7 degrees Celsius). Ensure that the area is well-ventilated during application and until the surface is dry. Keep children and pets out of the area until treated surface is dry.

1. Ensure cap is closed and sealed, and shake well before use.
2. Mask off surfaces not intended to be treated.
3. Liberally apply an even coat using a paint pad, paint brush, paint roller, or low-pressure solvent-resistant sprayer. Do not thin before using.
4. Allow sealer to penetrate the surface for 10–15 minutes; denser materials may require more time for the sealer to penetrate. During this time, distribute excess sealer over the entire area to ensure even penetration.
5. Thoroughly wipe down the entire surface with a clean, dry cloth to completely remove all excess sealer from the surface. **DO NOT ALLOW SEALER TO COMPLETELY DRY ON THE SURFACE.**
6. A second coat may be needed for porous, absorbent surfaces. If a second coat is required, it should be applied one hour after the initial application as directed in steps 2 through 5.
7. If sealer was not completely wiped off and a residue appears, wipe entire surface with a towel dampened with sealer. Use a white, nylon pad to loosen residue and follow with a clean, white absorbent towel to remove.
8. Keep newly sealed installations free from contamination for 6 hours at 70 degrees Fahrenheit / 21 degrees Celsius.
9. A full cure is achieved in 24 to 72 hours at 70 degrees Fahrenheit / 21 degrees Celsius. Use of the treated surface may resume in 6–8 hours. If use of the surface must resume sooner, cover the treated surface with red rosin paper to protect it until full cure has been achieved.
10. Rags and equipment that are wet with sealer may be flammable. Clean up promptly after work is completed. Clean equipment with mineral spirits and allow to dry in a well-ventilated area. Allow rags to dry in a well-ventilated area out of reach. When, dry, dispose of in accordance with local waste disposal regulations.

Recommended Surfaces: Brick; concrete / masonry; homogeneous granite; veined granite; unpolished, honed and textured limestone; quartzite, bluestone, sandstone, slate, and travertine

Storage and Handling Instructions: Avoid prolonged exposure to vapors. Use in a well-ventilated area. Do not ingest. Avoid contact with eyes and skin. **KEEP OUT OF THE REACH OF CHILDREN.** Do not freeze or store above 100 degrees Fahrenheit / 38 degrees Celsius. Do not mix with other chemicals. Do not release to natural waterways.

Use the following LATICRETE Systems Materials:

LATICRETE® STONETECH® Heavy Duty Exterior Sealer

References:

LATICRETE Data Sheets: Heavy Duty Exterior Sealer

LATICRETE MSDS: Heavy Duty Exterior Sealer

- L. **Adjusting:** Correction of defective work for a period of one (1) year following substantial completion, return to job and correct all defective work. Defective work includes, without limitation, tiles broken in normal abuse due to deficiencies in setting bed, loose tiles or grout, and all other defects which may develop as a result of poor workmanship.

3.5 CLEANING

Clean excess mortar/epoxy from veneer surfaces with water before they harden and as work progresses. Do not contaminate open grout/caulk joints while cleaning. Sponge and wash veneers 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 section 01 50 00.
- B. Due to the slow rate of portland cement hydration and strength development at low temperatures, protect installations exposed to these conditions from traffic for longer than normal periods. Protection applies to the substrate, the installation of adhesives and joint grouts, post-installation (rain and temperature protection) until suitable cure, and also the storage and handling of the cladding material. Extend period of protection of tile work at lower temperatures, below 60°F (15°C), and at high relative humidity (>70% R.H.)



due to retarded set times of mortar/adhesives. For every 18°F (10°C) below 70°F (21°C) installation materials take twice as long to cure. Large format tiles and stones also require longer curing periods in cooler temperature / high humidity environments.

- B. Keep finished work undisturbed until full cure. Suitable protection is to be included in the scope of work.
- C. Each component must reach a proper cure prior to installing the subsequent installation product.
- D. Tent / shade and heat areas that will be subjected to the elements, or freezing temperatures, during installation and cure periods.
- E. Protect newly installed exterior adhered veneer installations from direct exposure to rain for 7 days at 70 degrees Fahrenheit / 21 degrees Celsius. Protection and corrective action primarily requires temporary enclosures or tarpaulins prior to, during, and immediately after installation to shield from rain. If prolonged exposure occurs, surfaces that appear dry may be saturated internally and require testing to determine suitability of certain overlay substrates, membranes, and adhesives. Protection applies to the substrate, the installation of adhesives and joint grouts, post-installation (rain and temperature protection) until suitable cure, and also the storage and handling of the cladding material.
- F. 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.

END OF SECTION

©2015 LATICRETE International, Inc., all rights reserved

"As a professional courtesy, LATICRETE offers technical services free of charge. The user maintains all responsibility for verifying the applicability and suitability of the technical service or information provided."

The right to copy, distribute and utilize for commercial purposes is granted exclusively to architects, engineers, and specification writers. Execution Statements are subject to change without notice. For latest revision, check our website @ www.laticrete.com

R March 31, 2015

† United States Patent No.: 6,881,768 (and other Patents)

△ United States Invention Patent No.: 6,784,229 B2



LATICRETE Master Guide Specification:

LATICRETE® MVIS™

04 26 00-18
Adhered Masonry Veneer

All references are the intellectual property of their respective owners:

TCNA Handbook for Ceramic, Glass, and Stone Tile Installation (2014). Tile Council of North America, Inc. Anderson, SC, 2014.

American National Standard Specifications for Installation of Ceramic Tile. Tile Council of North America, Inc. Anderson, SC, 2013.

Annual Book of ASTM Standards. American Society for Testing and Materials. West Conshohocken, PA, 2001.

American National Standard Specifications for Ceramic Tile (ANSI A137.1). Tile Council of North America, Inc. Anderson, SC 2008.

American National Standard Specifications for Glass Tile (ANSI A137.2). Tile Council of North America, Inc. Anderson, SC, 2012.

ISO 13007 Ceramic Tiles – Grouts and Adhesives, International Organization for Standardization (ISO), Geneva, Switzerland, 2004.

Floor and Trench Drains - ASME A112.6.3. American Society of Mechanical Engineers. New York, NY, 2001 (R 2007).

International Building Code. International Code Council. Country Club Hills, IL, 2012.

International Residential Code for One- and Two-Family Dwellings. International Code Council. Country Club Hills, IL, 2012.

LEED Reference Guide for Green Building Design and Construction. U.S Green Building Council. Washington, D.C., 2009.

LEED Reference Guide for Green Building Design and Construction v4. U.S Green Building Council. Washington, D.C., 2013.

LEED Schools Reference Guide. U.S. Green Building Council. Washington D.C., 2007.

Lightweight Steel Framing Design Manual. Canadian Sheet Steel Building Institute. Cambridge, ON, Canada, 2006.

MVMA Installation Guide and Detailing Options for Compliance with ASTM C1780. 2014

North American Specification for the Design of Cold-Formed Steel Structural Members. American Iron and Steel Institute. Washington D.C., 2007.

ICBO ER-4943P Product Technical Information. Steel Stud Manufacturers Association. Chicago, IL, 2001.

Lightweight Steel Framing Systems Manual. Metal Lath/Steel Framing Association Division. Glen Ellyn, IL.



LATICRETE INTERNATIONAL, INC. ▪ 1 LATICRETE Park North ▪ Bethany, CT 06524-3423 USA
800.243.4788 ▪ support@laticrete.com ▪ www.laticrete.com

©2015 LATICRETE INTERNATIONAL, INC. All trademarks shown are the intellectual properties of their respective owners.