

PART 1 – GENERAL

1.01 SUMMARY

- A. Scope of work - Provide manufactured adhered veneer (units size thickness ranging from a minimum 1/4" [6mm] up to a maximum 2-5/8" [65mm] according to IBC – Chapter 14 Exterior Walls or applicable local building codes for thin adhered masonry veneer), veneer 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.

1.02 SECTION INCLUDES

- A. Natural Thin Stone veneer Units; Buechel Stone Corporation Units
- B. Installation Products; adhesives, mortars, grouts/pointing mortars and sealants
- C. Air and Water Barriers

NOTE TO SPECIFIER: Edit for applicable procedures & materials

1.03 PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

NOTE TO SPECIFIER: Edit for applicable products

1.04 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

NOTE TO SPECIFIER: Edit for applicable products

1.05 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. Adhesive products must meet or exceed the VOC limits of South Coast Air Quality Management District Rule #1168 and Bay Area Resources Board Reg. 8, Rule 51.

1.06 RELATED SECTIONS

- A. Section 04 01 20.91 Unit Masonry Restoration
- B. Section 03 03 00 Cast-in-Place Concrete
- C. Section 03 40 00 Precast Concrete
- D. Section 04 26 00 Adhered Masonry Veneer
- E. Section 03 03 05 Concrete Curing
- F. Section 03 04 10 Structural Pre-cast Concrete
- G. Section 04 02 00 Unit Masonry (CMU wall substrates)
- H. Section 04 03 00 Stone
- I. Section 07 01 10 Membrane Waterproofing
- J. Section 07 06 20 Sheet Metal flashing and Trim: Veneer Flashing
- K. Section 07 09 00 Joint Sealers: Perimeter sealing at Openings
- L. Section 07 09 20 Elastomeric Joint Sealants
- M. Section 09 28 13 Cementitious Backing Boards
- N. Section 09 28 16 Glass-Mat Faced Gypsum Backing Boards

NOTE TO SPECIFIER: Above are examples of typical broad scope and narrow scope sections related to adhered veneer installations. Edit for applicable related sections

1.07 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 adhered veneer work at time of bid is undetermined.



1.08 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 thin adhered Natural Thin Stone units by economy.

1.09 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) A118.1 - A118.12 American National Standard Specifications For The Installation Of Ceramic Tile
- C. ICC-ES AC212 - WATER-RESISTIVE COATINGS USED AS WATER-RESISTIVE BARRIERS OVER EXTERIOR SHEATHING
- D. American Plywood Association (APA) Y510T Plywood Design Specifications
- E. American Society For Testing And Materials (ASTM) C36 Standard Specification for Gypsum Wallboard
- F. American Society For Testing And Materials (ASTM) C482 Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement
- G. American Society For Testing And Materials (ASTM) C847 Standard Specification for Metal Lath
- H. American Society For Testing And Materials (ASTM) C920 Standard Specification for Elastomeric Joint Sealants
- I. 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
- J. American Society For Testing And Materials (ASTM) E96 Standard Test Methods for Water Vapor Transmission of Materials
- K. Canadian Sheet Steel Building Institute (CSSBI) Lightweight Steel Framing Binder {Publication 52M}
- L. Metal Lath/Steel Framing Association (ML/SFA) 540 Lightweight Steel Framing Systems Manual
- M. Steel Stud Manufacturers Association (SSMA) Product Technical Information and ICBO Evaluation Service, Inc. Report ER-4943P
- N. Terrazzo, Tile And Marble Association Of Canada (TTMAC) Specification Guide 09300 Tile Installation Manual
- O. Tile Council Of North America (TCNA) Handbook For Ceramic Tile Installation
- P. ACI 530/ASCE 5/TMS 402-[], Building Code Requirements for Masonry Structures.
- Q. ACI 530.1/ASCE 6/TMS 602-[], Specifications for Masonry Structures.
- R. ASTM C73-[]: Standard Specification for Calcium Silicate Face Brick.
- S. MVMA Installation Guide and Options for Compliance with ASTM C1780

NOTE TO SPECIFIER: edit for applicable reference standards

1.10 SYSTEM DESCRIPTION

- A. Thin Adhered Veneer installed over concrete masonry unit substrate with liquid air and water barrier, latex portland cement mortar and portland cement pointing mortar.
- B. Thin Adhered Veneer installed over steel framing, exterior rated sheathing, cement backer board, liquid air and water barrier , latex portland cement mortar and portland cement pointing mortar

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

1.11 SUBMITTALS

NOTE TO SPECIFIER: Edit for applicable requirements - The LATICRETE On-Line LEED Specification tool is available to calculate contributing points for projects at

http://www.laticrete.com/contractors/green_leed/leed_project_certification_assistant.aspx



- A. Submit profile drawings and manufacturers' product data under provisions of Section (01 33 00.) (01 34 00.)
- B. Submit three (3) samples of each type/style/finish/size/color of adhered masonry veneer and trim unit under provisions of Section (01 00 00) (01 33 00)
- C. Submit manufacturers' installation instructions under provisions of Section (01 33 00.) (01 34 00.)
- D. Submit proof of warranty.
- E. Submit sample of installation system demonstrating compatibility/functional relationships between air barriers, waterproofing membranes, adhesives, mortars pointing mortars and other components under provision of Section (01 33 00.) (01 34 00.).
- F. 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

- A. Adhered Masonry Veneer Manufacturer (single source responsibility): Company specializing in adhered masonry veneer, trim units with Five (5) years minimum experience. Obtain adhered masonry veneer 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 air barriers, waterproofing membranes, adhesives, mortars pointing mortars 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 positive laboratory testing to confirm applicability of air barrier, waterproofing membranes, adhesives, mortars pointing mortars, and other installation materials for specified job conditions.
- D. Installer qualifications: company specializing in installation of adhered masonry veneer and trim units 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 adhered masonry veneer and trim unit along with respective installation air barrier, waterproofing membranes, adhesives, mortars pointing mortars and other installation materials, under provisions of Section (01400) (01405).

1.14 PRE-INSTALLATION CONFERENCE

- A. 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, adhered masonry veneer subcontractor, adhered masonry veneer 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. Refer to Section (01 00 00) (01 60 00) (_____).
- B. Deliver natural thin stone masonry units in protective film. Prevent damage to units.
- C. Lift skids with proper and sufficiently long slings or forks with protection to prevent damage to units. Protect edges and corners.
- D. Store units in a manner designed to prevent damage and staining of units.
- E. Stack units on timbers or platforms at least 3 inches above grade.
- F. Place polyethylene or other plastic film between wood and other finished surfaces of units when stored for extended periods of time.
- G. Cover stored units with protective enclosure if exposed to weather.
- H. Do not use salt or calcium-chloride to remove ice from masonry surfaces.
- I. Store adhered masonry veneer and installation system materials in a dry location; handle in a manner to prevent chipping, breakage, and contamination.
- J. Protect latex additives, liquid air barriers, waterproofing membranes, epoxy adhesives and sealants from freezing or overheating in accordance with manufacturer's instructions; store at room temperature when possible.



- K. Store portland cement mortars and pointing mortars 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 adhered masonry veneer, trim, as well as adhesives, liquid air and water barrier ,mortars, pointing mortars and other installation materials, by venting temporary heaters to the exterior.
- C. Maintain ambient temperatures not less than 37°F (3°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.
 - 1. Protect work for extended period of time and from damage by other trades.
 - 2. Epoxy mortars and epoxy pointing mortars require surface temperatures between 60°F (16°C) and 90°F (32°C) at time of installation.
 - 3. Liquid air barrier and waterproofing Membranes require surface temperatures between 50°F (10°C) and 90°F (32°C). It is the General Contractor's responsibility to maintain temperature control.

1.17 SEQUENCING AND SCHEDULING

- A. Coordinate installation of adhered masonry veneer work with related work.
- B. Proceed with adhered masonry veneer 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

1.18 WARRANTY

NOTES FOR SPECIFIER: Choose appropriate warranty. 25 years for concrete and masonry construction, 15 year warranty for steel and wood construction.

- A. Thin Adhered Veneer installed over concrete masonry unit substrate:
 - 1. 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 25 years. The manufacturer of adhesives, liquid air and water barrier, mortars, pointing mortars and other installation materials shall provide a written twenty five (25) year warranty, which covers materials and labor - reference LATICRETE Warranty [Data Sheet 0250](#) for complete details and requirements.
- B. Thin Adhered Veneer installed over steel or wood framing
 - 1. 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 15 years. The manufacturer of adhesives, liquid air and water barrier, mortars, pointing mortars 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 EXTRA MATERIAL STOCK

- A. Extra stock is to be from same production run or batch as original adhered masonry veneer and installation materials.
- B. Upon completion of the work of this Section, deliver to the Owner 2% minimum additional adhered masonry veneer and trim shapes or a minimum of 2 additional pieces of each type, color, pattern and size used in the Work, as well as extra stock of adhesives, mortars, pointing mortars and other installation materials for the Owner's use in replacement and maintenance.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

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



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

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- A. Manufacturers of Natural Thin Stone units having Products considered acceptable for use:
 - 1. Buechel Stone Corporation [, as distributed by []].
 - 2. Substitution Procedures: refer to [Instructions to Bidders] [and] [Section [01 00 00] [01 25 00] []].
- B. Manufacturers of Adhered Masonry Veneer Installation Materials and Accessories having Products considered acceptable for use:
 - 1. Laticrete International [, as distributed by []].
 - 2. Substitution Procedures: refer to [Instructions to Bidders] [and] [Section [01 00 00] [01 25 00] []].

NOTE TO SPECIFIER: Provide list of acceptable adhered masonry veneer manufacturers. Consider including the name and telephone number of a local distributor to assist bidders with product sourcing.

2.02 ADHERED MASONRY VENEER MATERIALS

NOTE TO SPECIFIER: Refer to Buechel Stone Corporation for specific information pertaining to sizes, finishes, colors, etc. When different colors and/or textures are required, describe each instance separately with its own paragraph and designator, properly coordinated with the drawing notations.

A. Mosaic Line

- 1. Fond du Lac Webwall
 - a. Nominal size range:
 - 1) Length: [3 to 16 inches] [76 to 406 mm]
 - 2) Height: [3 to 16 inches] [76 to 406 mm]
 - 3) Width: [3/4 to 1 1/4 inches] [19 to 31 mm]
 - b. Color range: gray, light gray, buff, and white
 - c. Color consistency: inconsistent
 - d. Ends: irregular – free form stone
 - e. Properties for limestone complying with ASTM C568:
 - 1) Maximum absorption rate tested in accordance with ASTM C97: 3 percent.
 - 2) Minimum density tested in accordance with ASTM C97: 2,560 kg per cubic meter.
 - 3) Minimum compressive strength tested in accordance with ASTM C170: 55 Mpa.
 - 4) Minimum flexural strength tested in accordance with ASTM C 880: 8.27 Mpa.

2.3 Special Shapes

- B. Provide special shapes as indicated on the Drawings and as follows:
 - 1. [Arches]
 - 2. [Cornerstones]
 - 3. [Edgestones]
 - 4. [Headers]
 - 5. [Keystones]
 - 6. [Quoins]
 - 7. [Ledges]
 - 8. [Medallions]
 - 9. [Sills]
 - 10. [Other []]
- B. Material shall be furnished in sizes indicated plus or minus 1/2 inch.
- C. Color shall be:
 - 1. [Bluestone]
 - 2. [Caramel Frappuccino]
 - 3. [Chestnut]
 - 4. [Chilton]



5. [Desert]
6. [Fond du Lac]
7. [Frontier Gray]
8. [Indiana Buff]
9. [Mill Creek]
10. [Rustic Buff]
11. [Prairie Dust]
12. [Silverdale]
13. [Smoked Fog]
14. [Spiced Linen]
15. [St. Croix]
16. [St. Mary Cream]
17. [Texas Cream]
18. [Match the veneer stone]
19. [_____]

2.03 CEMENT BOARD

NOTE TO SPECIFIER: This article includes generic descriptions of cement board product. The names of the corresponding National Gypsum products follow in parenthesis. If this section is being edited to be generic, then these product names should be deleted).

NOTE TO SPECIFIER: If other manufacturers are being added to this section, then (1) add the proprietary product names of those manufacturers, or (2) if proprietary names are listed in the “Manufacturers” article above, then delete them from this article altogether.

- A. Backer Board: Cementitious, water durable, board; surfaced with fiberglass reinforcing mesh on front and back; long edges wrapped; and complying with ANSI A118.9 and ASTM C 1325 (PermaBase BRAND Cement Board).
 1. Thickness: ½ in., 5/8 in.
 2. Width: 2 ft. 8 in., 3 ft., or 4 ft.
 3. Length: 4 ft., 5 ft., 6 ft., or 8 ft.
 4. Edges: Tapered.
 5. Compressive Strength: Not less than 2250 lbs. per sq. in. when tested in accordance with ASTM D 2394.
 6. Water Absorption: Not greater than 8 percent when tested for 24 hours in accordance with ASTM C 473.
- B. Fasteners:
 1. Screws: Hi-Lo thread screws (No. 8) wafer head, corrosion-resistant, [1-1/4 in], [1-5/8], [2-1/4 in] in length , and complying with ASTM C 1002
 2. USE ABOVE FOR WOOD AND 22 GA. OR LIGHTER STEEL FRAMING. USE BELOW FOR 20 GA OR HEAVIER STEEL FRAMING.
 3. Screws: Drill point screws (No. 8) wafer head, corrosion-resistant [1-1/4 in], [1-5/8], [2-1/4 in] in length, and complying with ASTM C 1002.
- C. Joint Treatment:
 1. Tape: Alkali-resistant fiberglass mesh tape intended for use with cement board.
- D. Bonding Materials:
 1. Mortar: Latex-portland cement mortar in accordance with ANSI A118.4.

2.04 ADHERED MASONRY VENEER INSTALLATION MATERIALS AND ACCESSORIES

NOTE TO SPECIFIER: 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,



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placement, building code conformance and over-all construct appropriateness of a given installation assembly.

- A. Air and Water Barrier Membrane: [LATICRETE® Air & Water Barrier](#) ** to be thin, cold applied, single component liquid and load bearing. Waterproofing Membrane to be non-toxic, non-flammable, and non-hazardous during storage, mixing, application and when cured:
 1. Air Barrier Test (AC 212): Pass
 2. Air Permeance (ASTM E2178): Pass
 3. Elongation @ break (ASTM D751): 20-30%
 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/m³
- B. Epoxy Waterproofing Flashing Mortar: [LATAPOXY® Waterproof Flashing Mortar](#) to be 3 component epoxy, trowel applied specifically designed to be used under adhered masonry veneer:
 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
- C. Cementitious backer board units: size, thickness and installation as specified by cement backer board manufacturer, complying with ANSI A118.9. **SPECIFIER Design Option**
- D. Latex-Portland Cement Mortar for leveling beds and scratch/plaster coats: [LATICRETE MVIS Premium Mortar](#) Bed to meet the following physical requirements:
 1. Compressive Strength (ANSI A118.4 Modified): >4000 psi (27.6 MPa)
 2. Water Absorption (ANSI A118.6): ≤ 5%
 3. Service Rating (TCA/ASTM C627): Extra Heavy
 4. Smoke & Flame Contribution (ASTM E84 Modified): 0
 5. Total VOC Content: < 0.05 mg/m³
- E. Latex Portland Cement Mortar: [MVIS Hi Bond Veneer Mortar](#) ** to be weather, frost, shock resistant, non-flammable and meet the following physical requirements:
 1. Compressive strength (ANSI A118.4): >2500 psi (17.2 MPa)
 2. Bond strength (ANSI A118.4): >450 psi (3.1 MPa)
 3. Smoke & Flame Contribution (ASTM E84 Modified): 0
 4. Total VOC Content: < 0.05 mg/m³
- F. Latex Portland Cement Pointing Mortar / Grout: [MVIS Pointing Mortar](#) ** to be weather, frost and shock resistant, as well as meet the following physical requirements:
 1. Compressive Strength (ASTM C91) 3500 psi (24.1 MPa)
 2. Smoke & Flame Contribution (ASTM E84 Modified): 0
 3. Total VOC Content: < 0.00 mg/m³
- G. Expansion and Control Joint Sealant: [MVIS Silicone 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)



- H. Spot Bonding Epoxy Adhesive: [LATAPOXY 310 Stone Adhesive](#) (Standard or Rapid Grade) for installing adhered masonry veneer, brick and stone over vertical and overhead surfaces shall be high strength, high temperature resistant, non-sag and shall meet the following physical requirements:
- | | |
|------------------------------------------------|----------------------|
| 1. Thermal Shock Resistance (ANSI A118.3): | >1000 psi (6.9 MPa) |
| 2. Water Absorption (ANSI A118.3): | 0.1 % |
| 3. Compressive Strength (ANSI A118.3): | >8300 psi (57.2 MPa) |
| 4. Shear Bond Strength (ANSI A118.3 Modified): | >730 psi (5 MPa) |
- I. Weep System: Weep System by Buechel Stone Corporation (if needed):
1. Collection and drainage membrane: Corrugated plastic sheet with permeable fabric facing to be placed vertically and continuously behind stone veneer on structural back-up wall; [EMC-3639] [EMC-3639XL] by Buechel Stone Corporation.
 2. Weeps: Cellular plastic material placed at base of stone veneer wall to receive water from collection and drainage membrane and convey it horizontally to weep strips spaced at [16 inches] [406mm] [_____] and penetrating through base mortar bed. [SCW-3639] [WOW-3639] by Buechel Stone Corporation.
 3. Material properties:
 - a. Water vapor transmission tested in accordance with ASTM E96: 13.8 grains per hour per square foot.
 - b. Permeability tested in accordance with ASTM E96: 3.7 perm-inches.
 - c. Compressive strength tested in accordance with ASTM D1621: 30 PSI at 10 percent strain.
 - d. Flexural breaking load tested in accordance with ASTM D4632: 136 Pounds minimum.
 - e. Puncture resistance tested in accordance with ASTM D4833: 48.7 pounds

NOTE TO SPECIFIER: [Edit applicable adhered masonry veneer installation accessories.](#)

** GREENGUARD Indoor Air Quality Certified® Product

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Verify site conditions are ready to receive work
- B. Inspect materials for fit and finish prior to installation. Do not set unacceptable units.
- C. Beginning of installation means acceptance of existing conditions.

3.02 CUTTING MASONRY UNITS

- A. Cut masonry units with wet-saw.
- B. Pre-soak units using clean water prior to cutting.
- C. Clean cut units using a stiff fiber brush and clean water. Allow units to surface dry prior to placement.
- D. Finish cut edges to match face when exposed in wall.

3.03 COURSING

- A. Place masonry to lines and levels indicated.
- B. Maintain masonry courses to uniform width. Make vertical and horizontal joints equal and of uniform thickness.
- C. Lay masonry units in [half-running][third-running][stack][_____] bond.
- D. Course one masonry unit and one mortar joint to equal [4][8][12] inches. [OR] Maintain mortar joint thickness of 3/8 inch.
- E. Tool joints when thumbprint hard, to a [concave][raked][flush][beveled][_____] finish.

3.04 FIELD QUALITY CONTROL

- A. Perform inspection and testing as specified in Section [01 00 00] [01 40 00] [_____].



- B. [Architect][Engineer] Inspection: [Architect][Engineer] will inspect installed masonry and reject masonry that is chipped, cracked, or blemished (streaked, stained or otherwise damaged), as described below.
 - 1. Masonry will be inspected to be free of cracks or other blemishes on the finished face or front edges of the masonry units exceeding 3/8 inch or that can be seen from a distance of 10 feet.
 - 2. Units shall exhibit a texture approximately equal to the approved sample when viewed under diffused daylight illumination at a 20 foot distance.
 - 3. Minor chipping resulting from shipment and delivery shall not be grounds for rejection. Minor chips shall not be obvious under diffused daylight illumination from a 20 foot distance.
 - 4. Efflorescence will not be cause for rejection.
- C. Make Good rejected masonry as directed by [Architect][Engineer].

3.05 ADJUSTING AND CLEANING

- A. Repair chips on smooth finished units with patch kits furnished by manufacturer.

NOTE TO SPECIFIER: Select one of the following Paragraphs. Edit as recommended by Natural Thin Stone Veneer unit manufacturer's recommendations.

- B. Clean masonry units as specified in Section [04 05 00] [_____].

[OR]

- C. Clean [a 100 square foot area of wall designated by [Architect][Engineer]] [one-half of mock-up panel] as directed below and leave for one week. If no harmful effects appear, all objectionable stains have been removed and after mortar has set and cured, clean masonry as follows:
 - 1. Protect windows, sills, doors, trim and other work from damage.
 - 2. Remove large particles with [stiff fiber brushes] [wood paddles] without damaging surface.
 - 3. Saturate masonry with clean water and flush off loose mortar and dirt.
 - 4. Dilute cleaning agent with clean water in controlled proportions.
 - 5. Apply solution to pre-soaked wall surface using [soft-bristled brush] [low pressure acid-resistant sprayer].
 - 6. Thoroughly rinse cleaning solution and residue from wall surface.
- D. Use alternative cleaning solutions and methods for difficult to clean masonry only after consultation with masonry unit manufacturer.

3.06 PROTECTION

- A. Protect units from damage resulting from subsequent construction operations.
- B. Use protection materials and methods which will not stain or damage units.
- C. Remove protection materials upon Substantial Completion, or when risk of damage is no longer present.

3.07 SUBSTRATE EXAMINATION

- A. Verify site conditions are ready to receive work.
- B. Inspect finish materials for fit and finish prior to installation. Do not set unacceptable units.
- C. Verify that surfaces to be covered with adhered masonry veneer, brick, stone, trim or waterproofing are:
Sound, rigid and conform to good design/engineering practices;
 - a. Systems, including the framing system (including lateral bracing, purlins, battens and other framing member stiffeners), flashings, water resistive barriers, air barriers, exterior rated sheathing panels, cement backer unit panels, wire lath over which adhered masonry veneer or stone 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.
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 while maintaining the maximum allowable deflection standard of L/600 under total anticipated load;
- b. Clean and free of dust, dirt, oil, grease, sealers, curing compounds, laitance, efflorescence, form oil, loose plaster, paint, and scale;
- c. Not leveled with gypsum or asphalt based compounds;
- d. Wood float finished, or better, if the installation is to be done by the medium bed method;
- D. Advise General Contractor and Architect of any surface or substrate conditions requiring correction before adhered masonry veneer work commences. ***Beginning of work constitutes acceptance of substrate or surface conditions.***

3.08 SURFACE PREPARATION

A. CONCRETE SUBSTRATES

(Insert any Special Means of Preparation in addition to the surface preparation requirements listed in § 3.1;...)

B. CEMENT BACKER UNIT SUBSTRATE

Install exterior rated cement backer units in accord with cement backer unit manufacturer's installation instructions and ANSI A118.11. All elements used in the assembly must be rated for exterior use. Installation of cement backer units and primary sheathing in accordance with design requirements.

C. CONCRETE MASONRY UNIT SUBSTRATE

D. (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.

3.09 INSTALLATION ACCESSORIES

NOTE TO SPECIFIER: 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. ***Air Barrier and Waterproofing: NOTE TO SPECIFIER: Adhesives/mastics, mortars and grouts/pointing mortars for adhered masonry veneers, brick and stone are not replacements for waterproofing membranes and will not prevent water penetration into occupied or storage spaces below.***
- B. Install the air and waterproofing membrane in compliance with current revisions of ANSI A108.1 (2.7 Waterproofing) and ANSI A108.13. 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 Air and Water Barrier before using.
- C. ***Pre-Treat Cracks and Joints*** - Fill all substrate cracks, cold joints and control joints to a smooth finish using a LATICRETE latex-fortified mortar. Alternatively, a liberal coat* of LATICRETE Air and Water Barrier applied with a paint brush or trowel may be used to fill in non-structural joints and cracks. Apply a liberal coat* of LATICRETE Air and Water Barrier approximately 8" (200mm) wide over substrate cracks, cold joints, and control joints using a paint brush or heavy napped paint roller.
- D. ***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 mortar. Alternatively, a liberal coat* of LATICRETE Air and 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 Air and Water Barrier approximately 8" (200mm) wide over substrate cracks, cold joints, and control joints using a paint brush or heavy napped paint roller.



- E. **Main Application** - Allow any pre-treated areas to dry to the touch. Apply a liberal coat* of LATICRETE Air and Water Barrier with a paint brush or heavy napped roller over substrate including pre-treated areas and allow to dry to the touch. Install another liberal coat* of LATICRETE Air and Water Barrier over the first coat. Let the top coat of LATICRETE Air and Water Barrier dry to the touch approximately 1 – 2 hours at 70°F (21°C) and 50% RH. When the top coat has dried to the touch inspect the surface for pinholes, voids, thin spots or other defects. LATICRETE Air and Water Barrier will dry to an olive green color when fully cured. Use additional LATICRETE Air and Water Barrier to seal any defects.
- F. **Treat Penetrations and Flashings** - Allow for a minimum 1/8" (3mm) space between drains, pipes, lights, or other penetrations and surrounding adhered masonry veneer. Flash LATAPOXY Waterproof Flashing Mortar onto and around penetration openings to create a waterproof seal. Bring LATAPOXY Waterproof Flashing Mortar up to the finish level of the adhered masonry veneer, thin brick or stone finish. When LATAPOXY Waterproof Flashing Mortar has dried to the touch and the finishes have been installed, seal the gap around the penetration with LATICRETE MVIS Silicone Sealant.
- G. **Movement Joints** - Apply a liberal coat* of LATICRETE Air and Water Barrier, approximately 8" (200mm) wide over the areas. Then embed and loop the 6" (150mm) wide LATICRETE Waterproofing/Anti-Fracture Fabric and allow the LATICRETE Air and Water Barrier liquid to bleed through. Immediately apply a second coat of LATICRETE Air and Water Barrier.
- H. 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 Air and Water Barrier.
- I. **Protection** - Provide protection for newly installed membrane, even if covered with a adhered masonry veneer 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:

- a. LATICRETE Air and Water Barrier

3.10 INSTALLATION – ADHERED MASONRY VENEER

- A. **General:** Install in accordance with current versions of American National Standards Institute, Inc. (ANSI) "A108 American National Standard Specifications for Installation of Ceramic Tile" and TCNA "Handbook for Ceramic Tile Installation." Cut and fit adhered masonry veneer neatly around corners, fittings, and obstructions. Perimeter pieces to be minimum half unit, 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. **Pre-float Method:** Over clean, dimensionally stable and sound concrete or masonry substrates, apply thick-bed mortar as scratch/leveling coat in compliance with current revision of A108.1A (1.0, 1.4 & 5.1). Float surface of scratch/leveling coat plumb, true and allow mortar to set until firm. For installation of adhered masonry veneer follow Direct Adhere Method (§ 3.4 D).

Use the following LATICRETE System Materials:

LATICRETE® MVIS Premium Mortar Bed

- C. **Lath & Plaster Method:** Install cleavage membrane / water resistive barrier complying with current revision of ANSI A108.02 (3.8 Membrane or cleavage membrane). Install metal lath complying with the current revision of ANSI A108.01 (3.3 Requirements for lathing and portland cement plastering), ANSI A108.02 (3.6 Metal lath) and A108.1A (1.0 – 1.2, 1.4, & 5.1). Apply latex-portland cement mortar as scratch/leveling coat over wire lath, concrete or masonry in compliance with current revision of ANSI A108.01 (3.3.5.1) and A108.1A (1.4). Float surface of scratch/leveling coat plumb, true and allow mortar to set until firm. For installation of adhered masonry veneer follow Direct Adhere Method (§ 3.4 D).

Use the following LATICRETE System Materials:

LATICRETE® MVIS Premium Mortar Bed

- D. **Direct Adhere Method to Install Masonry Veneer:** 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 adhered masonry veneer, selected so that 100% coverage of the back surface of the Thin Adhered Veneer is achieved. 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) units, spread latex portland cement mortar onto the back of (i.e. 'back-butter') each piece/unit in addition to troweling latex portland cement mortar over the substrate. Beat each piece/unit into the latex portland cement mortar with a beating block or rubber mallet to insure 100% full bedding and flatness. Allow installation to set until firm. Clean excess latex portland cement mortar from adhered masonry veneer face and joints between pieces.

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

- E. **Pointing/Grouting Joints (NOTE: Stacked Stone Installations to omit pointing of mortar joints)**
NOTE TO SPECIFIER: specify color for each type/color of adhered masonry veneer and trim unit:

Polymer Fortified Pointing Mortar - for joint widths $\geq 1/16"$ (1.5mm) and $\leq 1"$ (25mm)]; Allow Thin Adhered veneer to cure a minimum of 24 hours @ 70° F (21°C). Verify joints are free of dirt, debris, wedges or 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). Pour approximately 4 quarts (3.8 L) of clean, potable water into a clean mixing container. Add a 50 lb. (22.7 kg) bag of LATICRETE Pointing Mortar to the container while mixing. Mix by hand or with a slow speed mixer to a smooth, stiff consistency. Install latex fortified cement grout/pointing mortar in compliance with current revisions of ANSI A108.1A (7.0), ANSI A108.02 (4.5) and ANSI A108.10. Dampen dry surfaces with clean water.

Place LATICRETE MVIS Pointing Mortar into a high quality masonry mortar pointing bag. Carefully bag the pointing mortar into the joints. Once the mortar has become stiff in the joint, ("thumb-print dry") typically 15-20 minutes after pointing @ 70° F (21°C), using a striking or joint tool, strike the mortar joints to the desired finish/contour. Remove excess mortar using a masonry brush or sponge. Do not over wash the mortar joint.

Higher temperatures may require faster time to initial cleaning; wider joints or lower temperatures may require a longer time to initial cleaning. Allow joints to become firm. Inspect joint for pinholes/voids and repair them with freshly mixed grout/pointing mortar. 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 grout/pointing mortar less than 10 days old.

*Use the following LATICRETE System Materials:
LATICRETE® MVIS pointing Mortar*

- 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 adhered masonry veneer.
 2. Install expansion joints in adhered masonry veneer work over construction/cold joints or control joints in substrates.
 3. Install expansion joints where adhered masonry veneer abut restraining surfaces (such as perimeter walls, curbs, columns), changes in plane and corners.
 4. Joint width and spacing depends on application and should be determined by the project design team.
 5. Joint width: $\geq 1/8"$ (3mm) and $\leq 1"$ (25mm).
 6. Joint width: depth ~2:1 but joint depth must be $\geq 1/8"$ (3mm) and $\leq 1/2"$ (12mm).
 7. 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/pointing 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 § 07920. Apply masking tape to face of adhered masonry veneer, 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 adhered masonry veneer or other absorptive surfaces immediately.

Use the following LATICRETE System Materials:

LATICRETE® MVIS Silicone Sealant
LATICRETE Latasil 9118 Primer

- G. **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, adhered masonry veneer units stones broken in normal abuse due to deficiencies in setting bed, loose grout/pointing mortar, and all other defects which may develop as a result of poor workmanship.

3.11 CLEANING

Clean excess mortar/epoxy from veneer surfaces with water before they harden and as work progresses. Do not contaminate open mortar/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.

3.12 PROTECTION

- A. Protect finished installation under provisions of §01 05 00 and §01 05 35. Close areas to other trades and traffic until adhered masonry veneer being installed has set firmly. Extend period of protection of veneer 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. 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.

LATICRETE® MVIS™ Master Specification 04 26 00 Adhered Masonry Veneer
R October 15, 2015



All references are the intellectual property of their respective owners:

TCA Handbook for Ceramic Tile Installation. Tile Council of North America, Inc. Anderson, SC,.

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

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

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

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

LEED NC for New Construction Reference Guide v 2.2. U.S Green Building Council. Washington, D.C.,.

Lightweight Steel Framing Binder. Canadian Sheet Steel Building Institute. Cambridge, ON, Canada.

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

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

Steel Framing Systems Manual. Metal Lath Steel Framing Association. Chicago, IL.

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