

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE, AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01 25 13-PRODUCT SUBSTITUTION PROCEDURES, 01 33 00-SUBMITTAL PROCEDURES, 01 62 00-PRODUCT OPTIONS, 01 66 00-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00-CLEANING AND WASTE MANAGEMENT, 01 77 00-CLOSEOUT PROCEDURES, AND 01 78 00-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

GREY HIGHLIGHTED GREEN TEXT AND NOTES RELATE TO LEED® PROJECTS AND CAN BE DELETED IF THE PROJECT IS NOT INTENDED TO ATTAIN LEED® CERTIFICATION. CREDIT REFERENCES REFER TO LEED® FOR NEW CONSTRUCTION, V2.2.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____.

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES. WHEN DELETING A PARAGRAPH, BE CERTAIN THAT ALL SUBPARAGRAPHS ARE ALSO DELETED.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

SPECIFICATION BEGINS ON THE FOLLOWING PAGE.

SECTION 04 70 00

(MasterFormat, 1995 Edition, 04700)

ADHERED CONCRETE MASONRY VENEER

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Manufactured [stone veneer,] [brick veneer,] [stone trim,] related materials, **and sealer.**
- B. Related Sections:

INCLUDE ALL DIVISION 01 SECTIONS AND TITLES CONTAINING LEED® REQUIREMENTS.

- 1. 01 _____.
- 2. _____.
- 3. _____.
- 4. _____.

- C. Alternates:
 - 1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

- A. Abbreviations and Acronyms:
 - 1. ACI: American Concrete Institute.
 - 2. ASTM: American Society for Testing and Materials.
 - 3. LEED®: Leadership in Energy and Environmental Design.
 - 4. MVMA: Masonry Veneer Manufacturers Association.
 - 5. NCMA: National Concrete Masonry Association.
- B. Reference Standards:
 - 1. American Concrete Institute: Building Code Requirements for Masonry Structures.
 - 2. American Society for Testing and Materials:
 - a. [ASTM C 39](#): Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - b. [ASTM C 67](#): Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - c. [ASTM C 136](#): Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - d. [ASTM C 138](#): Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.
 - e. [ASTM C 140](#): Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 - f. [ASTM C 143](#): Standard Test Method for Slump of Hydraulic-Cement Concrete.
 - g. [ASTM C 172](#): Standard Practice for Sampling Freshly Mixed Concrete.
 - h. [ASTM C 173](#): Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.

- i. [ASTM C 192](#): Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
 - j. [ASTM C 270](#): Standard Specification for Mortar for Unit Masonry.
 - k. [ASTM C 482](#): Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
 - l. [ASTM C 567](#): Standard Test Method for Determining Density of Structural Lightweight Concrete.
 - m. [ASTM C 847](#): Standard Specification for Metal Lath.
 - n. [ASTM C 932](#): Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
 - o. [ASTM C 933](#): Standard Specification for Welded Wire Lath.
 - p. [ASTM C 1032](#): Standard Specification for Woven Wire Plaster Base.
 - q. [ASTM C 1059](#): Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.
 - r. [ASTM C 1064](#): Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
 - s. [ASTM D 226](#): Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - t. Uniform Building Code Standards:
 - u. UBC Standard No. 17-1, Kraft Waterproof Building Paper.
3. US Green Building Council: [LEED Green Building Rating System™](#).

1.03 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
 - 1. Product Data:
 - a. Manufactured masonry and application materials **including mortar color charts, weather resistant barrier, and sealer.**
 - b. **Minimum 2-1/2 by 3-1/2 inch photographic swatches of specified masonry style and color.**
 - 2. Samples: Panel containing full-size samples of specified manufactured masonry showing representative range of colors and textures.
 - 3. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of installer qualifications.
 - b. Certificates: Underwriters Laboratories Classification Listing.
 - c. Manufacturer’s Installation Instructions.

- 4. [LEED® Submittals](#):
 - a. [Credit MR 5.1, or 5.2, Regional Materials: Product data, indicating materials extraction sources and location of manufacture.](#)
 - b. [Credit MR 2.1 or 2.2, Construction Waste Management: Product data indicating that packaging materials are recyclable.](#)

- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:

1. Maintenance and Cleaning Instructions.
2. Special Warranties.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications:
 - a. Minimum five years experience in producing manufactured masonry.
 - b. Member of following trade organizations: ASTM, MVMA, NCMA.
 - c. Maintain documentable quality control program.
2. Installer Qualifications: Minimum three years documentable experience in installation of adhered concrete masonry veneer.

B. Certifications: Underwriters Laboratories Classification Listing.

C. Field Samples:

1. Prepare [4 by 4 foot] [__ by __ foot] sample at a location on the structure as selected by Architect. Use approved materials and colors. Include _____.
2. Obtain Architect's approval.
3. Approved sample may be incorporated into completed work.
4. Protect and retain sample as a basis for approval of completed manufactured stone work.

D. Pre-Installation Meeting:

1. Convene meeting at project site within one week of scheduled start of installation with representatives of the following in attendance: Owner, Architect, General Contractor, Sub-Contractor.
2. Review substrate conditions, requirements of related work, installation instructions, storage and handling procedures, and protection measures.
3. Keep minutes of meeting including responsibilities of various parties and deviations from specifications and installation instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01 66 00–Product Storage and Handling Requirements.

B. Follow manufacturer's instructions.

C. Packaging:

1. Package manufactured masonry in waterproof bulk pallets. **Waterproof wrapping and pallet material shall be recyclable.**
2. Include following information on pallets:
 - a. Style and color.
 - b. Warranty information.
 - c. Manufacturer's contact information.
3. Provide anti-scuffing inter-layer material between faces of masonry products.

D. Cure product minimum 3 days prior to shipment.

1.06 PROJECT/SITE CONDITIONS

- A. Environmental Requirements:
 1. If temperatures exceed 90 degrees F, comply with the hot weather construction requirements of local building codes, the recommendations of the manufacturer, and hot weather construction provisions of ACI 530.1/ASCE 6/TMS 602, Article 1.8D.
 2. Applications shall be protected in temperatures below 40 degrees F. If temperatures are below 40 degrees F, comply with the cold weather construction provisions of ACI 530.1/ASCE 6/TMS 602, Article 1.8C. Manufactured units containing visible frozen moisture shall not be installed.

1.07 WARRANTY

- A. Special Warranty: 75 year limited warranty from date of [Substantial Completion] [Final Acceptance] covering defects in materials.

PART 2 - PRODUCTS

2.01 DISTRIBUTOR

- A. Minick Materials, LLC. Tel: 405-834-8280
 ATTN: TIM SHANAHAN Email: tims@minickmaterials.com
 326 N. Council Website: www.minickmaterials.com
 Oklahoma City, OK 73127

B. Substitutions: No Substitutions Permitted

2.02 MANUFACTURED MASONRY MATERIAL

- A. General Description: Cast masonry using a mixture of cement, lightweight aggregates, concrete additives, and color pigments.

- B. Physical Properties:
 1. Density: ASTM C 567: 15 psf. (73 kg/m²) maximum.
 2. Efflorescence: ASTM C67: None visible.
 3. Compressive Strength: ASTM C 39: 2100 psi (17 MPa) (5 sample average).
 4. Bond Strength: ASTM C 482: 50 psi (345 kPa).
 5. Freeze/Thaw: ASTM C 67: Less than 3 percent weight loss.
 6. Absorption: ASTM C 140: Less than 29 percent.
 7. Surface Burning Characteristics: UBC Standard 7-1:
 - a. Flame Spread: 0
 - b. Smoke Developed: 0

- C. Style and Color:
 1. Stone Style: ??? [As shown on Drawings].
 2. Stone Color: ??? [As shown on Drawings].

- D. Trim Pieces:
 1. Watertable/Window Sill:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
 2. Quoin Corner:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
 3. Accent Stone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].

4. Keystone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
5. Headerstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
6. Capstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
7. Hearthstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
8. Flat Wall Coping:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
9. Pyramid Wall Coping:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
10. Lightbox/Switchbox:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].

2.03 RELATED MATERIALS

- A. Bonding Agent: ASTM C 932 or C 1059 Type II, Latex integral or surface applied bonding agent.
- B. Weather Resistant Barrier: ASTM D 226 for type 1 felt or UBC Standard 17-1 for Kraft waterproof building paper.
- C. Metal Lath: ASTM C 847 corrosion resistant minimum 2.5 lbs per square yard (1.36 kg/m²), ASTM C 1032 corrosion resistant minimum 18 gauge woven wire, ASTM C 933 corrosion resistant welded wire lath, or corrosion resistant alternate lath material that carries an ICC Evaluation Report.
- D. Fasteners: Comply with local building code.
- E. Mortar: ASTM C 270 Type N or Type S capable of achieving shear bond strength of 50 psi (345 kPa) when tested in accordance with ASTM C 482. **Use colored mortar for grouting joints.**
 1. **Pigment: Iron oxide.**
 2. **Color: _____ as manufactured by _____.**
- F. Sealer: Penetrating, non-film forming breathable sealer (silane or siloxane).

2.04 SOURCE QUALITY CONTROL

- A. Perform following minimum material quality control tests; comply with ASTM C 172 for sample collection:
 1. Sieve analysis test: ASTM C 136–random sample.
 2. Slump test: ASTM C 143–3 per shift.
 3. Temperature test: ASTM C 1064–3 per shift.
 4. Air content test: ASTM C 173–2 per shift.
 5. Unit weight test: ASTM C 138–2 per shift.
 6. Compressive strength specimens: ASTM C 192–2 sets of 3 samples per shift.
 7. Compressive strength tests: ASTM C 39–break all collected samples .
- B. Perform following minimum color control tests; comply with manufacturer's quality control procedures.

1. Smear for color.
2. Smear (paste test) for fresh concrete.
3. Surface color evaluation.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which manufactured masonry will be installed.
- B. Coordinate with responsible entity to correct unsatisfactory conditions.
- C. Commencement of work by installer is acceptance of substrate conditions.

3.02 PREPARATION

- A. Protection: Do not allow other trades to work on opposite side of walls to which manufactured masonry is applied during and for 48 hours following installation of the manufactured masonry.
- B. Surface Preparation: Follow masonry manufacturer's instructions for preparing substrate.

3.03 INSTALLATION

- A. Install manufactured masonry and related materials in accordance with masonry manufacturer's installation instructions, or product manufacturer's installation instructions if not covered by masonry manufacturer's installation instructions.
 1. Wet back of masonry units prior to applying mortar during hot, dry weather.
- B. Joint Type: [Grouted] [Dry stack].
- C. Apply sealer in accordance with sealer manufacturer's installation instructions.

3.04 CLEANING

- A. Reference Section 01 74 00–Cleaning and Waste Management.

3.05 PROTECTION

- A. Protect finished work from damage during remainder of construction period.

END OF SECTION¹