

# LONE STAR STONE



"The Natural Choice"

## 3-PART SPECIFICATION

SECTION 04 70 00

MANUFACTURED MASONRY

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Specifier Note-

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 (CSI), 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 A CLOSED PROPRIETARY SPECIFICATION.

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

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. \_\_\_\_\_ .

OPTIONAL PARAGRAPHS REQUIRING SELECTION OF ONE OF THE OPTIONS ARE SEPARATED BY "OR" WITHIN A BOX, E.G.  
OR

**BOLD FACE TEXT** IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TEXT TO REGULAR TEXT 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 07 00**

(MASTERFORMAT, 1995 EDITION, 04700)

**MANUFACTURED MASONRY**

**GENERAL**

1. SUMMARY

A. Section Includes: (Manufactured stone veneer) (Manufactured Brick Veneer) (Manufactured Stone Accessories) and application materials.

A. Related Sections:

INCLUDE ALL DIVISION 01 SECTIONS CONTAINING LEED® REQUIREMENTS. ENTER SECTION(S) IN 1. BELOW THAT SPECIFIES SUBSTRATE FOR MANUFACTURED MASONRY, ADD/DELETE OTHER SECTIONS AS APPROPRIATE.

1. \_\_\_\_\_ -

- 
2. **Division 05, or 06 Section specifying weather resistive barrier over framed walls.**
  3. **Division 07 Section specifying flashing materials and sealant selections.**
  4. **Division 09 Section specifying portland cement plastering.**
  5. **Division 10 Section specifying fireplaces and stoves.**

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

A. Alternates:

1. Reference Section 01 23 00–Alternates.

1. REFERENCES

A. American Concrete Institute (ACI)

B. American National Standards Institute (ANSI):

1. ANSI A118.4 Specifications for Latex-Portland Cement Mortar.

C. American Society for Testing and Materials (ASTM):

1. ASTM C 39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
2. ASTM C 67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
3. ASTM C 144 – Standard Specification for Aggregate for Masonry Mortar.
4. ASTM C 177 – Standard Test Method for Steady-State Head Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
5. ASTM C 207 – Standard Specification for Hydrated Lime for Masonry Purposes.
6. ASTM C 270 – Standard Specification for Mortar for Unit Masonry.
7. ASTM C 482 – Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
8. ASTM C 567 – Standard Test Method for Determining Density of Structural Lightweight Concrete.

9. ASTM C 847 – Standard Specification for Metal Lath.
10. ASTM C 932 – Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
11. ASTM C 979 – Standard Specification for Pigments for Integrally Colored Concrete.
12. ASTM C 1032 – Standard Specification for Woven Wire Plaster Base.
13. ASTM C 1059 – Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.
14. ASTM D 226 – Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
15. ASTM E 2556/ E 2556M Standard Specification for Vapor Permeable flexible Sheet Water Resistive Barriers Intended for Mechanical Attachment.

16.

D. Building Materials Evaluation Commission.

E. International Code Council (ICC):

1. ES Report.
2. UBC Standard No. 14-1, Kraft Waterproof Building Paper.

F. **LEED®: US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System™.**

**G. Texas Department of Insurance Product Evaluation.**

H. Masonry Standards Joint Committee (MSJC) of The Masonry Society.

I. Underwriter's Laboratory (UL):

1. Listing in Material Approval Guide.
2. UL 723, Standard for Safety for Surface Burning Characteristics of Building Materials.

**J. US Department of Housing and Urban Development (HUD): Material Release Numbers.**

K.

## 2. SUBMITTALS

A. Reference Section 01 33 00–Submittal Procedures; submit following items:

1. Product Data: Manufactured masonry and application materials **including mortar color charts and water resistive barrier.**
2. Samples: Panel containing full-size samples of specified manufactured masonry showing full range of colors and textures **complete with specified mortar.**
3. a. Actual size of masonry sample approximately 12 by 12 inches (300 by 300 mm).
4. b. Standard sample board consisting of small-scale pieces of veneer units showing full range of textures and colors.

- 5. **c. Full range of mortar colors.**
- 6. 3. Verification Samples: Following initial sample selection submit “laid-up” sample board using the selected stone and mortar materials and showing the full range of colors expected in the finished Work; minimum sample size: 4 by 4 feet (1200 by 1200 mm).
- 7. 4. Quality Assurance/Control Submittals:
  - 8. a. Qualifications:
    - 9. 1. Proof of manufacturer qualifications.
    - 10. 2. Proof of installer qualifications.
  - 11. b. Certificates: ICC-ES Report.
  - 12. c. Veneer manufacturer’s installation instructions
  - 13. **d. Test reports for physical properties.**
  - 14. e. Installation instructions for other materials.
- 15. 5. **LEED® Submittals:**
  - a. **Credit MR 4.1, 4.2 Recycled Content: Provide percentage of recycled content (post- consumer and pre-consumer).**
  - b. **Credit MR 5.1, 5.2 Regional Materials:**
    - c. **1. Provide distance between Project site and extraction site.**
    - d. **2. Provide distance between Project site and final manufacturing location.**

MANUFACTURED MASONRY CAN ALSO CONTRIBUTE TO CREDIT EA 1 FOR OPTIMIZING ENERGY PERFORMANCE AND CREDITS ID 1.1-1.4 FOR INNOVATION IN DESIGN; HOWEVER, NO SPECIFIC SUBMITTALS ARE REQUIRED IN THIS SECTION.

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

- 1. Maintenance Instructions.
- 2. Special Warranties.

1. QUALITY ASSURANCE

A.Qualifications:

B.Manufacturer Qualifications:

- 1. a. Minimum ten years experience in producing manufactured masonry.
- 2. b. Member of the following organizations:
  - 3. 1. MVMA
  - 4. 2. USGBC
- 5. Installer Qualifications: Company with documented experience in installation of manufactured masonry including minimum 5 projects within 400 mile radius of this Project.

EDIT FOLLOWING LISTINGS BASED ON PROJECT AND LOCAL REQUIREMENTS.

A.Certifications:

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1. Current ICC-ES Report.
2. UL – Listing in Material Approval Guide.
- 3.

**B. Field Samples: Provide in a location selected by Architect showing representative sample of installed product including penetration and termination details, corner detail, \_\_\_\_\_, and mortar color and tooling.**

COMPLETE FOLLOWING SUBPARAGRAPH TO INCLUDE DESIRED DETAILS SUCH AS CORNERS, TRIM, MORTAR JOINTS AND JOINT DETAILS ABUTTING OTHER MATERIALS.

1. Prepare [4 by 4 foot (1200 by 1200 mm)] [ \_\_\_ by \_\_\_ foot ( \_\_\_\_\_ by \_\_\_\_\_ mm)] sample at a location on the structure as selected by the Architect. Use approved selection sample materials and colors. Include \_\_\_\_\_.
2. Obtain Architect’s approval.
3. Reference Section 01 45 00 – Quality Control.
4. Protect and retain sample as a basis for approval of completed manufactured stone work. Approved sample may be incorporated into completed work.

1. DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.
- B. Follow manufacturer’s instructions.
- C. Store moisture-sensitive materials in weather protected enclosures.

2. PROJECT/SITE CONDITIONS

- A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40 degrees F (4 degrees C) prior to, during, and for 48 hours following installation. When air temperature is 40 degrees F (4.5 degrees C) or below, consult local building code for Cold-Weather Construction requirements.

3. WARRANTY

- A. Special Warranty: Provide manufacturer’s 75 year standard limited warranty coverage against defects in materials when installed in accordance with manufacturer’s installation instructions and upon [Substantial Completion][Final Acceptance].

4. MAINTENANCE

- A. Extra Materials: Furnish extra manufactured stone material in a variety of shapes and sizes in quantity equal to three percent of the installed stone.

B.

1. PRODUCTS

1. MANUFACTURER

A.Lone Star Stone, Incorporated  
PO BOX 2125  
WHITNEY, TEXAS 76692-2125

Tel: (888)3-8663  
Fax: (254)694-0815  
Email: [generaldelivery@lonestarstone.com](mailto:generaldelivery@lonestarstone.com)  
Website: [www.lonestarstone.com](http://www.lonestarstone.com)

WEBSITE: [WWW.LONESTARSTONE.COM](http://WWW.LONESTARSTONE.COM) INSERT NAME, ADDRESS AND CONTACT INFORMATION OF LOCAL DISTRIBUTOR BELOW.

a. **Manufacturer's Distributor:**

A.Substitutions: None permitted.

1. **MANUFACTURED MASONRY MATERIALS**

**A.Stone Veneer:**

IF PROJECT UTILIZES ONLY ONE TYPE OF STONE, INSERT THE NAME OF THE PRODUCT IN THE BLANK SPACE BELOW AND DELETE THE SECOND SELECTION. IF MORE THAN ONE TYPE OF STONE IS REQUIRED, DELETE THE FIRST SELECTION AND VERIFY THAT STONE TYPES ARE NOTED ON DRAWINGS.

SELECT DESIRED PROFILE FROM THE LONE STAR STONE WEBSITE PRODUCTS DROP DOWN MENU; CLICK ON "PRODUCTS" THEN, CLICK ON THE APPROPRIATE PROFILE. INSERT PROFILE AND COLOR BELOW. SELECT EITHER SINGLE PROFILE OR BLENDED PROFILE BELOW. FOR SINGLE PROFILE, DESIGNATE PROFILE NAME AND COLOR. FOR BLENDED PROFILES, DESIGNATE PERCENTAGE (OF EACH PROFILE), TEXTURE NAME AND COLOR; FOR EXAMPLE:

a. 80 Percent LedgeStone, Apache.

b. 20 Percent Fieldstone, Apache.

1. **Single Profile:** \_\_\_\_\_ . Include matching corner pieces.
2. **Blended Profile:**
  - a. \_\_\_\_\_ Percent \_\_\_\_\_ , \_\_\_\_\_ .
  - b. \_\_\_\_\_ Percent \_\_\_\_\_ , \_\_\_\_\_ .
  - c. \_\_\_\_\_ .

SELECT DESIRED STONE ACCENTS FROM THE LONE STAR STONE WEBSITE PRODUCTS DROP DOWN MENU; CLICK ON "ACCESSORIES." INSERT DESIRED ACCENTS BELOW AND INSERT TEXTURE IF REQUIRED. VERIFY THAT DIMENSIONS, IF REQUIRED, ARE SHOWN ON THE DRAWINGS.

1. **Stone Accents:** \_\_\_\_\_ .
  - a. Color: [Burch] [Maple] [Smoke] [Walnut] [As shown on Drawings].
  - b. Texture: \_\_\_\_\_ .

**A.Brick Veneer:**

SELECT DESIRED PROFILE AND COLOR FROM THE LONE STAR STONE WEBSITE PRODUCTS; CLICK ON "BRICK," SELECT THE APPROPRIATE COLOR. INSERT BRICK COLOR BELOW.

A.Manufactured Masonry Physical Properties: Precast veneer units consisting of portland cement, lightweight aggregates, and mineral oxide pigments.

1. Compressive Strength: ASTM C 192 and ASTM C 39, 5 sample average: greater than 1,800 psi (12.4MPa).
2. Shear Test: ASTM C 482: 50 psi (345kPa).
3. Thermal Resistance: ASTM 177, R-factor, 0.355 per inch (25.4 mm) of thickness.
4. Freeze-Thaw Test: ASTM C 67: Less than 3 percent weight loss and no disintegration.
5. Fire Hazard Test, ANSI/UL 723:
  - a. Flame spread: 0.
  - b. Smoke Development: 0.
- c. 6. Maximum Veneer Unit Weight: 15 psf (73 kg/m<sup>2</sup>).

EDIT MATERIALS PER BUILDING CODE REQUIREMENTS. DELETE FROM THIS SECTION IF SPECIFIED IN OTHER SECTIONS.

## 1. RELATED MATERIALS

A.Water Resistive Barrier: Minimum two separate layers of any of the following [No. 15 felt complying with ASTM D226 for Type 1 felt] [Grade D paper (ICC-ES AC38)], or [house wrap (ICC-ES AC 38)]; or any combination two separate layers of these materials. One layer paper-backed lath meeting requirements for Grade D paper may be substituted for the outer layer.

B.Metal Lath: [ASTM C 847, 2.5lb/yd<sup>2</sup> (1.4kg/m<sup>2</sup>) self-furred corrosion resistant lath] [ASTM C 847, 3.4lb (1.8 kg/m<sup>2</sup>) self-furred corrosion resistant lath] [ASTM C 1032, 18 gauge (1.3 mm) woven wire mesh] , complying with ICC- ES AC275 requirements for the type of substrate over which stone veneer is installed.

C.Fasteners:

1. **Into Wood Studs: Minimum 0.120 inch (3 mm) shank diameter galvanized nails or staples of sufficient length to penetrate 1-3/8 inches (35 mm) minimum into the stud.**
2. **Into Metal Studs: Minimum 7/16 inch (11.1 mm) head diameter, corrosion-resistant, self-drilling, self-tapping, pancake head screws of sufficient length to penetrate 3/8 inch (10 mm) minimum into the stud.**

D.Mortar: Premixed Type N or mortar mixed using components and proportions following manufactured masonry manufacturer's installation instructions. Comply with ASTM C 270.

1. **Mortar Color: Iron Oxide Pigments**

E. **Bonding Agent: Exterior integral bonding agent meeting [ASTM C 932] [ANSI A118.4]**

F. **Sealer: Water based, silane or siloxane masonry sealer, [clear] [semi-gloss].**



G.

2. MORTAR MIXES

A. Standard Installation (Grouted Joints):

1. Mix mortar in accordance with [ASTM C 270, Type N or S] [or] [\_\_\_\_\_].
  - a. **Add color pigment in grout joint mortar in accordance with pigment manufacturer's instructions.**

OR

A. Jointless/Dry-Stacked Installation:

1. Mix mortar in accordance with Lone Star Stone, Inc. ["Tight Fitted Adhered Concrete Masonry Veneer Application"] [or] ["Alternative Installation Methods / Materials"] mortar preparation instructions.
  - a. **Add color pigment in accordance with pigment manufacturer's instructions.**

1. EXECUTION

1. 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.

2. PREPARATION

- A. Protection: Prevent work from occurring on the opposite of walls to which manufactured masonry is applied during and for 48 hours following installation of the manufactured masonry.
- B. Surface Preparation: Prepare substrate in accordance with manufacturer's installation instructions for the type of substrate being covered.

3. INSTALLATION

MANUFACTURER'S INSTALLATION INSTRUCTIONS COVER NORMAL INSTALLATION CONDITIONS. UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR TYPE OF STONES TO BE INSTALLED WITH MORTARLESS JOINTS.

- A. **Install and clean stone in accordance with manufacturer's installation instructions using [grouted] tight fitting] joints according to installation specified above.**
- B. **Install accessory products and all other related materials specified above in accordance with type of substrate and manufacturer's installation instructions.**

**C. Apply sealer in accordance with sealer manufacturer's installation instructions.**

1. FIELD QUALITY CONTROL
- 2.

INSERT NUMBER OF ANTICIPATED SITE VISITS BELOW. DELETE THIS ARTICLE IF MANUFACTURER'S FIELD SERVICES ARE NOT REQUIRED.

A. Manufacturer's Field Services: Manufacturer's Field Service Representative shall make [one] [two] [ \_\_\_\_\_ ] periodic site visits for installation consultation and inspection as requested by Owner.

1. CLEANING

A. Reference Section 01 74 00—Cleaning and Waste Management.

B. Clean manufactured masonry in accordance with manufacturer's installation instructions.

C.

END OF SECTION<sup>1</sup>

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<sup>1</sup>This specification was prepared specifically for Lone Star Stone, Inc. by ArcPro Architectural Product Marketing. Comments or suggestions for improvement should be addressed to Lone Star Stone via the contact information on page one.

**Revised: January 20, 2012**

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