

SPEC NOTE: This master guide specification Section is intended for use when specifying calcium silicate bricks as part of non-loadbearing masonry veneer applications.

SPEC NOTE: This master guide specification Section has been produced by a Certified Construction Specifier (CCS), in accordance with the standards and practices recommended by the Construction Specifications Institute. It specifically uses the standardized formats MasterFormat™, SectionFormat™ and PageFormat™ to organize the information.

SPEC NOTE: Optional choices are indicated by using square brackets to surround the optional text, such as [_____]. Delete any inappropriate choices, and then remove any remaining square brackets prior to final printing. Where selection is indicated with an [OR] statement, select the appropriate paragraph and delete the inappropriate statement. Delete all SPEC NOTES and [OR] statements prior to final printing.

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SECTION 04 71 13

CALCIUM SILICATE MANUFACTURED BRICK MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Calcium silicate brick.

SPEC NOTE: Edit to suit project requirements.

1.02 RELATED SECTIONS

- A. Section 04 05 00 - Common Work Results for Masonry.
- B. Section 04 05 13 - Masonry Mortaring.
- C. Section 04 05 16 - Masonry Grouting.
- D. Section 04 05 19 - Masonry Anchorage and Reinforcing.
- E. Section 04 05 23 - Masonry Accessories.
- F. [Section 04 72 00 - Cast Stone Masonry.]
- G. [Section 04 73 13 - Calcium Silicate Manufactured Stone Masonry.]

- H. [Section 04 73 23 - Calcium Silicate Manufactured Building Stone Masonry.]
- I. [Section 05 10 00 - Structural Steel Framing: loose steel lintels.]
- J. Section 07 92 00 – Joint Sealants.

SPEC NOTE: Edit the following Article in conjunction with the requirements of Part 2 - Products and Part 3 - Execution. Delete those reference standards not required by the Project. Insert the correct date for each applicable standard.

SPEC NOTE: For further information regarding the content or availability of any of these reference standards, contact the author organization, as follows:

American Society of Civil Engineers, www.asce.org

American Society for Testing and Materials, www.astm.org

International Masonry Institute, www.imiweb.org

1.03 REFERENCES

- A. TMS 402-[____]/ACI 530-[____]/ASCE 5-[____], Building Code Requirements for Masonry Structures.
- B. TMS 602-[____]/ACI 530.1-[____]/ASCE 6-[____], Specifications for Masonry Structures.
- C. ASTM C73-[____]: Standard Specification for Calcium Silicate Face Brick.

1.04 SAMPLES

- A. Submit samples as specified in Section [01 00 00] [01 33 00] [____].
- B. Samples: [Three] [____] full size samples, illustrating color and texture.

1.05 TEST REPORTS

- A. Submit test reports as specified in Section [01 00 00] [01 33 00] [____].
- B. Test Reports: test results prepared by an independent testing agency, indicating tested material characteristics as part of a source quality control program, current within the past five (5) years.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: manufacturer having sufficient plant facilities to produce the shapes, quantities and size of Products required in accordance with the project schedule.
- B. Installer: Company or person specializing in commercial masonry work [with [____] years [documented] experience].

- C. Mock-up: Supply sufficient quantity of full size calcium silicate bricks for use in constructing mock-up panel, as specified in Section [04 05 00] [_____].

1.07 DELIVERY, STORAGE AND HANDLING

- A. Refer to Section [01 00 00] [01 60 00] [_____].
- B. Deliver calcium silicate bricks 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.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Refer to Section [04 05 00] [_____].
- B. Conform to requirements of ACI 530.1/ASCE 6/TMS 602- [____], Specifications for Masonry Structures, PART 1.8.

PART 2 PRODUCTS

2.01 MANUFACTURERS

SPEC NOTE: In this article, list the manufacturers acceptable to the specifier. Consider including the name and telephone number of a local distributor to assist bidders with product sourcing.

- A. Manufacturers of calcium silicate bricks having Products considered acceptable for use:
 - 1. Arriscraft International[, as distributed by [_____]].
- B. Substitution Procedures: refer to [Instructions to Bidders] [and] [Section [01 00 00] [01 25 00] [_____]].

2.02 MATERIALS

SPEC NOTE: Refer to Arriscraft•DATA sheet 04 71 13 - Calcium Silicate Manufactured Brick

Masonry for specific information pertaining to available 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. Calcium Silicate Brick: to ASTM C73, Grade SW; solid units that have been pressure formed and autoclaved; special shapes as indicated; as follows:
 - 1. Modular Size: 2-1/4" high, 3-3/4" bed, random lengths up to 23-5/8".
 - 2. Texture: smooth exposed face and ends with battered edges;
 - 3. Color: [_____] color [as scheduled] [as selected by [Architect][Engineer]];
 - 4. Product and Manufacturer's Name: Linear Series Brick by Arriscraft International.
- B. Mortar: 1:1:6 Portland cement-hydrated lime-sand mix, as specified in Section [04 05 13] [_____].
- C. Grout: maximum 6,500 psi at 28 days, as specified in Section [04 05 16] [_____].
- D. Wall Ties and Anchorages: as specified in Section [04 05 19] [_____].
- E. Joint Sealants and Backer Rods: non-staining type, as specified in Section [07 92 00] [_____].
- F. Flashing, Vents, and Masonry Accessories: as specified in Section [04 05 23] [_____].

2.03 FABRICATION TOLERANCES

- A. Fabricate calcium silicate brick to a pressed tolerance of plus or minus 1/8".

2.04 SOURCE QUALITY CONTROL

- A. Test calcium silicate bricks as specified in Section [01 00 00] [01 40 00] [_____].
- B. Test compressive strength and absorption from specimens selected at random from plant production.

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 to length with a masonry splitter.

B. Dress split end to match face when exposed in wall.

3.03 WETTING MASONRY UNITS

A. Where the ambient air temperature exceeds 100°F or exceeds 90°F with a wind velocity greater than 8 mph, pre-wet brick units.

B. Lay wetted units when surface dry.

3.04 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][_____] bond.

D. Maintain mortar joint thickness of 3/8 inch.

E. Tool joints by compacting the surface when thumbprint hard, to a [concave] [raked] [flush] [bevelled] [_____] finish.

3.05 PLACING AND BONDING

A. Lay masonry in full bed of mortar, properly jointed with other work. Buttering corners of joints, [and] deep or excessive furrowing of mortar joints [and] [_____] are not permitted.

B. Fully bond intersections, and external corners.

C. Do not adjust masonry units after laying. Where resetting of masonry is required, remove, clean units and reset in new mortar.

D. Install [loose steel] [precast concrete] [limestone] lintels as scheduled.

E. Install wall ties and anchorages as specified in Section [04 05 19] [_____].

F. Install flashings, vents, and masonry accessories as specified in Section [04 05 23] [_____].

SPEC NOTE: Verify movement joints are properly positioned, located, and detailed on Drawings. Movement /expansion joints in calcium silicate masonry walls should be constructed as "*elastic*" joints, accommodating both expansion and contraction of the veneer materials. Typically, movement joints should be placed: at changes in wall direction, at changes in building height, at wall openings, at major changes in wall thickness, at periodic lengths of continuous wall up to a maximum of 25 feet on center, at abutments to existing structures, and below shelf angles. Refer to Arriscraft•NOTE Volume I, No. 1, Movement Joints for Unit Masonry Veneer.

G. Construct movement joints as specified in Section [04 05 00] [_____].

3.06 SITE TOLERANCES

A. Erect masonry within the tolerances described in TMS 602-[____]/ACI 530.1-[____]/ASCE 6-[____], Specifications for Masonry Structures, PART 3.3G.

3.07 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].

3.08 ADJUSTING AND CLEANING

SPEC NOTE: Select one of the following Paragraphs. Edit as recommended by calcium silicate masonry unit manufacturer's recommendations. Refer to Arriscraft•CARE, Notes to Assist in the Cleaning and Application of Arriscraft Masonry Units.

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

[OR]

A. 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 are 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.

- B. Use alternative cleaning solutions and methods for difficult to clean masonry only after consultation with masonry unit manufacturer.

3.09 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.

END OF SECTION