

**SECTION 04 22 00**

**CONCRETE MASONRY UNITS**

**PART 1 – GENERAL**

1.1 PURPOSE

- A. This guideline is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. PSP is to apply the principles of this section such that the University of Texas at Arlington (UTA) may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be approved by UTA and may require justification through Life Cycle Cost (LCC) analysis and submitted to UTA for approval.

1.2 LESSONS LEARNED AND DESIGN CONSIDERATIONS

- A. **Control joint locations per the National Concrete Masonry Association.**

1.3 SECTION INCLUDES

- A. Concrete unit masonry, including ground-face units where indicated.

1.4 REFERENCES

- A. ASTM C90 - Hollow Load Bearing Concrete Masonry Units; current edition.
- B. ASTM C129 - Hollow Non-Load Bearing Concrete Masonry Units; current edition.

1.5 SUBMITTALS

- A. See Division 01 for submittal procedures.
- B. Samples for initial selection of masonry units from manufacturer's standard colors.
- C. Full-size units as samples for verification of masonry units selected.
- D. Material certificates for units, signed by manufacturer, certifying that units comply with the requirements.
- E. Submit manufacturer's product literature.
- F. Material test reports from a qualified independent testing agency, indicating and interpreting test results relative to compliance of units with requirements indicated.
- G. Qualification data for manufacturer of units specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: The concrete masonry manufacturer shall have a minimum of 5 years of experience manufacturing CMU at their current facility.
- B. Preconstruction Testing: Employ and pay a qualified independent testing agency to test units for strength, absorption, and moisture content per ASTM C140.
- C. Single-Source Responsibility: Obtain concrete masonry units from one source and by a single manufacturer for each color required.
- D. Mockup: Prior to installing concrete unit masonry, construct 4' x 4' sample wall panels of concrete masonry, including an application of Concrete Masonry Acrylic Sealer to verify selections made under sample submittals, and to demonstrate aesthetic effects of materials and execution using materials indicated for final unit of work.
- E. Concrete masonry units shall specifically conform to paragraph 7.2.1 of ASTM C90 with regard to imperfections (chips and cracks).

1.7 DELIVERY, STORAGE AND HANDLING

- A. Concrete masonry units shall be delivered to the jobsite banded on wood pallets with protective material between layers of units.
- B. Store concrete masonry units on elevated platforms, under waterproof cover, and in a dry location to protect them from moisture, temperature changes, and contaminants. Do not install wet units.
- C. Handle concrete masonry units with extreme care to avoid chippage and breakage.

**PART 2 – PRODUCTS**

## GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION DOCUMENTS

### 2.1 CONCRETE MASONRY UNITS

- A. Concrete masonry units shall be made from natural and manufactured aggregates, cement and color. All of these materials are derived from nature and will vary in uniformity of size, shape, texture, and particle color. The manufacturer shall exercise reasonable care in the manufacturing process to minimize these variations in size, shape, texture and particle color so that completed product will match approved samples and mockup. Some variation in color and texture will be acceptable to the extent the approved samples and mockup exhibit variation. Edge and corner chips will be acceptable to the extent ASTM C90, paragraph 7.2.1 allows chips and cracks.
- B. Basis of Design: Featherlite Building Products Corporation, 508 McNeil Road, Round Rock, Texas 78681 (512) 255-2573.
  - 1. All units shall have a factory-applied coating of clear, VOC-compliant acrylic sealer.
  - 2. Provide special shapes for lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.
  - 3. Provide square-edged units for outside corners.
  - 4. All units shall be manufactured with integral water repellent “Dry Block” as manufactured by Grace Construction Products. Dosage rates as recommended by manufacturer.
  - 5. Comply with ASTM C90 or C 129 and as follows:
    - a). Unit compressive strength: 1,900 psi.
    - b). Weight classification: light weight or medium weight depending on color selection.
    - c). Size: Manufactured to the dimensions indicated on drawings within tolerances specified in ASTM C90, except that grinding removes approximately 1/16” additional per face.
    - d). Finish: Exposed faces of units shall match color, pattern, and texture of architect’s submittal selection within tolerances below.
    - e). Concrete Masonry Cleaner: Clean ground-face masonry using Burnished Custom Masonry Cleaner as manufactured by ProSoCo, Inc. Follow ProSoCo’s product data instructions for proper application. No other cleaning agents may be used without specific written approval of Architect.

### 2.2 MORTAR FOR UNIT MASONRY

- A. Install CMU Veneer with Type N mortar, and as recommended by manufacturer in accordance with NCMA Guidelines.
- B. Mortar color as selected by Architect from manufacturer’s standard list of colors.

### 2.3 REINFORCING AND TIES

- A. Continuous Ladder Reinforcing: Lox-All 120 Truss-Mesh Stainless Steel Type 304 9 gauge galvanized as manufactured by Hohmann-Barnard, or approved substitution. For single wythe CMU walls.
- B. Metal Hardware: Used in preassembled masonry soffits, embedded in the mortar shall be coated with corrosive resistant metal, such as cadmium zinc, etc.
- C. Screws: Self Tapping 1-1/4” x #10 Stainless Steel.

## PART 3 – EXECUTION

### 3.1 LAYING CONCRETE MASONRY UNITS

- A. Lay units only when lighting is adequate.
- B. Cut all units only with a motor-driven saw, using diamond or abrasive blades and OSHA compliant dust collection systems.
- C. Take units from multiple pallets for blending.
- D. Align unit’s level, plumb and true with uniform concave tooled 3/8”-wide joints. Scored units shall be tuck-pointed and tooled with a concave jointer to match head and bed joints.
- E. All exterior units shall be laid using mortar with integral water repellent admixture “Dry- Block Mortar Admixture” at the rate recommended by Grace Construction Products.
- F. Flashing, Weep Holes and Control Joints: Install flashing, weep holes and control joints as specified herein and indicated on the drawings.
  - 1. Plastic Weep Holes: No. 341 w/s, Hohmann-Barnard, with wick and screen.
  - 2. Control Joints: RS-12 Rubber Control Joints, Hohmann-Barnard.
- G. Cover walls each day after installation to keep open wall protected and dry.
- H. During installation, keep masonry units clean daily using brushes, burlap, etc.

GUIDE SPECIFICATIONS FOR DESIGN AND CONSTRUCTION DOCUMENTS

1. No high-pressure spray (power wash) cleaning methods shall be used.

END OF SECTION