

Guide Specifications For 100% Lightweight Masonry Units (Less than 95 pcf)

PART 1-GENERAL

- A. Concrete masonry units shall be of modular dimension, shall be of uniform appearance and shall be delivered to the project site in an air-dried condition. Units shall be manufactured with cement and 100% Stalite Lightweight Aggregate conforming to ASTM C 331 and C 330.
1. LEED PROJECTS: As directed by the Architect. Units shall be manufactured complying to the 500 mile job site radius with 100% Expanded Slate Aggregate
- B. Concrete Masonry Units: Concrete masonry units shall comply with referenced standards as follows:
1. Size: Standard units with nominal face dimensions of 8 inches high x16 inches long and nominal depths as indicated on the drawings for specific locations.
 2. Special Shapes: Provide non-standard blocks configured for corners, lintels and other detailed conditions.
 3. Load-Bearing Units: ASTM C 90 latest edition
 - a. Both hollow and solid block, as indicated.
 - b. Exposed faces: Manufacturer's standard color and texture.
- C. Lightweight Concrete Masonry Units:
1. Lightweight concrete masonry units shall conform to the requirements of ASTM C 90 for load bearing concrete masonry units. All units shall be free of organic impurities that will cause rusting, staining or pop outs and shall contain NO combustible matter. The use of coal ash/bottom ash, cinders or similar waste products SHALL NOT be allowed.
 2. All 8 inch deep or larger units shall meet ACI 216 requirements for a two-hour or greater fire rating (as required).
 3. Aggregate: 100% Stalite rotary kiln expanded slate conforming to ASTM C 331 and C 330 with 6% to 10% absorption when tested in accordance with ASTM C 128.
 4. Manufacturer shall submit a written certification, with ASTM C 90 test reports and Lightweight Aggregate test data.
 5. Certification: The producer of the lightweight concrete masonry units shall furnish a letter of certification stating:
 - a. All lightweight aggregate used in the manufacture of the units was expanded slate produced by the rotary kiln process, Stalite or approved equal conforming to ASTM C 331 and ASTM C 330 with

6% to 10% absorption when tested in accordance with ASTM C 128.

- b. ASTM C 90 certification
 - c. ACI216 fire rating calculations
6. Per the request of the Architect, a random sample of the concrete masonry units may be taken from the job site to be tested for compliance with specifications.
7. Concrete Brick: ASTM C 55
- a. Cored or solid
 - b. Size: As indicated on drawings

PART 2-REFERENCES

ACI 216.1/TMS 0216.1 – Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies

ACI 530/ASCE 5/TMS 402 – Building Code Requirements for Masonry Structures

ACI 530.1/ASCE6/TMS 602 – Specification for Masonry Structures

ASTM C 55 – Standard Specification for Concrete Brick

ASTM C 90 – Standard Specification for Loadbearing Concrete Masonry Units

ASTM C 128 – Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Fine Aggregate

ASTM C 140 – Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units

ASTM C 330 – Standard Specification for Lightweight Aggregates for Structural Concrete

ASTM C 331 – Standard Specification for Lightweight Aggregates for Concrete Masonry Units

NOTE: Typical Jobsite Block Weights for 100% Lightweight Concrete Masonry Units:

4x8x16 ---- 18lbs.
6x8x16 ---- 23lbs.
8x8x16 ---- 26lbs.
12x8x16 ---- 36lbs.

