

# Guide Specification for Lightweight Masonry Units (95 pcf—105 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-dry condition. Units shall be manufactured with cement and 100% Stalite Lightweight Aggregate conforming to ASTM C 331 and ASTM 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.  
**Lightweight aggregates shall be certified by an independent testing facility recognized by USGC verifying the lightweight aggregates meets all qualifications of recycled material.**
- B. Lightweight Concrete Masonry Units:
1. Lightweight concrete masonry units shall conform to the requirements of ASTM C 90, for load bearing and non-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 aggregate/bottom ash, or similar waste products will 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. All lightweight aggregate used in the concrete units shall be 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. All normal weight aggregate shall conform to the requirements of ASTM C 33.
  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. ACI 216 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—Lightweight Aggregates for Concrete Masonry Units

