Designation: C1686 – 09 (Reapproved 2017)

Standard Practice for Installation and Testing of Reinforced Autoclaved Aerated Concrete (AAC) Units[1]

This standard is issued under the fixed designation C1686; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice covers the installation and testing of solid, reinforced units made from autoclaved aerated concrete (AAC), a cementitious product addressed by Specification C1693. The units are large-sized, factory-reinforced, solid rectangular prisms, laid using thin-bed mortar.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

C1693 Specification for Autoclaved Aerated Concrete (AAC)

3. Classification

3.1 Reinforced AAC units installed in accordance with this practice shall be classified according to their strength class.

4. Materials and Manufacture

4.1 Reinforced AAC units installed in accordance with this practice shall be composed entirely of AAC material conforming to Specification C1693. The units themselves shall conform to Specification C1693.

5. Significance and Use

5.1 This practice is intended to regulate the installation of reinforced AAC units and to provide test methods for determining their transverse load-displacement characteristics and load-carrying capacities.

6. Shipping and Handling of Reinforced AAC Reinforced Element

6.1 Reinforced AAC elements shall be protected from damage during shipping by placement on pallets or other supports, banding of the elements, placement of material between the elements, or any other method deemed appropriate by the AAC manufacturer. Reinforced AAC elements should be handled using lifting devices or clamps recommended by the AAC manufacturer.

7. Repair of Reinforced Elements

7.1 Damage from handling or shipping of reinforced AAC elements shall be repaired using special AAC repair mortars. If the damage is severe, the AAC manufacturer shall be consulted as to the structural integrity of the element. Damage that results in exposure of the reinforced element shall be repaired only after the exposed steel is coated with a corrosion-resistant coating as recommended by the AAC manufacturer.

8. Field Cutting of Reinforced Elements

8.1 Do not field-cut reinforced elements unless approved by the project engineer and performed in accordance with the AAC manufacturer's recommendations.

9. Rejection

9.1 If, upon delivery, an individual element fails to conform to this practice, the manufacturer shall be permitted to repair the element to satisfy the specification, or to replace the element.

10. Expense of Tests

10.1 Except as specified in Section 9, and unless otherwise agreed, the expense of inspection and testing shall be the responsibility of the purchaser.

[1] This practice is under the jurisdiction of ASTM Committee C27 on Precast Concrete Products and is the direct responsibility of Subcommittee C27.60 on Precast Autoclaved Aerated Concrete.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.