



Designation: C1586 – 17

Standard Guide for Quality Assurance of Mortars¹

This standard is issued under the fixed designation C1586; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This document provides guidance regarding the proper use of Specification C270 and Test Method C780 for evaluating masonry mortar produced in the laboratory and at the construction site.

1.2 *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

- C144 Specification for Aggregate for Masonry Mortar
- C270 Specification for Mortar for Unit Masonry
- C780 Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry

3. Significance and Use

3.1 This document is intended to provide guidance and clarification to designers, specifiers, inspectors, testing agencies, producers, and users in specifying and evaluating masonry mortar.

3.2 Users of documents Specification C270 and Test Method C780 often confuse and sometimes inadvertently misuse parts of the two documents when specifying or evaluating masonry mortar. This guide seeks to address specific

items within Specification C270 and Test Method C780 to help promote their proper use and interpretation.

4. Specifying Masonry Mortar

4.1 Use Specification C270 to specify masonry mortar by either the Proportion or Property Specifications of that standard, but not both. If neither Proportion or Property Specification C270 are specified, the Proportion specification shall govern, unless data are presented to and accepted by the specifier to show that the mortar meets the property specification requirements.

4.2 *Proportion Specifications*—These Specifications direct the mason to produce the masonry mortar using designated volumetric proportions of cementitious materials and aggregate as set forth in Table 1, Proportion Specifications, of Specification C270 for the Type of mortar specified. This procedure of specifying mortar requires no sampling and testing of mortar, and hence, no measurement of mortar properties in the laboratory or the field is required. All that is necessary is field confirmation of the proper proportions of the mixes used in construction.

4.3 *Property Specifications*—These Specifications require testing of laboratory-prepared mortar for compliance with the requirements of Table 2, Property Specifications, of Specification C270 for the Type of mortar specified.

4.3.1 The Property Specifications require evaluation of a mortar with a consistency (flow) of $110 \pm 5\%$. This is an arbitrarily established mortar consistency that is used to approximate the water content of mortar after it is placed in a masonry assemblage with absorbent masonry units. The amount of water required in mortar produced at the construction site is normally greater than the amount used for Specification C270 Property Specifications testing.

4.3.2 Do not use the Specification C270 Property Specifications requirements to evaluate construction site-produced mortars. Due to the higher amount of water necessary for actual masonry construction, mortar produced and sampled in the field will typically have lower compressive strength than that produced in the laboratory per Specification C270.

¹ This guide is under the jurisdiction of ASTM Committee C12 on Mortars and Grouts for Unit Masonry and is the direct responsibility of Subcommittee C12.03 on Specifications for Mortars.

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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.