



Designation: C1714/C1714M – 26

Standard Specification for Preblended Dry Mortar Mix for Unit Masonry¹

This standard is issued under the fixed designation C1714/C1714M; 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 specification covers masonry mortars whose materials and design requirements are governed by Specification **C270** but are preblended dry in a factory instead of produced from individual raw materials delivered to the job-site.

1.2 The field-sampling, testing, directly comparable test results, packaging, and the traceability of ingredients of preblended dry mortar mix differ from job site mixed mortars and this standard specifically addresses these issues. The tight control of ingredient ratios possible with preblended dry mortar is also covered.

1.3 The text of this specification refers to notes and footnotes, which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered the requirements of the standard.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use. (Warning—Fresh hydraulic cementitious mixtures are caustic and may cause chemical burns to skin and tissue upon prolonged exposure.)*

1.6 *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.*

¹ This specification is under the jurisdiction of ASTM Committee **C15** on Masonry - Manufactured Masonry Units, Mortars and Grouts and is the direct responsibility of Subcommittee **C15.30** on Specifications for Mortars and Grouts.

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2. Referenced Documents

2.1 *ASTM Standards:*²

- C144** Specification for Aggregate for Masonry Mortar
- C260/C260M** Specification for Air-Entraining Admixtures for Concrete
- C270** Specification for Mortar for Unit Masonry
- C305** Practice for Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency
- C780** Test Methods for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
- C979/C979M** Specification for Pigments for Integrally Colored Concrete
- C1180** Terminology of Mortar and Grout for Unit Masonry (Withdrawn 2025)³
- C1384** Specification for Admixtures for Masonry Mortars
- C1403** Test Method for Rate of Water Absorption of Masonry Mortars
- C1437** Test Method for Flow of Hydraulic Cement Mortar
- C1586** Guide for Quality Assurance of Mortars

3. Terminology

3.1 For definition of terms used in this specification, refer to Terminology **C1180**.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *preblended dry mortar mix, n*—a mix of dry aggregate; portland cement and hydrated lime, blended hydraulic cement, masonry cement, hydraulic cement, or mortar cement; and may contain additives used to enhance one or more properties such as setting time, workability, water retention, bond and durability or color pigment; and are thoroughly blended together at the factory without the addition of water.

3.2.2 *additive, n*—a dry mortar material other than the Specification **C270** prescribed materials of aggregate and cementitious materials that is added to a dry mortar mix at the batch plant to modify one or more properties of the conventional masonry mortar.

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

³ The last approved version of this historical standard is referenced on www.astm.org.

*A Summary of Changes section appears at the end of this standard



4. Classification

4.1 The classifications of mortars in this specification are as described in Specification **C270**. Mortar type selected shall be a Type M, S, N, or O meeting the requirements of either the Property Specification or the Proportion Specifications.

5. Specifying Mortar

5.1 Specify type of mortar desired.

5.2 Preblended dry mortar mix shall be a mortar meeting both the requirements of Specification **C270** and the requirements of this specification.

5.2.1 The property specification requirements of Specification **C270** shall govern unless the proportion specification requirements are specified.

6. Materials

6.1 Materials shall conform to Specification **C270** except as follows:

6.1.1 *Additives*—Shall comply with the admixture requirements of Specification **C1384**, except as follows:

6.1.1.1 The Specification **C1384** reference mortar shall be this mortar without the additives and the Specification **C1384** admixed mortar shall be this mortar with the additives.

6.1.1.2 When more than one additive meeting the requirements of Specification **C1384** is used, the chloride limits of Specification **C1384** shall apply to the sum of all of these additives.

6.1.1.3 Air entraining additives shall comply with the admixture requirements of Specification **C260/C260M**.

6.1.2 Additives used as coloring pigments shall comply with the requirements of **C979/C979M**.

6.2 Mortar mixes conforming to the Proportion Specification requirements shall not contain more than one air entraining material.

NOTE 1—This is the same requirement listed in Specification **C270**.

7. Manufacture and Use

7.1 All of the mortar mix materials shall be dry and measured by weight. The batch scales shall be calibrated at least annually and shall be capable of consistently measuring each ingredient to within 1 % of the total batch weight for each ingredient that is added at a rate of at least 20 % of total batch weight, and to within 5 % of the individual ingredients weight for each ingredient that is added at a rate of less than 20 % of total batch weight.

7.2 Each ingredient shall be added within a tolerance of ± 10 % of the individual ingredients' target weight.

7.3 The weight of each mortar mix ingredient of the final batch shall be recorded and archived for every batch.

NOTE 2—This batch information is commonly referred to as a batch ticket.

7.4 A run number or batch number or some other marking used to ensure traceability of the batch shall be assigned to each batch and retained as part of the batch archive.

7.5 The batch information of 7.3 and 7.4 shall be archived for a minimum of twelve months from date of manufacture.

7.6 All of the dry mortar mix ingredients shall be thoroughly blended.

7.7 The preblended dry mortar mix shall be stored and covered in such a manner as to prevent hardening, deterioration, contamination, and segregation.

7.8 Except for water, no mortar materials, wet or dry, shall be added to the mortar mix or the resulting masonry mortar after the initial blending of the dry mortar materials in the batch plant unless otherwise specified and approved by the manufacturer of the preblended mortar mix.

8. Sampling

8.1 For mortars produced to property specifications, all samples for determining compliance with this specification shall be both uncontaminated and sampled prior to the addition of water.

8.2 Samples shall be representative of the delivered lot and be of sufficient size to conduct all of the desired testing.

8.2.1 For mortars sold in packages weighing 45 kg [100 lb] or less, one whole package shall constitute the sample.

8.2.1.1 When a single whole package is insufficient to conduct all of the desired testing, combine one or more whole packages to form a single sample.

8.2.2 For mortars sold in packages weighing more than 45 kg [100 lb], at a minimum take one specimen of at least 2.3 kg [5 lb] each from three different sections of a single package. Combine all of these specimens to form a single sample.

NOTE 3—For large packages, samples taken from its top 10 % portion and its bottom 10 % portion may not be fully representative of the entire package.

8.3 Thoroughly mix the entire sample before conducting testing.

8.4 Field samples taken from the original containers shall be marked with the package markings as described in Section 14. The date of sampling shall also be included.

8.4.1 Samples taken from job site silos shall be marked with silo number or location and the sample date. If possible, the samples shall also be marked with the package markings from the original containers.

NOTE 4—Silos are typically filled from large bulk bags or super sacks, these large bags will have the product identification markings from Section 14 and may still be available on the job-site.

8.4.2 Samples taken at the job site from a mobile batch plant shall be marked in accordance with Section 14.1.2.

9. Testing

9.1 Testing shall be conducted in accordance with Specification **C270** with the following exceptions:

9.1.1 For mortar mixes meeting the proportion specifications of **C270**, testing shall be performed by using verification of ingredient proportions (batch tickets) archived from 7.3. In addition, the aggregate shall be tested for compliance with the requirements of Specification **C144**.

9.1.2 *Mixing*—Mix 3000 ± 3 g [6.61 ± 0.01 lb] of preblended dry mortar mix in accordance with Practice **C305**