



Designation: C 780 – 002

Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry¹

This standard is issued under the fixed designation C 780; 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.

This standard has been approved for use by agencies of the Department of Defense.

INTRODUCTION

This test method provides a standard procedure for sampling and testing mortars for composition and plastic and hardened properties, either before or during actual construction. The procedures outlined in the Annexes are considered applicable for evaluating various combinations of portland cement, lime, and masonry cement for mortars common to plain and reinforced unit masonry construction.

The test procedures describe methods for the measurement of mortar composition and mortar properties. No attempt is made to claim or substantiate specific correlations between the measured properties and mortar performance in the masonry. However, data from these test methods can be combined with other information to formulate judgments about the quality of the masonry.

Testing using these procedures is limited to the preconstruction evaluation of masonry mortars within the laboratory, to the evaluation of masonry mortars at the construction site, and in establishing the degree of quality control exercised during mortar production at the construction site.

1. Scope*

1.1 This test method covers procedures for the sampling and testing of mortars for composition and for their plastic and hardened properties, either before or during their actual use in construction.

1.2 Preconstruction-e Evaluation—This test method permits comparisons of mortars facilitates a comparison of mortar systems and an approximation, by more complete identification, of the mortar mixture which will be produced at the construction project. The preconstruction laboratory investigation allows establishment of the compatibility of the individual made from different materials in the mortar and the general strength characteristics of the mixture.

1.3 Construction-site testing procedures allow under simulated field conditions. It is also used to establish conformance to the proportion specifications and quality control baseline values for comparative evaluation of mortar production. Mix composition measurements allow the rapid assessment field mortars.

1.3 Construction Evaluation—Use of conformance with this method in the proportion specification and quality control, whereas later-age strength testing field provides verification that a means for quality assurance of field-mixed mortar. It includes methods for verifying the mortar ingredients are compatible mix proportions, comparing test results for field mortars to preconstruction testing, and are performing normally, determining batch-to-batch uniformity of the mortar.

1.4 The test results obtained under this test method are not required to meet the minimum compressive values in accordance with the property specifications in Specification C 270.

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 and health practices and determine the applicability of regulatory limitations prior to use. For specific hazards statements, see Section 8.*

2. Referenced Documents

2.1 ASTM Standards:

C 39 Test Method for Compressive Strength of Cylindrical Concrete Specimens²

¹ This test method is under the jurisdiction of ASTM Committee C12 on Mortars for Unit Masonry and is the direct responsibility of Subcommittee C12.02 on Research and Methods of Test.

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