



Designation: C1140/C1140M – 11

# Standard Practice for Preparing and Testing Specimens from Shotcrete Test Panels<sup>1</sup>

This standard is issued under the fixed designation C1140/C1140M; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This practice covers procedures for preparing test panels of dry-mix or wet-mix shotcrete and for testing specimens sawed or cored from the panels.

1.2 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.

1.3 The text of this standard references notes and footnotes that provide explanatory materials (excluding those in tables and figures) that shall not be considered as requirements of the standard.

1.4 *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.*

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</sup>

- C42/C42M Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
- C78 Test Method for Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)
- C125 Terminology Relating to Concrete and Concrete Aggregates
- C138/C138M Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- C143/C143M Test Method for Slump of Hydraulic-Cement Concrete

- C171 Specification for Sheet Materials for Curing Concrete
- C231 Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
- C457 Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete
- C511 Specification for Mixing Rooms, Moist Cabinets, Moist Rooms, and Water Storage Tanks Used in the Testing of Hydraulic Cements and Concretes
- C513 Test Method for Obtaining and Testing Specimens of Hardened Lightweight Insulating Concrete for Compressive Strength
- C642 Test Method for Density, Absorption, and Voids in Hardened Concrete
- C995 Test Method for Time of Flow of Fiber-Reinforced Concrete Through Inverted Slump Cone (Withdrawn 2009)<sup>3</sup>
- C1018 Test Method for Flexural Toughness and First-Crack Strength of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading) (Withdrawn 2006)<sup>3</sup>
- C1399 Test Method for Obtaining Average Residual-Strength of Fiber-Reinforced Concrete

## 3. Terminology

3.1 *Definitions*—For definitions of terms used in this standard, refer to Terminology C125.

## 4. Significance and Use

4.1 Specimens obtained in accordance with the procedure section of this practice may be used for preconstruction studies of shotcrete mixtures, to qualify nozzlemen and equipment, or for quality control, or compressive or flexural strength testing, during the progress of a project.

## 5. Test Panels

### 5.1 *Forms for Panels:*

5.1.1 The form for receiving the shotcrete shall be either wood or steel construction and sufficiently rigid to prevent dislodging of the shotcrete through vibration or deformation. The form shall have a minimum width and length of 610 mm

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee C09 on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee C09.46 on Shotcrete.

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<sup>2</sup> 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.

<sup>3</sup> 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