



Designation: **C1542/C1542M – 14** C1542/C1542M – 16

## Standard Test Method for Measuring Length of Concrete Cores<sup>1</sup>

This standard is issued under the fixed designation C1542/C1542M; 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 test method is used to determine the length of a core drilled from concrete.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. Within the text, the inch-pound units are shown in brackets. The values stated in each system are not exact equivalents; therefore, each system shall be used independently of the other.

1.3 *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](#)

[C125 Terminology Relating to Concrete and Concrete Aggregates](#)

~~C174~~[C174/C174M Test Method for Measuring Thickness of Concrete Elements Using Drilled Concrete Cores](#)

[C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials](#)

[C1604/C1604M Test Method for Obtaining and Testing Drilled Cores of Shotcrete](#)

### 3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms used in this test method, refer to Terminology [C125](#).

### 4. Significance and Use

4.1 This test method provides two procedures for determining the length of a core as measured along its axis, obtained in accordance with either Test Method [C42/C42M](#) or Test Method [C1604/C1604M](#). This length is used in conjunction with length to diameter relationships, condition surveys, absorption, density and voids analysis, petrography, cement content analysis, and other applications. ~~It does not meet requirements for determining the distance between two parallel surfaces, which represents the thickness of a structural element often used to establish compliance with design specifications as outlined by Test Method [C174](#).~~

4.2 This procedure does not intend to include in the length measurement adhered particles not part of the concrete mixture.

4.3 Test Method [C174/C174M](#) also determines the length of concrete cores using a different measuring apparatus and procedure.

**NOTE 1**—Test Method [C174/C174M](#) uses an apparatus that establishes two parallel planes a known distance apart. The test method measures how much of that distance is not occupied by the core. The length of the core is determined by subtracting the measured distance from the known distance between the two parallel planes.

### 5. Apparatus

5.1 *Jaw Caliper*, minimum depth of jaw 65 mm [2.5 in.]. Measuring range 0 to 300 mm [0 to 12 in.]. Accuracy to ~~0.03~~0.02 mm [0.001 ~~in.~~in.] or better.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee [C09](#) on Concrete and Concrete Aggregates and is the direct responsibility of Subcommittee [C09.61](#) on Testing for Strength.

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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.

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