



Standard Practice for Molding Roller-Compacted Concrete in Cylinder Molds Using a Vibrating Hammer¹

This standard is issued under the fixed designation C1435/C1435M; 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 practice² covers molding cylindrical test specimens from concrete when the standard procedures of rodding and internal vibration, as described in Practice C31/C31M and Practice C1176/C1176M, are not practicable. This practice is applicable to freshly-mixed concrete, prepared in the laboratory and the field.

1.2 Freshly-mixed concrete is molded in cylindrical molds using an electric vibrating hammer equipped with a shaft and circular plate.

1.3 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 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.

1.4 The text of this practice references notes and footnotes, which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of this practice.

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.*

2. Referenced Documents

2.1 ASTM Standards:³

¹ This practice is under the jurisdiction of Committee C09 on Concrete and Concrete Aggregates and are the direct responsibility of Subcommittee C09.45 on Roller-Compacted Concrete.

Current edition approved Oct. 1, 2014. Published November 2014. Originally approved in 1999. Last previous edition approved in 2008 as C1435/C1435M – 08. DOI: 10.1520/C1435_C1435M-14.

² Supporting data have been filed at ASTM International Headquarters and may be obtained by requesting Research Report RR:C09-1045. Contact ASTM Customer Service at service@astm.org.

³ 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.

C31/C31M Practice for Making and Curing Concrete Test Specimens in the Field

C39/C39M Test Method for Compressive Strength of Cylindrical Concrete Specimens

C172/C172M Practice for Sampling Freshly Mixed Concrete

C470/C470M Specification for Molds for Forming Concrete Test Cylinders Vertically

C496/C496M Test Method for Splitting Tensile Strength of Cylindrical Concrete Specimens

C1170/C1170M Test Method for Determining Consistency and Density of Roller-Compacted Concrete Using a Vibrating Table

C1176/C1176M Practice for Making Roller-Compacted Concrete in Cylinder Molds Using a Vibrating Table

2.2 ACI Documents:

ACI 207.5R Report on Roller-Compacted Concrete⁴

ACI 211.3 Practice for Selecting Proportions for No-Slump Concrete⁴

3. Summary of Practice

3.1 This practice describes molding cylindrical concrete test specimens using a vibrating hammer. Test specimens are molded vertically in cylindrical molds by compacting the stiff to very dry concrete mixture in four lifts using a vibrating hammer.

4. Significance and Use

4.1 This practice, intended for use in testing roller-compacted concrete, may be applicable to testing other types of cementitious material such as coarse-grained, soil-cement. This practice provides standardized requirements for molding stiff to very dry consistency concrete mixtures commonly used in roller compacted concrete construction. This practice is used instead of rodding or internal vibration, which cannot properly consolidate concrete of this consistency.

NOTE 1—Further description of roller compacted concrete consistency is given in ACI 207.5R and ACI 211.3. The consistency of concrete using

⁴ *ACI Manual of Concrete Practice, Part 1, Materials and General Properties of Concrete*, American Concrete Institute, Farmington Hills, MI.

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