



Standard Test Method for Determining Relative Bond Strength Between Hardened Roller Compacted Concrete Lifts (Point Load Test)¹

This standard is issued under the fixed designation C1245/C1245M; 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 test method is intended for testing roller-compacted concrete specimens and covers determination of the relative bond between layers of roller-compacted concrete or other hardened concrete in multiple-lift forms of construction. It is applicable to all types of layered roller-compacted concrete where the total depth is sufficient to meet the minimum specimen length and diameter requirements of this test method. This test method is not intended to provide tensile strength results of the material tested.

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, which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of this 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:*²

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

C42/C42M Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete

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

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² 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.

C125 Terminology Relating to Concrete and Concrete Aggregates

C192/C192M Practice for Making and Curing Concrete Test Specimens in the Laboratory

C670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials

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

C1435/C1435M Practice for Molding Roller-Compacted Concrete in Cylinder Molds Using a Vibrating Hammer

D1557 Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))

3. Terminology

3.1 Refer to Terminology **C125** for definitions of terms used in this test method.

4. Significance and Use

4.1 This test method is used to measure the relative bond strength of roller-compacted concrete to other roller-compacted concrete by using a point load test at the joint (see **Note 1**). Relative bond strength is determined using drilled cores or cast cylindrical specimens in which the bond surface is essentially normal to the longitudinal axis at approximately the mid-length of the specimen. A splitting tensile stress normal to the bond surface is produced by applying a point load at the joint.

4.2 The test results in a value that can be compared to that obtained by testing other specimens which are made from the same materials and by the same process. Results can be used for the purpose of comparing the relative bond strength of various joint conditions, joint treatments, or bonding materials applied to the joint.

4.3 The test results are not to be taken as a true bond strength. Values of cohesion or tensile strength shall be determined by methods other than this test method.

4.4 This test method may be used either for laboratory investigation by casting individual composite cylinders or by coring prototype structures or assemblies (Test Method **C42/C42M**).

NOTE 1—This test may be used for testing the relative bond of other

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