Designation: D 3202 – 94 (Reapproved 2004)ε1

Standard Practice for Preparation of Bituminous Mixture Beam Specimens by Means of the California Kneading Compactor[1]

This standard is issued under the fixed designation D 3202; 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.

ε[1] NOTE—Adjunct references corrected editorially in April 2006.

1. Scope

1.1 This practice covers the preparation of beams of bituminous paving mixtures by means of a mechanical compactor that imparts a kneading action compacting the beam by a series of individual impressions made with a ram.

1.2 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

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:* [2]

D 1561 Practice for Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor

2.2 *ASTM Adjuncts:*

Mold and Accessories[3]

3. Significance and Use

3.1 This practice provides a standard method for compaction useful to practitioners and researchers engaged in testing and evaluation of bituminous mixtures using beam form specimens.

4. Apparatus

4.1 *California Kneading Compactor*, mechanical, in accordance with Practice D 1561.

4.2 *Compactor Foot*—A ram 2.0 by 3.0 in. (50.8 by 76.2 mm).

4.3 *Rod*—A round-nose steel rod, ⅜-in. (9.5-mm) in diameter by 16-in. (406.4-mm) long.

4.4 *Mold*—A beam mold with inside dimensions 15 in. (381 mm) long by 3¼ in. (82.6 mm) wide and 4½ in. (114.3 mm) high as shown in Fig. 1.

4.5 *Leveling Bar*— A steel bar 14.94 in. (379.5 mm) long by 3.19 in. (81.0 mm) wide by 1.00 in. (25.4 mm) deep, stiffened by a beveled-ended spline 12.94 in. (328.6 mm) long by 1.00 in. wide by 1.00 in. deep, centered on and welded to the top of the bar; or a solid steel bar of equal length and width having depth sufficient to provide at least equal stiffness as determined by the moment of inertia about the neutral axis.

4.6 *Sliding Base Assembly*—An assembly attached to the kneading compactor with a hand wheel or other means for moving the mold laterally during compaction.

4.7 *Extraction Assembly*—A beam specimen extraction assembly as shown in Fig. 2.

NOTE 1—Copies of working drawing of the mold, sliding base assembly, leveling bar and extraction assembly suitable for construction of these pieces of apparatus are available as adjunct material.[3]

4.8 *Paper*, heavy sheets, 3.25 by 15 in. (82.6 by 381 mm).

4.9 *Ovens*, electric, capable of maintaining temperatures of 200 to 325 ± 5°F (93.3 to 162.8 ± 2.8°C).

4.10 *Testing Machine*, compression, having a minimum capacity of 50 000 lbf (222 kN).

4.11 *Balance*, having a capacity of 5 kg or more and sensitive to 1.0 g or less.

4.12 *Miscellaneous Apparatus*—Thermometer, spatulas, spoons, gloves, metal pans, and mechanical mixer.

5. Test Specimens

5.1 *Preparation of Mixture*—Prepare approximately 6800 g of the bituminous mixture in accordance with 5.1 and 5.2 of Practice D 1561 except for specific requirements given in 5.2 and 6 of this practice.

5.2 *Size of Specimens*—The beam test specimens shall have a rectangular cross section of 3¼ in. (82.6 mm) in width by 3½ in. (88.9 mm) in depth and a length of 15 in. (381 mm).

[1] This recommended practice is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.20 on Mechanical Tests of Bituminous Mixtures.

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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.

[3] Available from ASTM International Headquarters. Order Adjunct No. ADJD3202. Original adjunct produced in 1974.