



Standard Practice for Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor¹

This standard is issued under the fixed designation D 1561; 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 The practice covers the preparation of test specimens of bituminous paving mixtures by means of a mechanical compactor that imparts a kneading action to the test specimens by a series of individual impressions made with a ram.

1.2 *This standard does not purport to address all of the safety problems, 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.*

1.3 The values stated in acceptable metric units are to be regarded as the standard.

2. Referenced Documents

2.1 ASTM Standards:

D 1560 Test Methods for Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus²

D 4753 Specification for Evaluating, Selecting, and Specifying Balances and Scales for Use in Soil, Rock and Construction Materials Testing³

3. Significance and Use

3.1 This practice can be used to prepare cylindrical specimens of bituminous mix for subsequent testing. The procedure incorporates the use of the California Kneading Compactor in an attempt to duplicate the kneading action that is provided by the equipment now being used for the compaction of asphalt concrete pavement.

4. Apparatus

4.1 *California Kneading Compactor*—Mechanical kneading compactor, as shown in Fig. 1,⁴ for consolidating test specimens.

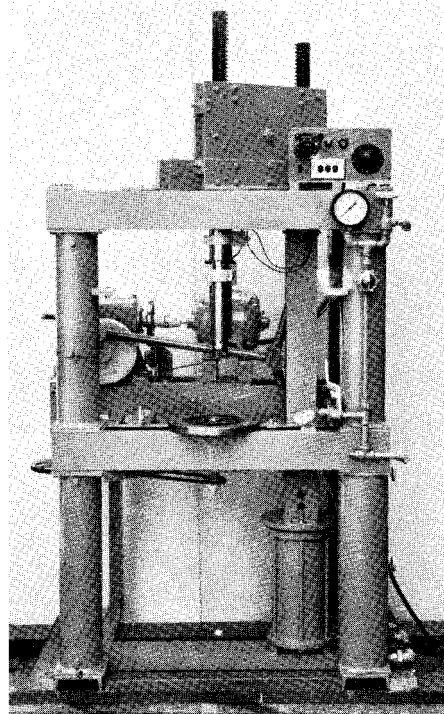


FIG. 1 California Kneading Compactor

NOTE 1—Kneading compactors, which on calibration develop a trace curve similar to that of the California kneading compactor, shall be considered acceptable under this test method. Alternatively, any kneading compactor capable of fabricating specimens that will show stabilometer values equivalent to those obtained from the California kneading compactor shall be acceptable for use under this test method. The supplier has the responsibility of furnishing those substantiating data for his device.

NOTE 2—Curves are considered within calibration when they show the same peak pressure and dwell time in load time tract obtained in the calibration procedure.

NOTE 3—This compactor shall be considered in calibration when the peak momentary load applied to a test specimen is held within $\pm 5\%$ of the intended foot pressure (within the range from 2.4 to 3.4 MPa) (350 to 500 psi).

NOTE 4—The stabilometer values from replicate specimens fabricated by this Practice D 1561 and tested in accordance with Test Methods D 1560, shall fall within a range of 3 units for all dense-graded bituminous mixtures containing aggregates not larger than 12.7 mm ($\frac{1}{2}$ in.) and within a range of 4 units for coarser graded bituminous mixtures containing up to 25.4-mm (1-in.) maximum size aggregates.

4.2 *Compactor Foot*—A ram having a face shaped as shown

¹ This method 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 Mixes.

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² *Annual Book of ASTM Standards*, Vol 04.03.

³ *Annual Book of ASTM Standards*, Vol 04.08.

⁴ Blueprints of detailed drawings of the apparatus illustrated in Fig. 1 are available at a nominal cost from the American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103. Request Adjunct No. ADJD1561.