



Designation: ~~D5361/D5361M – 14~~ D5361/D5361M – 16

Standard Practice for Sampling Compacted Bituminous Asphalt Mixtures for Laboratory Testing¹

This standard is issued under the fixed designation D5361/D5361M; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

~~Note—Standard Practice was corrected editorially and the year date was changed on March 7, 2014.~~

1. Scope

1.1 This practice describes a procedure for removal of a sample of compacted bituminous asphalt mixture from a pavement for laboratory testing.

1.2 *Units*—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 the 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

D8 Terminology Relating to Materials for Roads and Pavements

D3665 Practice for Random Sampling of Construction Materials

D3666 Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

3. Terminology

3.1 Refer to Terminology D8

4. Significance and Use

4.1 Samples obtained in accordance with the procedure given in this practice may be used to measure pavement many different properties of a compacted asphalt pavement including, but not limited to, pavement thickness, density, resilient or dynamic modulus, tensile strength, Marshall or Hveem stability, or for extraction testing, to determine asphalt content, asphalt properties, and mix gradation.

NOTE 1—The quality of the results produced by this standard are dependent on the competence of the personnel performing the procedure and the capability, calibration, and maintenance of the equipment used. Agencies that meet the criteria of Specification D3666 are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Specification D3666 alone does not completely assure reliable results. Reliable results depend on many factors; following the suggestions of Specification D3666 or some similar acceptable guideline provides a means of evaluating and controlling some of those factors.

5. Apparatus

5.1 To minimize distortion of the compacted bituminous asphalt course(s), power equipment shall be used to secure the sample. The equipment may be either a core drill or power saw.

¹ This practice is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.30 on Methods of Sampling.

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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.

5.2 The cutting edge of the core drill bit shall be of hardened steel or other suitable material with diamond chips embedded in the metal cutting edge.

5.3 Saw blades used in a power saw shall be either a hardened metal blade with diamond chips embedded or an abrasive blade such as carborundum or similar material.

5.4 A source of cooling water, dry ice, liquid nitrogen, or other cooling material is normally required but in some cases may be omitted when only a single sample is to be secured. ~~At~~If at any time there is evidence of damage to the edge of the sample due to the generation of heat caused by friction, a cooling material shall be applied to the cutting tool or to the pavement surface to minimize sample distortion or other damage.

5.5 A device (core debonder) for separating core samples from underlying layers is not required to be used. If such device is employed, it shall be a metal semicircle with an inside radius equal to the outside radius of the core and shall have a rigidly attached handle. A split core barrel of the required radius cut in half vertically and welded to a strap iron handle is suitable for this purpose. (See Fig. 1.)

NOTE 2—Differences in manufacturers' tolerances of core barrels' diameters and thicknesses may result in a particular barrel not fitting into the kerf. In such cases, other means may have to be used for debonding.

5.6 A lifting device (core lifter) for removing core samples from holes will preserve the integrity of the core. The device shall be a steel rod of suitable length and with a diameter that will fit into the space between the core and the pavement material. There shall be a 90° [1.57 rad] bend at the top to form a handle and a 90° [1.57 rad] bend at the bottom, approximately 50 mm [2 in.] long, to form the lifter.

6. Sampling

6.1 Select the locations to be sampled by a random method from the material in place. Random sampling procedures as outlined in Practice D3665 shall be followed when samples obtained will be used in conducting quality control/quality assurance tests.

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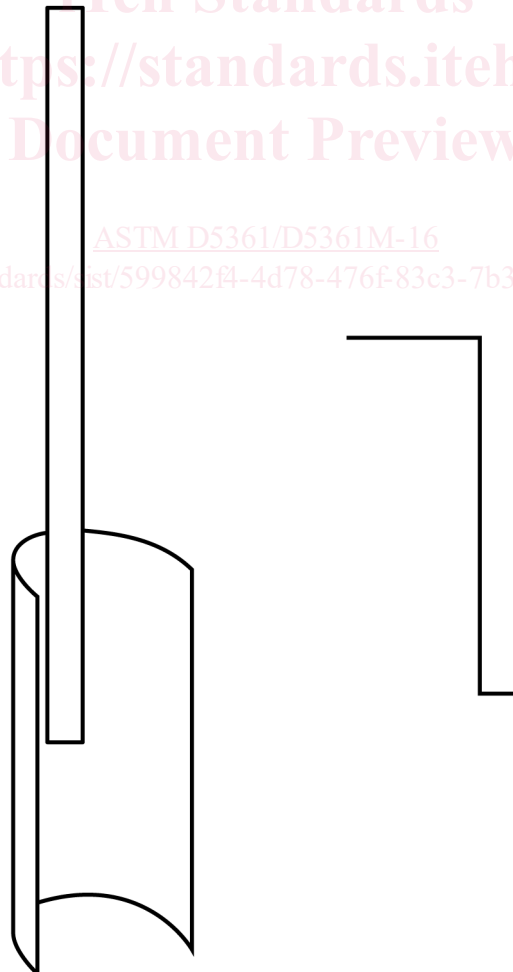


FIG. 1 Core Debonder