



Designation: D3665 – 24

Standard Practice for Random Sampling of Construction Materials¹

This standard is issued under the fixed designation D3665; 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 practice covers the determination of random locations (or timing) at which samples of construction materials can be taken. For the exact physical procedures for securing the sample, such as a description of the sampling tool, the number of increments needed for a sample, or the size of the sample, reference should be made to the appropriate standard method. The selection procedures in Section 6 utilize the table of four-digit numbers given in Table 1.

1.2 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

C172/C172M Practice for Sampling Freshly Mixed Concrete

C183/C183M Practice for Sampling and the Amount of Testing of Hydraulic Cement

D8 Terminology Relating to Materials for Roads and Pavements

D75/D75M Practice for Sampling Aggregates

D140/D140M Practice for Sampling Asphalt Materials

D345 Test Method for Sampling and Testing Calcium Chloride for Roads and Structural Applications (Withdrawn 2019)³

D979/D979M Practice for Sampling Asphalt Mixtures

D5361/D5361M Practice for Sampling Compacted Asphalt Mixtures for Laboratory Testing

E105 Guide for Probability Sampling of Materials

E122 Practice for Calculating Sample Size to Estimate, With Specified Precision, the Average for a Characteristic of a Lot or Process

E141 Practice for Acceptance of Evidence Based on the Results of Probability Sampling

3. Terminology

3.1 This standard uses terms as defined by Terminology D8.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *representative sample, n*—(1) a random sample; or (2) an unbiased sample.

3.2.2 *random sample, n*—a sample obtained from a lot of material in such a manner that all parts of the lot have a known probability of being included in the sample.

3.2.3 *unbiased sample, n*—a sample obtained from a lot of material in such a manner that all parts of the lot have an equal probability of being included in the sample.

4. Significance and Use

4.1 This practice is useful for determining the location or time, or both, to take a sample in order to minimize any unintentional bias on the part of the person taking the sample.

NOTE 1—The effectiveness of this practice in achieving random samples is limited only by the conscientiousness of the user in following the stipulated procedures.

4.2 The selection procedures and examples in this standard provide a practical approach for ensuring that construction material samples are obtained in a random manner. Additional details concerning the number of sample increments, the number of samples, the quantities of material in each, and the procedures for extracting sample increments or samples from the construction lot or process are contained in Practices

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 www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

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