Designation: ~~D5451 – 93 (Reapproved 2016)~~ D5451 – 21

Standard Practice for Sampling Using a Trier Sampler[1]

This standard is issued under the fixed designation D5451; 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 sampling using a trier. A trier resembles an elongated scoop as shown in Fig. 1. The trier is used to collect samples of granular or powdered materials that are moist or sticky and have a particle diameter less than ~~one-half~~ one half the diameter of the trier.

1.2 The trier can be used as a vertical coring device only when it is certain that a relatively complete and cylindrical sample can be extracted.

1.3 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard. All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026. Reporting of test results in units other than SI shall not be regarded as nonconformance with this standard.

1.4 *This standard does not purport to address all of the safety ~~problems,~~concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate ~~safety~~ safety, health, and ~~health~~environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *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]

D4687 Guide for General Planning of Waste Sampling
D5088 Practice for Decontamination of Field Equipment Used at Waste Sites
D5283 Practice for Generation of Environmental Data Related to Waste Management Activities: Quality Assurance and Quality Control Planning and Implementation
D5681 Terminology for Waste and Waste Management
D6026 Practice for Using Significant Digits in Geotechnical Data

3. Terminology

3.1 *Definitions*—For definitions of terms used in this standard, see Terminology D5681.

[1] This practice is under the jurisdiction of ASTM Committee D34 on Waste Management and is the direct responsibility of Subcommittee D34.01.03 on Sampling Equipment.

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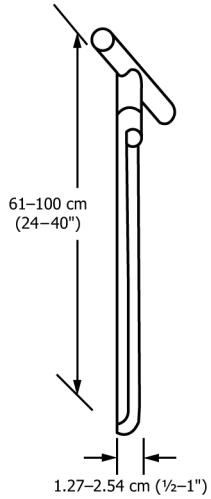
[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.



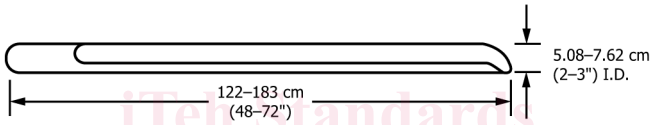


FIG. 1 Triers (Typical)

4. Summary of Practice

4.1 As a coring device, the trier is pushed into the material to be sampled and is turned to cut the core. The core is then removed from the hole.

5. Significance and Use

5.1 This practice is applicable to sampling soils and similar fine-grained cohesive materials. This practice is to be used by personnel who are to acquire the samples.

5.2 This practice should be used in conjunction with Guide D4687, which covers sampling plans, safety, quality assurance, preservation, decontamination, labeling, and chain-of-custody procedures; Practice D5088, which covers the decontamination of field equipment used at waste sites; and Practice D5283, which covers project specifications and practices for environmental field operations.

6. Sampling Equipment

6.1 The trier should be made from materials that are compatible with the substances being sampled and with the tests or analyses to be performed. Either stainless steel or polytetrafluoroethylene-coated metal will be suitable for most situations (see Fig. 1).

7. Sample Containers

7.1 Plastic, glass, or other nonreactive containers should be used. Refer to Guide D4687 for further information on containers.

8. Procedure

8.1 Record appropriate information and observations on the sample location. Refer to Guide D4687 for further information on what to record.