



Standard Practice for Rock Core Drilling and Sampling of Rock for Site Exploration¹

This standard is issued under the fixed designation D2113; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This practice covers the guidelines, requirements, and procedures for core drilling, coring, and sampling of rock for the purposes of site exploration. The borehole could be vertical, horizontal, or angled.

1.2 This practice is described in the context of obtaining data for the design, construction, or maintenance of structures, and applies to surface drilling and drilling from adits and exploratory tunnels.

1.3 This practice applies to core drilling in hard and soft rock.

1.4 This practice does not address considerations for core drilling for geo-environmental site characterization and installation of water quality monitoring devices (see Guides [D5782](#) and [D5783](#)).

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.6 This practice does not purport to comprehensively address all of the methods and the issues associated with coring and sampling of rock. Users should seek qualified professionals for decisions as to the proper equipment and methods that would be most successful for their site exploration. Other methods may be available for drilling and sampling of rock, and qualified professionals should have flexibility to exercise judgment as to possible alternatives not covered in this practice. This practice is current at the time of issue, but new alternative methods may become available prior to revisions; therefore, users should consult with manufacturers or producers prior to specifying program requirements. *This practice offers a set of instructions for performing one or more specific operations. This document cannot replace education or experience*

and should be used in conjunction with professional judgment. Not all aspects of this practice may be applicable in all circumstances. This ASTM standard is not intended to represent or replace the standard of care by which the adequacy of a given professional service must be judged, nor should this document be applied without consideration of a project's many unique aspects. The word "Standard" in the title of this document means only that the document has been approved through the ASTM consensus process.

1.7 *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.* Also, the user must comply with prevalent regulatory codes, such as OSHA (Occupational Health and Safety Administration) guidelines, while using this practice. For good safety practice, consult applicable OSHA regulations and other safety guides on drilling ([1](#)).

2. Referenced Documents

2.1 ASTM Standards:²

- [D653 Terminology Relating to Soil, Rock, and Contained Fluids](#)
- [D4380 Test Method for Density of Bentonitic Slurries](#)
- [D4630 Test Method for Determining Transmissivity and Storage Coefficient of Low-Permeability Rocks by In Situ Measurements Using the Constant Head Injection Test](#)
- [D5079 Practices for Preserving and Transporting Rock Core Samples](#)
- [D5434 Guide for Field Logging of Subsurface Explorations of Soil and Rock](#)
- [D5782 Guide for Use of Direct Air-Rotary Drilling for Geoenvironmental Exploration and the Installation of Subsurface Water-Quality Monitoring Devices](#)
- [D5783 Guide for Use of Direct Rotary Drilling with Water-Based Drilling Fluid for Geoenvironmental Exploration](#)

¹ This Practice is under the jurisdiction of ASTM Committee [D18](#) on Soil and Rock and is the direct responsibility of Subcommittee [D18.02](#) on Sampling and Related Field Testing for Soil Evaluations.

Current edition approved Nov. 1, 2014. Published November 2014. Originally approved in 1962. Last previous edition approved in 2008 as D2113 – 08. DOI: 10.1520/D2113-14.

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.