



Designation: **D4427 – 07 D4427 – 13**

Standard Classification of Peat Samples by Laboratory Testing¹

This standard is issued under the fixed designation D4427; 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.

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

1. Scope*

1.1 This classification is a system for subdividing and assigning nomenclature to peat samples through laboratory tests.

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.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[D653 Terminology Relating to Soil, Rock, and Contained Fluids](#)

[D1997 Test Method for Laboratory Determination of the Fiber Content of Peat Samples by Dry Mass](#)

[D2974 Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils](#)

[D2976 Test Method for pH of Peat Materials \(Withdrawn 2013\)](#)³

[D2980 Test Method for Volume Mass, Moisture-Holding Capacity, and Porosity of Saturated Peat Materials](#)

[D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction](#)

3. Terminology

3.1 *Definitions: Definitions*

3.1.1 For common definitions of terms in this standard, refer to Terminology [D653](#).—For

3.1.2 *peat*—a naturally occurring highly organic substance derived primarily from plant materials. Peat is distinguished from other organic soil materials by its lower ash content (less than 25 % ash by dry weight (see Test Methods [D2974](#))), and from other phytogenic material of higher rank (that is, lignite coal) by its lower calorific value on a water-saturated basis. definitions of common technical terms in this standard, refer to Terminology [D653](#).

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *absorbency*—the ~~maximum~~ amount of ~~moisture (by weight)~~ water by mass that can be held by the peat. This amount is expressed in terms of the water-holding capacity as measured using Test Method [D2980](#).

3.2.2 *acidity*—~~this is~~ expressed as the pH of the peat in water as measured using Test Method [D2976](#).

3.2.3 *ash content*—the percentage by dry ~~weight~~ mass of material remaining after the oven dry peat is burned, using the methods described in Test Methods [D2974](#).

3.2.4 *botanical composition*—the dominant plant genus, genera, or informal plant group identified by visual ~~inspection~~ observation as comprising a portion of the fiber in the peat.

3.2.5 *fiber content*—the dry ~~weight~~ mass of fibers remaining on a 100-mesh sieve after wet sieving. ~~after wet sieving over a No. 100 (150- μ m) sieve.~~ Fiber content is expressed as a percentage of the original dry ~~weight~~ mass, using the method described in Test Method [D1997](#).

¹ This classification is under the jurisdiction of ASTM Committee [D18](#) on Soil and Rock and is the direct responsibility of Subcommittee [D18.07](#) on Identification and Classification of Soils.

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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.

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