



Designation: **D2978 – 03 (Reapproved 2010) D2978 – 15**

Standard Test Method Methods for Volume of Processed Peat Materials¹

This standard is issued under the fixed designation D2978; 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 Scope*

1.1 ~~This test method covers~~ These test methods cover the measurement of the volume of loose and baled processed peat expressed as cubic feet and is used as a quality control measurement to determine if the package contains the labeled amount of material. The results of these test methods are highly dependent on the experience of the personnel running the procedure.

1.2 There are two test methods, Method A for Loose Peat and Method B for Baled Peat. Method A is used when the material is uncompacted and Method B is used when the material is compacted.

1.3 *Units*—The values stated in inch-pound units are to be regarded as standard. Except, that the sieve designations are typically identified using the “alternative” system in accordance with Practice E11, such as 3-in. and No. 200, instead of the “standard” of 75-mm and 75- μ m, respectively.

1.4 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice D6026.

1.4.1 The procedures used to specify how data are collected/recorded or calculated in this standard are regarded as the industry standard. In addition, they are representative of the significant digits that generally should be retained. The procedures used do not consider material variation, purpose for obtaining the data, special purpose studies, or any considerations for the user’s objectives; and it is common practice to increase or reduce significant digits of reported data to be commensurate with these considerations. It is beyond the scope of this standard to consider significant digits used in analysis methods for engineering design.

1.5 *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

- D653 Terminology Relating to Soil, Rock, and Contained Fluids
- D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
- D6026 Practice for Using Significant Digits in Geotechnical Data
- E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of common technical terms in this standard, refer to Terminology D653.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *loose peat, n*—uncompacted peat in air-dried, granulated or crumb form.

4. Summary of Test Method

4.1 ~~The test method consists of~~ These test methods consist of either measuring the outer dimensions of compacted peat (Method B) or dividing the particles of uncompacted peat (Method A) by passing them through a $\frac{1}{2}$ 12.5-mm (-in. (12.5-mm) $\frac{1}{2}$ -in.) sieve and allowing them to fall into a volume-measuring container.

¹ This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.22 on Soil as a Medium for Plant Growth.

Current edition approved Feb. 1, 2010; May 1, 2015. Published March 2010; June 2015. Originally approved in 1971. Last previous edition approved in 2003 as D2978 – 03; D2978 – 03(2010). DOI: 10.1520/D2978-03R10; 10.1520/D2978-15.

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.

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

5. Significance and Use

~~4.1 This test method may be used to quantify the volume of peats under consideration in commercial transactions.~~

~~5.1 The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the criteria of Practice [D3740](#) are generally considered capable of competent and objective testing/sampling/inspection/ and the like. Users of this standard are cautioned that compliance with Practice [D3740](#) does not in itself assure reliable results. Reliable results depend on many factors; Practice [D3740](#) provides a means of evaluating some of those factors. As such, material comes into the test area in an “as sold” condition.~~

~~NOTE 1—The quality of the result produced by this standard is dependent on the competence of the personnel performing it, and the suitability of the equipment and facilities used. Agencies that meet the criteria of Practice [D3740](#) are generally considered capable of competent and objective testing/sampling/inspection/etc. Users of this standard are cautioned that compliance with Practice [D3740](#) does not in itself ensure reliable results. Reliable results depend on many factors; Practice [D3740](#) provides a means of evaluating some of those factors.~~

6. Apparatus

~~6.1 U. S. Standard Sieve, $\frac{1}{2}$ 12.5-mm (1/2-in. (12.5-mm), 1/2-in.); conforming to Specification [E11](#).~~

~~6.2 Container—Measuring Container—of A steel or wood bound container with metal/metal having one of the following sets of inside dimensions:~~

Size (ft ³)	Measuring Container Dimensions (W × L × H)
$\frac{1}{2}$	12 × 12 × 12 in. with line scribed at 6 in. from the bottom
$\frac{3}{4}$	12 × 12 × 12 in. with line scribed at 9 in. from the bottom
1	12 × 12 × 12 in.
2	16 × 16 × 13.5 in.
5	16 × 16 × 33.75 in.

~~5.2.1 $\frac{1}{2}$ ft³ = 12 by 12 by 12-in. container with line scribed 6 in. from the bottom.~~

~~5.2.2 $\frac{3}{4}$ ft³ = 12 by 12 by 12-in. container with line scribed 9 in. from the bottom.~~

~~5.2.3 1-ft³ = 12 by 12 by 12-in. container.~~

~~5.2.4 2-ft³ = 16 by 16-in. base by 13½-in. height.~~

~~5.2.5 5-ft³ = 16 by 16-in. base by 33¾-in. height.~~

~~6.3 Straight Edge—At least 20 inches (50.8 cm) in length~~

~~6.4 Dimension Measuring Device—A tape measure, ruler, or similar device with sufficient capacity to measure, without estimation, the baled peat and readable to 1 in. or better.~~

7. Procedure

~~7.1 Select the measuring container most closely corresponding to the amount of volume the label states is contained in the package.~~

~~7.2 For either method, use all of the material in the package for testing.~~

~~7.3 The volume of the material can only be determined once.~~

~~7.4 Method A: Loose Peat—Peat: Remove the material from the bag or container, pass it through the 12.5-mm (½-in.) sieve and place directly into the measuring box. Pour the contents from approximately 2 ft into the measuring box. Determine the contents of the bag or container only once. The corners of the measuring box shall be well filled by shaking with a rotary motion; one rotation per second for 5 s without lifting the box from the floor or other surface. When filled, level it off by a straightedge to determine the volume:~~

~~7.4.1 Place the ½-in. (12.5-mm) sieve on top of the selected measuring container.~~

~~7.4.2 Open the package and from a height of 2 ft over the sieve and measuring container, pour the contents over the sieve and into the measuring container.~~

~~7.4.3 The corners of the measuring container shall be well filled by shaking with a rotary motion at one rotation per second for five seconds without lifting the box from the floor or other surface. When filled and if necessary, level the measuring container off using the straightedge. Measure and record the volume to the nearest 1 ft³.~~

~~7.5 Method B: Baled Peat—Peat: The volume of baled material shall be the product of the height by the area of the base. Measurements must be corrected for outside wrappers. Determine the amount of loose peat in a bale by passing through the 12.5-mm (½-in.) sieve and measuring the amount of loose peat using the 12 by 12 by 12-in. box and the procedure described in [5.1](#).~~