Designation: D2977 – 03

Standard Test Method for Particle Size Range of Peat Materials for Horticultural Purposes[1]

This standard is issued under the fixed designation D2977; 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 test method[2] covers measurement of the weight percentage of fractions of a peat material defined in terms of selected ranges of screen sizes.

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

2. Referenced Documents

2.1 *ASTM Standards:* [3]

D653 Terminology Relating to Soil, Rock, and Contained Fluids [3]

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]

D2974 Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

3. Summary of Test Method

3.1 A representative test specimen of air-dried peat is separated into four designated fractions by means of an 8-mesh and a 20-mesh sieve. The fractions are: (*1*) foreign matter removed manually from the 8-mesh sieve, (*2*) coarse fiber retained on the 8-mesh sieve, (*3*) medium fiber through the 8-mesh sieve but retained on the 20-mesh sieve and (*4*) fine fibers and fines through the 20-mesh sieve. The weight percentage of each fraction is reported on the as-received basis.

4. Significance and Use

4.1 This test method separates peat material into arbitrary fractions based on particle size. Physical separation of peat material according to particle size provides a useful indicator of the properties of a peat specimen such as pore space, decomposition, etc. It provides a means of determining the amount of foreign matter not in a divided state such as sticks, stones, and glass.

4.2 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.

5. Apparatus and Material

5.1 *Oven*, regulated to a constant temperature of 105°C.

5.2 *Evaporating Dishes*, high silica or porcelain, not less than 75-ml capacity.

5.3 *Blender*, high-speed.

5.4 *Aluminum Foil*, heavy-duty.

5.5 *Porcelain pan, spoons, etc.*

5.6 *Mechanical Sieve Shaker.*

5.7 *Sieves*—U. S. standard 8-in. diameter 8 and 20-mesh sieves equipped with cover and bottom pan.

6. Preparation of Sample

6.1 Air-dry sample in accordance with Method II of Test Methods D2974, and record the weight percentage of moisture removed by air-drying.

7. Procedure

7.1 Mix the air-dried sample thoroughly and place a 20-g specimen on the 8-mesh sieve. Secure the 8 and 20-mesh sieves equipped with cover and bottom pan and shake at a suitable speed for 10 min. Remove foreign matter from the 8-mesh sieve and weigh. Designate this fraction as foreign matter. Weigh the remaining fraction retained on the 8-mesh sieve and designate this fraction as coarse fiber. Weigh the fraction retained on the 20-mesh sieve and designate this

[1] This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.2 on Peats and Related Materials.

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[2] This test method is currently undergoing an extensive review by Committee D-18.

[3] *Annual Book of ASTM Standards*, Vol 04.08.

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