



Designation: D5268 – 23

# Standard Specification for Topsoil Used for Landscaping and Construction Purposes<sup>1</sup>

This standard is issued under the fixed designation D5268; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This specification covers a physical evaluation of a soil containing organic material, relative to its use as a topsoil for vegetative growth purposes in landscaping and construction. For classification, a full agricultural textural classification may be used. Soils being evaluated for use as a topsoil must meet the requirements in **Table 1**.

1.2 When physically evaluating a soil, relative to its suitability to support plant growth (primarily grasses), tests must be made to determine the presence and the amount of organic matter, moisture content, inorganic matter (sand, silt and clay), pH, salt content, cation exchange capacity percentages and deleterious materials.

1.3 The presence in the soil of the correct nutrients, salts, and pH is necessary for healthy plant growth. This specification does not cover a determination of the nutrients, nor their availability.

1.4 Typical ranges of topsoil composition are presented in **Table 1**. Soils falling within these ranges will generally form a suitable topsoil. Soils being used as a topsoil with organic matter contents between 10 and 90 %, may need to be amended prior to use. It must, however, be recognized that in some geographic regions, achieving the values in **Table 1** could be difficult. In such cases, alternative specifications may need to be considered, or an engineered soil amendment meeting the requirements in **Table 1** excluding the sand, silt, and clay content as those materials will come from the subsurface soil being amended. When using an engineered soil amendment, the organic matter values need to be >75 % to help rebuild the subsoil layers.

1.5 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.6 All observed and calculated values shall conform to the guidelines for significant digits and rounding established in Practice **D6026**, unless superseded by this test method.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee **D18** on Soil and Rock and is the direct responsibility of Subcommittee **D18.22** on Media for Plant Growth.

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1.6.1 The procedures used to specify how data are collected/recorded and calculated in the 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 these test methods to consider significant digits used in analysis methods for engineering data.

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

1.8 *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*:<sup>2</sup>

- D653 Terminology Relating to Soil, Rock, and Contained Fluids**
- D2216 Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass**
- D2974 Test Methods for Determining the Water (Moisture) Content, Ash Content, and Organic Material of Peat and Other Organic Soils**
- D3740 Practice for Minimum Requirements for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction**
- D4972 Test Methods for pH of Soils**
- D6026 Practice for Using Significant Digits and Data Records in Geotechnical Data**

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto: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