



Designation: D7047 – 15

## Standard Test Method for Swell Volume of *Plantago Insularis* (Ovata, Psyllium)<sup>1</sup>

This standard is issued under the fixed designation D7047; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 Quantitative test method to determine the swell volume of *plantago insularis* (Ovata, Psyllium).

1.2 The purpose of this test method is to provide a means of evaluating the swell volume, millilitres per gram, of psyllium hydrophilic mucilloid.

1.3 The values stated in SI units are to be regarded as the standard. The values in parentheses are provided for information only.

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

1.4.1 For purposes of comparing, a measured or calculated value(s) with specified limits, the measured or calculated value(s) shall be rounded to the nearest decimal or significant digits in the specified limits.

1.4.2 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.*

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.25 on Erosion and Sediment Control Technology.

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### 2. Referenced Documents

2.1 *ASTM Standards*:<sup>2</sup>

D653 Terminology Relating to Soil, Rock, and Contained Fluids

D1193 Specification for Reagent Water

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

D4753 Guide for Evaluating, Selecting, and Specifying Balances and Standard Masses for Use in Soil, Rock, and Construction Materials Testing

D6026 Practice for Using Significant Digits in Geotechnical Data

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

### 3. Terminology

3.1 *Definitions*:

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

### 4. Summary of Test Method

4.1 Psyllium substrate is saturated with simulated intestinal fluid and the swell volume recorded after 24 h.

### 5. Significance and Use

5.1 The meaning of the test is related to the manufacturing and end use of the material, to determine characteristics of products.

5.2 The volume of swell reflects the amount of hydrophilic mucilloid present in psyllium.

5.3 A manufacturer of raw psyllium will base the grade of psyllium produced on multiple properties of which swell volume is one.

<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.