



Designation: D1725 – 12 (Reapproved 2019)

# Standard Practice for Preparing Resin Solutions for Viscosity Measurement by Bubble Time Method<sup>1</sup>

This standard is issued under the fixed designation D1725; 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 practice provides instructions for preparing resin solutions viscosity measurement by bubble time method.

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

1.3 *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. For specific hazard statements, see Section 7.*

1.4 *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>

**D154** Guide for Testing of Varnishes (Withdrawn 2018)<sup>3</sup>

**D1545** Test Method for Viscosity of Transparent Liquids by Bubble Time Method

**D6440** Terminology Relating to Hydrocarbon Resins

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

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.33 on Polymers and Resins.

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<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.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

2.2 *Other Document:*

OSHA Regulations, 29 CFR, paragraphs 19.10.1000 and 1910.1200<sup>4</sup>

## 3. Terminology

3.1 For definitions related to hydrocarbon resins see Terminology D6440.

## 4. Summary of Practice

4.1 Solid resins are dissolved in organic solvents by cold-cut or hot-cut methods in the laboratory. The viscosity of such prepared solutions, or of commercial solutions of resins is then determined by the bubble time method (Test Method D1545). The bubble seconds are approximately equal to stokes.

## 5. Apparatus

5.1 *Bath*, constant-temperature, consisting of a cylindrical glass jar of about 5-gal capacity, or an aquarium tank with controls capable of maintaining the temperature at  $25 \pm 0.1^\circ\text{C}$  with water as the bath medium.

5.2 *Bottles*, 225-mL (8-oz), wide-mouth, screw cap.

5.3 *Cellophane*, sheet, cut into 102 or 127-mm (4 or 5-in.) squares.

5.4 *Corks*, No. 2 short taper, to fit viscosity tubes.

5.5 *Holder for Viscosity Tubes*, preferably a mechanical holder<sup>5</sup> with rack and pinion for inverting the tubes. The holder should be checked with a small level and T-square to make certain it holds the tubes in an exact vertical position after being placed in the constant-temperature bath.

5.6 *Bottle Shaker*, preferably one which will give end-over-end agitation.

<sup>4</sup> Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, <http://www.access.gpo.gov>.

<sup>5</sup> Suitable mechanical viscosity tube holders are available from various laboratory supply companies.