



Designation: E1047 – 85 (Reapproved 2026)

Standard Specification for Blood Sedimentation Tube, Wintrobe, Glass, Disposable¹

This standard is issued under the fixed designation E1047; 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 specification covers disposable blood sedimentation tubes suitable for determining sedimentation rates and the volume of packed red blood cells.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.3 The following precautionary statement pertains only to the test method portion, Section 7 of this specification. *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.*

1.4 *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:*²

E438 Specification for Glasses in Laboratory Apparatus

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *disposable, n*—in accordance with this specification and the expected product performance expressed in this standard, those tubes which are to be used one time only. Any institution or individual who reuses a disposable tube must bear full responsibility for its safety and effectiveness.

¹ This specification is under the jurisdiction of ASTM Committee E41 on Laboratory Apparatus and is the direct responsibility of Subcommittee E41.01 on Laboratory Ware and Supplies.

Current edition approved June 1, 2026. Published June 2026. Originally approved in 1985. Last previous edition approved in 2021 as E1047 – 85 (2021). DOI: 10.1520/E1047-85R26.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.1.2 *Wintrobe*³, *n*—surname of the individual responsible for the design of the reusable Wintrobe tube and the method of use for both reusable and disposable tubes.

4. Classification

4.1 This specification covers a tube that is intended to be used one time only. It is not to be confused with a reusable tube that is described in other published standards.

5. Materials

5.1 *Glass*—The tubes made to this specification shall be fabricated borosilicate glass, Type I, Class B, or from soda lime glass, Type II, in accordance with Specification E438.

6. Physical Requirements

6.1 *Design*—The tube shall be made of tubing with a minimum wall thickness of 0.6 mm. The tube shall have a cylindrical body terminating in a round bottom on the outside and a flat bottom on the inside. The tube shall have a uniform bore and a fire-polished top.

6.2 *Workmanship*—The tube shall be free as possible from visible defects which detract from its serviceability. The tube shall be well annealed so there will be no ring strain evident when tested under a polariscope.

6.3 *Dimensions*—The tube shall be made of tubing with an outside diameter (O.D.) of 5.0 mm $\pm$ 0.5 mm and an inside diameter (I.D.) of 2.9 mm to 3.5 mm. The uniformity of the bore shall be $\pm$ 0.15 mm throughout the tube. The tube shall be 110 mm to 117 mm long and have a graduated scale of 100 mm. Manufacturers have the option to place additional graduation lines on the tube to a maximum of 105 mm. Maximum overall tolerance on the total graduation scale shall be $\pm$ 1.0 mm. The tube shall be legibly marked with the maker's or vendor's name or mark and possess a wide color band at the top of the tube for marking purposes.

6.4 *Graduation Scale*—The tube shall be graduated 100 mm to 105 mm $\pm$ 1.0 mm in 1 mm divisions and numbered every centimetre with two sets of numerals. One set of graduation numerals shall be from 0 cm to 9 cm *down* the left side of the

³ Wintrobe, M. M., "Laboratory Evaluation of Erythrocytes," *Clinical Hematology*, Seventh E., 1974, pp. 109–134.