



## Designation: **E714 – 94 (Reapproved 2009) E714 – 94 (Reapproved 2015)**

# Standard Specification for Disposable Glass Serological Pipets<sup>1</sup>

This standard is issued under the fixed designation E714; 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 disposable glass serological pipets, calibrated “to deliver,” used in measuring volumes of liquids.

## 2. Referenced Documents

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

[E438 Specification for Glasses in Laboratory Apparatus](#)

[E542 Practice for Calibration of Laboratory Volumetric Apparatus](#)

[E920 Specification for Commercially Packaged Laboratory Apparatus](#)

[E921 Specification for Export Packaged Laboratory Apparatus](#)

[E1133 Practice for Performance Testing of Packaged Laboratory Apparatus for United States Government Procurements](#)

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *accuracy*—the expected distribution of mean volumes around the stated volume.

3.1.2 *coefficient of variation*—the expected distribution of individual volumes around the mean volume.

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

## 4. Materials and Manufacture

4.1 The pipets shall be fabricated from borosilicate glass, Type I, Class A or B; or soda-lime glass, Type II, as defined in Specification [E438](#).

## 5. Design

5.1 *Shape*—Pipets shall be straight and of one-piece construction. Any cross section of a pipet taken in a plane perpendicular to the longitudinal axis shall be circular.

5.2 *Delivery Tips*—Delivery tips shall be made with a gradual taper of 10 to 25 mm for capacities up to 2 cm<sup>3</sup> inclusive, and 15 to 30 mm for the 5-cm<sup>3</sup> and 10-cm<sup>3</sup> size(s). The tip end shall be reasonably perpendicular to the longitudinal axis of the pipet and shall be firepolished.

5.3 *Top End*—The 10-cm<sup>3</sup> and 25-cm<sup>3</sup> pipet shall have a top end tooled to a diameter of 7 to 9 mm and shall have an overall length of 15 to 25 mm from the top. The top end shall be suitable for plugging with filtering material. All top ends shall be reasonably perpendicular to the longitudinal axis of the pipet, and shall be firepolished.

5.4 *Dimensions and Outflow Times*—The limiting dimensions and outflow times shall be as shown in [Table 1](#). Outflow times shall be determined on unplugged pipets, using distilled water at 25 ± 5°C, and by means of a stopwatch.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee [E41](#) on Laboratory Apparatus and is the direct responsibility of Subcommittee [E41.01](#) on Apparatus Laboratory Ware and Supplies.

Current edition approved Nov. 1, 2009; June 1, 2015. Published December 2009; July 2015. Originally approved in 1980. Last previous edition approved in 2004 as E714 – 94 (2004) (2009). DOI: [10.1520/E0714-94R09](#); [10.1520/E0714-94R15](#).

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](#), or contact ASTM Customer Service at [service@astm.org](#). For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.