Designation: E1096 – 86 (Reapproved 2006)

Standard Specification for Laboratory Glass Separatory Funnels[1]

This standard is issued under the fixed designation E1096; 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.

INTRODUCTION

Separatory funnels are used in laboratories primarily for liquid extractions, and are intended to facilitate the separation of two immiscible liquids of different densities into separate layers. Some funnels are used to add reagent solution into a reaction vessel. They are, therefore, often provided with a tapered ground joint at the bottom of the delivery stem for joining to vessels having similarly tapered ground necks. They may also be provided with pressure equalizing side arms.

1. Scope

1.1 This specification provides standard dimensional requirements for glass separatory funnels for general laboratory use.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E438 Specification for Glasses in Laboratory Apparatus

E671 Specification for Maximum Permissible Thermal Residual Stress in Annealed Glass Laboratory Apparatus

E675 Specification for Interchangeable Taper-Ground Stopcocks And Stoppers

E676 Specification for Interchangeable Taper-Ground Joints

E694 Specification for Laboratory Glass Volumetric Apparatus

E911 Specification for Glass Stopcocks with Polytetrafluoroethylene (PTFE) Plugs

3. Classification

3.1 Separatory funnels shall be in the following types and sizes:

3.1.1 *Type 1A*—Cylindrical shape with open top.

3.1.1.1 *Sizes*—60, 125, and 250 cm^3

3.1.2 *Type 1B*—Cylindrical with stopper finish top.

3.1.2.1 *Sizes*—60, 125, 250, 500, and 1000 cm^3.

3.1.3 *Type 1C*—Cylindrical with stopper finish top, graduated.

3.1.3.1 *Sizes*—125, 250, 500, and 1000 cm^3.

3.1.4 *Type 2*—Globe shape with stopper finish top.

3.1.4.1 *Sizes*—60, 125, 250, 500, 1000, 2000, and 4000 cm^3.

3.1.5 *Type 3*—Globe shape, "French," with stopper finish top.

3.1.5.1 *Sizes*—125, 250, 500, and 1000 cm^3.

3.1.6 *Type 4*—Pear shape, Squibb, with stopper finish top.

3.1.6.1 *Sizes*—20, 60, 125, 250, 500, 1000, 2000, and 4000 cm^3.

NOTE 1—The term millilitre (mL) is commonly used as a special name for the cubic centimetre (cm^3) and similarly the litre (L) for 1000 cubic centimetres, in accordance with the International System of Units (SI).

4. Materials and Annealing

4.1 Separatory funnels shall be made of borosilicate glass conforming to the requirement of Type 1, Class A of Specification E438.

4.2 Maximum residual thermal stress shall be such as to conform to Specification E671.

5. Design

5.1 Type 1 cylindrical separatory funnels shall have straight sides and comply with the dimensions given in Table 1. (Type 1A stem length shall comply with Table 2.) See Fig. 1, Type 1A; 1B; and 1C.

5.2 Type 2 globe-shaped separatory funnels shall be roughly globular in shape and have dimensions complying with those given in Table 2. See Fig. 2, Type 2.

5.3 Type 3 separatory funnels shall be like Type 2, however, a straight-walled portion shall be between the globe and the stopcock assembly and shall meet the dimensions listed in

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

Current edition approved Nov. 1, 2006. Published December 2006. Originally approved in 1986. Last previous edition approved in 2001 as E1096 – 86 (2001)$^{\varepsilon 1}$
DOI: 10.1520/E1096-86R06.

[2] 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.