Designation: E 1377 – 99

Standard Specification for Laboratory Glass Kjeldahl Flasks[1]

This standard is issued under the fixed designation E 1377; 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 provides standard dimensional requirements for glass Kjeldahl flasks for nitrogen digestion analysis.

2. Referenced Documents

2.1 *ASTM Standards:*

E 147 Specification for Apparatus for Microdetermination of Nitrogen by Kjeldahl Method[2]

E 438 Specification for Glasses in Laboratory Apparatus[2]

E 671 Specification for Maximum Permissible Thermal Residual Stress in Annealed Glass Laboratory Apparatus[2]

E 694 Specification for Volumetric Ware[2]

E 920 Specification for Commercially Packaged Laboratory Apparatus[2]

E 921 Specification for Export Packaged Laboratory Apparatus[2]

E 1133 Practice for Performance Testing of Packaged Laboratory Apparatus for United States Government Procurements[2]

E 1157 Specification for Sampling and Testing of Reusable Laboratory Glassware [2]

3. Classification

3.1 *Ungraduated Flasks, Type I*, shall be of the following capacities:

100 mL
300 mL
500 mL
650 mL
800 mL

3.1.1 Sizes 10 mL and 30 mL and the Soltys style 30 mL are covered under Specification E 147 and are not included herein.

3.2 *Graduated Flasks, Type II*, shall be of the following capacity:

800 mL, graduated at 1000 mL

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. Material and Annealing

4.1 Flasks shall be made of borosilicate glass conforming to the requirement of Type I, Class A of Specification E 438.

4.2 Maximum residual thermal stress shall conform to Specification E 671.

5. Appearance

5.1 The general appearance of the flasks shall conform to Fig. 1.

6. Design

6.1 Necks on all flasks shall be circular in cross section, and shall be perpendicular to center of flask body.

6.2 Top finish of flask shall not be belled over 2 in. from the top. Top shall be tooled or beaded.

6.3 Interior neck finish of sizes 500 and 800 mL may be tooled to accept special rubber stopper especially made for Kjeldahl flasks.

6.4 Bottom of flask shall be hemispherical in shape, while top has a curved taper to point of junction with the flask neck. (See Fig. 1.)

6.5 Wall thickness of flasks shall be controlled in accordance with Table 1.

7. Volumetric Accuracy

7.1 Tolerance on volumetric accuracy of Type II flasks shall be in compliance with Specification E 694 (1000± 1.5 mL).

8. Capacity and Dimensions

8.1 The nominal capacity of the ungraduated, Type I flasks shall not exceed the actual capacity to the base of the neck. The 1000 mL graduated flask capacity ring shall be within the neck of the flask. Dimensions shall conform to the requirements of Table 1.

9. Markings

9.1 Each flask shall be permanently marked with the name or known trademark of the manufacturer and the nominal capacity for Type I flasks and actual capacity for Type II flasks.

[1] This specification is under the jurisdiction of ASTM Committee E-41 on Laboratory Apparatus and is the direct responsibility of Subcommittee E41.01 on Apparatus.

Current edition approved Dec. 10, 1999. Published March 2000. Originally published as E 1377–90. Last previous edition E 1377–90(1995).

[2] *Annual Book of ASTM Standards*, Vol 14.04.