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# Standard Specification for Laboratory Glass Boiling Flasks[1]

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## 1. Scope

1.1 This specification provides standard dimensional requirements for flat-bottom and round-bottom glass boiling flasks.

NOTE 1—For packaging standards, choose among the following standards, E 920, E 921, E 1133, and E 1157.

## 2. Referenced Documents

2.1 *ASTM Standards:*

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 676 Specification for Interchangeable Taper-Ground Joints[2]

E 677 Specification for Interchangeable Spherical Ground Joints[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 Boiling flasks shall be in the following types and sizes.

3.1.1 *Type I*—Flat bottomed

3.1.1.1 *Class 1*—Tooled top; long neck in the following sizes: 50 mL, 125 mL, 250 mL, 500 mL, 1 000 mL, 2 000 mL, 3 000 mL, 6 000 mL, and 12 000 mL.

3.1.1.2 *Class 2*—Ring neck, long neck in the following sizes: 500 mL, 1 000 mL, 2 000 mL, 6 000 mL, and 12 000 mL.

3.1.1.3 *Class 3*—Ring neck, long neck, wicker protector in the following size: 500 mL and 1000 mL.

3.1.1.4 *Class 4*—Standard Taper ( $\bar{\$}$ ) neck, short neck in the following sizes: 50 mL, 125 mL, 250 mL, 300 mL, 500 mL, and 1000 mL.

3.1.1.5 *Class 5*—Standard Taper ( $\bar{\$}$ ) neck, long neck in the following sizes: 250 mL, 500 mL, and 1000 mL.

3.1.2 *Type II*—Round Bottomed

3.1.2.1 *Class 1*—Tooled top, long neck in the following sizes: 25 mL, 50 mL, 100 mL, 250 mL, 500 mL, 1000 mL, 2000 mL, 5000 mL, and 6000 mL.

3.1.2.2 *Class 2*—Ring neck, short neck in the following sizes: 250 mL, 500 mL, 1 000 mL, 2 000 mL, 3 000 mL, 5 000 mL, 12 000 mL, and 22 000 mL.

3.1.2.3 *Class 3*—Standard Taper ( $\bar{\$}$ ) neck, short neck in the following sizes: 5 mL, 10 mL, 25 mL, 50 mL, 100 mL, 250 mL, 500 mL, 1 000 mL, 2 000 mL, 3 000 mL, 5 000 mL, and 12 000 mL.

3.1.2.4 *Class 4*—Standard Taper ( $\bar{\$}$ ) neck, long neck in the following sizes: 100 mL, 250 mL, 500 mL, and 1000 mL.

3.1.2.5 *Class 5*—Standard Taper ( $\bar{\$}$ ) neck, short neck with side arm in the following sizes: 250 mL and 300 mL.

3.1.2.6 *Class 6*—Standard Taper ( $\bar{\$}$ ) neck, short neck with thermometer well in the following sizes: 500 mL, 1000 mL, and 2000 mL.

3.1.2.7 *Class 7*—Ball and socket ( $\bar{\$}$ ) neck, short neck in the following sizes 250 mL, 500 mL, 1000 mL, and 2000 mL.

3.1.3 *Type III*—Heart-shape bottomed

3.1.3.1 *Class 1*—Standard Taper ( $\bar{\$}$ ) neck, short neck in the following sizes: 5 mL, 10 mL, 25 mL, 50 mL, and 100 mL.

NOTE 2—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.

[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.

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[2] *Annual Book of ASTM Standards*, Vol 14.02.