Designation: E 1095 – 99

Standard Specification for Common Laboratory Glass Funnels[1]

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1. Scope

1.1 This specification covers common laboratory or filter funnels, and filling or powder funnels for general laboratory use.

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 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 Apparatus[2]

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

3. Classification

3.1 There shall be four types of laboratory glass funnels further divided into classes.

3.1.1 *Type 1*—Common laboratory funnel with smooth inner surface, divided into the following three classes:

3.1.1.1 *Class A, (short stem)*—Sizes 25, 35, 45, 55, 65, 75, 90, 100, 125, and 150-mm diameters.

3.1.1.2 *Class B, (long stem)*—Sizes 35, 45, 50, 55, 65, 75, 90, 100, 125, 150, 200, 250, and 300-mm diameters.

3.1.1.3 *Class C, (without stem)*—Sizes 50, 75, and 100-mm diameters.

3.1.2 *Type 2*—Laboratory funnel with fluted inner wall. The flutes are small grooves or depressions running upward from the bottom zone of the bowl.

3.1.2.1 *Class A, (short stem)*—Sizes 50, 65, 75, and 100-mm diameters.

3.1.2.2 *Class B, (long stem)*—Sizes 50, 65, 75, and 100-mm diameters.

3.1.3 *Type 3*—Laboratory funnel with ribbed inner wall. The ribs are small raised protuberances running from funnel rim toward the stem.

3.1.3.1 *Class A, (short stem)*—Sizes 50, 65, 75, and 100-mm diameters.

3.1.3.2 *Class B, (long stem)*—Sizes 50, 65, 75, and 100-mm diameters.

3.1.4 *Type 4*—Filling or powder funnels.

3.1.4.1 *Short, Wide Diameter Stem*—Sizes 60, 65, 75, 80, 100, 125, and 150-mm diameters.

4. Material and Annealing

4.1 *Material*—Funnels shall be made of glass conforming to the requirement of Type 1, Class A or B or Type 2 of Specification E 438.

4.2 *Annealing*—Maximum residual stress shall be such as to conform to Specification E 671.

5. Design

5.1 *Bowl*—The inner wall of the bowl shall diverge from the stem at an angle of 30 ± 1.2°. The bowl shall be securely sealed to the stem. The axis of the funnel bowl shall coincide with the stem axis and the rim shall be perpendicular to this axis. The edge of the rim shall be mold finish, beaded or ground to a horizontal surface, as specified.

5.1.1 *Type 1*—Bowl of common funnels shall be plain.

5.1.2 *Type 1, Class C*—Bottom of bowl shall be ground flat.

5.1.3 *Type 2*—Bowl of fluted funnels shall have an inner wall with 8 equally spaced small grooves or depressions that shall extend upward from the inner bottom zone of the bowl ½ to ⅝ times the inner bowl depth.

5.1.4 *Type 3*—Bowl of ribbed funnel shall have an inner wall with raised ribs spaced at the rim approximately 15 mm apart. Alternate ribs shall extend to within approximately 6 mm of the junction of the bowl and the stem, and the others to within approximately 19 mm of this junction. Ribbed funnels may also have ribs on the outer bowl surface or stem, or both. If the outer bowl surface is ribbed, there must be at least three ribs evenly spaced around the bowl.

5.2 *Stem*:

5.2.1 *Types 1, Class A and B; Type 2; and Type 3*—The stem shall have an oblique termination of not less than 30°, smoothly ground to a level point or fire polished. The stem shall have parallel sides, or a straight taper if drawn out of the

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