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Standard Specification for Laboratory Glass Graduated Cylinders[1]

This standard is issued under the fixed designation E 1272; 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 covers requirements for glass graduated cylinders for precision and general purpose grades suitable for laboratory purposes.

1.1.1 *Class A*—Each cylinder of precision grade shall be marked with the letter "A'' to signify compliance with applicable construction and accuracy requirements. Cylinders may be marked with an identification number (serial number) at the option of the manufacturer.

1.1.2 *Class B*—General purpose cylinders are of the same basic design as Class A cylinders. However, volumetric tolerances for Class B cylinders shall be within twice the specified range allowed for Class A cylinders. These cylinders need not be marked with their class designation.

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1.1.3 Product with a stated capacity not listed in this standard may be specified in class A tolerance when product conforms to the tolerance range of the next smaller volumetric standard product listed in Table 1.

2. Referenced Documents [2]

2.1 *ASTM Standards:*

E 438 Specification for Glasses in Laboratory Apparatus

E 542 Practice for Calibration of Laboratory Volumetric ~~Ware[2]~~ Apparatus

E 675~~Specification for Interchangeable Taper-Ground Stopcocks and Stoppers[2]~~

~~E694Specification for Volumetric Ware[2]~~ Specification for Interchangeable Taper-Ground Stopcocks And Stoppers

E 920 Specification for Commercially Packaged Laboratory Apparatus

E 921 Specification for Export Packaged Laboratory Apparatus

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

E 1157 Specification for ~~the~~ Sampling and Testing of Reusable Laboratory Glassware

3. Classification

3.1 Cylinders shall be in the following styles:

3.1.1 *Style I*— Beaded lip with pour spout,

3.1.2 *Style II*—Ground standard taper () neck, or

3.1.3 *Style III*—Beaded lip with pour spout and reinforcing bead near top.

4. General Requirements

4.1 Style I cylinders shall be calibrated either "to deliver'' or" to contain.'' Style II and Style III cylinders shall be calibrated" to contain.'' The cylinders shall be calibrated at 20°C and the volumetric tolerances shall be in accordance with Table 1. (See Practice E 542 for calibration definitions and procedures.)

4.1.1 Cylinders shall be of borosilicate glass conforming to the requirements for Type I, Class A of Specification E 438.

4.2 *Shape*—Cylinders shall be of one piece consisting in general of a top, a graduated portion of uniform diameter and a base. The shape shall permit complete emptying and thorough cleaning. The pour-out of Style I, in sizes of 1000 mL and below, shall be located in a vertical plane bisecting within ±5° one of the corners on the hexagonal base. For sizes 2000 mL and above, the pour-out shall bisect within ±5° the center of one of the flat section or one of the corners of the base. The pour-out of Style III

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[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* ~~, Vol 14.04.~~volume information, refer to the standard's Document Summary page on the ASTM website.