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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Interchangeable Taper-Ground Joints¹

This standard is issued under the fixed designation E 676; 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 designations, dimensions, and tolerances for only the ground surfaces of interchangeable taper-ground joints for laboratory and industrial equipment in full-length, medium-length, short-length, and international-length (ISO K-6 series) grindings.

NOTE 1—The dimensions pertaining to full-length, medium-length, and short-length joints, other than for the tolerance on length of grind, were taken directly from the now obsolete Commercial Standard CS 21.

NOTE 2—Tolerances on the diameters of the international-length joints do not agree with those given in ISO Recommendation R383. These tolerances have been established to agree with those of CS 21 in order to prevent the negative projection (large end of inner joint being smaller than large end of outer joint) permitted by ISO.

NOTE 3—Although glass is the most commonly used material for ground joints, other materials may be used as specified. Taper-ground joints constructed from glass should be of suitable chemical and thermal properties in accordance with Specification E 438. Joints should be as free as possible of visible defects and conform to Specification E 671.

1.2 The following precautionary caveat pertains only to the Test Method portion, Section 4, of this specification. *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- E 438 Specification for Glasses in Laboratory Apparatus²
- E 671 Specification for Maximum Permissible Thermal Residual Stress in Annealed Glass Laboratory Apparatus²
- E 920 Specification for Commercially Packaged Laboratory Apparatus²
- E 921 Specification for Export Packaged Laboratory Apparatus²
- E 1133 Practice for Performance Testing of Packaged Laboratory Apparatus United States Government Procurement²
- E 1157 Specification for Sampling and Testing Reusable Laboratory Glassware²

¹ This specification is under the jurisdiction of ASTM Committee E-41 on Laboratory Apparatus and is the direct responsibility of Subcommittee E 41.01 on Glass and Plastic Apparatus.

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² Annual Book of ASTM Standards, Vol 14.04.

2.2 U.S. Department of Commerce Standard:

CS 21 Interchangeable Taper-Ground Joints, Stopcocks, Stoppers, and Spherical-Ground Joints³

2.3 ISO Standard:

R 383 Interchangeable Conical Ground Glass Joints⁴

3. Requirements

3.1 Designations, dimensions, and tolerances shall be as shown in Fig. 1 and in Table 1, Table 2, Table 3, and Table 4.

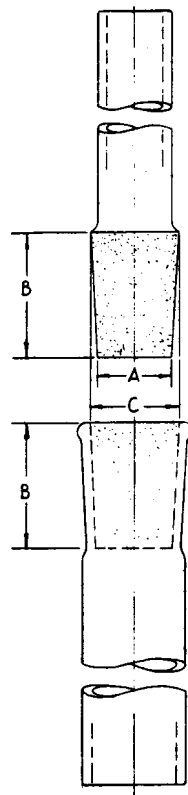


FIG. 1 Taper-Ground Joint

3.2 *Surface Finish*—The root-mean-square (rms) height of the ground surface shall not exceed 1 μm .

³ Discontinued 1979—U.S. Department of Commerce, Washington, DC 20234.

⁴ Available from American National Standards Institute, 1430 Broadway, New York, NY 10018.