



Designation: D 3657 – 88 (Reapproved 1998)^{ε1}

Standard Specification for Zipper Dimensions¹

This standard is issued under the fixed designation D 3657; 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.

^{ε1} NOTE—Editorial changes were made throughout in November 1998

1. Scope

1.1 This specification establishes standard dimensions for zippers of all materials for specified size designation; for equivalency, in inch-pound and metric units, of zipper length and length tolerances, of tape width and width tolerances, and of tape end lengths.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the systems may result in non-conformance with the standard.

1.3 *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:*

D 123 Terminology Relating to Textiles²

D 2050 Terminology Relating to Zippers²

D 2060 Test Methods for Measuring Zipper Dimensions²

3. Terminology

3.1 *Definitions:*

3.1.1 Table 1Table 2Table 3Table 4For definitions of zipper terms used in this standard, refer to Terminology D 2050. For definitions of other textile terminology used in this standard refer to terms D 123.

4. Sampling

4.1 Sample the lot and select the number of specimens as directed in Methods D 2060.

¹ This specification is under the jurisdiction of ASTM Committee D-13 on Textiles and is the direct responsibility of Subcommittee D13.54 on Subassemblies. This specification was developed in cooperation with the Slide Fastener and Closure Association.

Current edition approved Feb. 26, 1988. Published April 1988. Originally published as D 3657 – 78. Last previous edition D 3657 – 82.

² *Annual Book of ASTM Standards*, Vol 07.01.

TABLE 1 Zipper Sizes

| Size Designation ^A | Slider Mouth Widths | |
|-------------------------------|---------------------|---------------------|
| | mm | in. |
| 1 and 2 | up to 3.8 | up to 0.150 |
| 3 and 4 | over 3.8 to 5.7 | over 0.150 to 0.225 |
| 5 and 6 | over 5.7 to 7.0 | over 0.225 to 0.275 |
| 7, 8, 9, and 10 | over 7.0 | over 0.275 |

^A Zipper sizes are grouped in this table because the trade buys zippers on an end-use basis. For example, size 1 and 2 zippers are bought and used interchangeably. Each zipper industry member assigns the actual number that is applicable for each particular product.

5. Dimensions and Permissible Variations

5.1 Zippers shall conform to the dimensions listed in Tables 1-4.

5.2 Tables 2 and 3 include tolerances which represent trade practice and are in common use. The tolerances are not uniform between sizes because of differing requirements of the zippers based on their normal end-use.

5.3 Table 2, within a size, has uniform plus tolerances. Minus tolerances increase nonuniformly with increasing length because that is accepted trade practice based on the requirements of the end products in which the zippers are installed.

5.3.1 Because zipper chain is composed of a series of elements with a prescribed pitch and each element must remain complete to function, it is impossible to manufacture a zipper deliberately to an exact stated length. Therefore a shipment of zippers of a stated length will not likely average the stated length. Both the lot average length and the length of individual zippers should fall within the tolerances in Table 2.

5.4 Table 4 shows the metric conversion for standard inch-pound unit tape end lengths. Tape end length tolerances are not shown due to widely varying end-use requirements and inherent zipper manufacturing dimension variations. Tolerances to be observed should be agreed upon between purchaser and supplier.

6. Test Methods

6.1 *Size*—Determine the zipper size as directed in the mouth width procedure of Test Methods D 2060.

6.2 *Zipper Length*—Determine the zipper length as directed in the length of completely assembled zipper procedure of Test Methods D 2060.

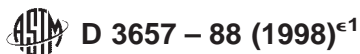


TABLE 2 Zipper Lengths

| Nominal Length ^{A,B} | | Tolerance | | | | | |
|-------------------------------|-----|-------------|------------|-------------|-------------|--------------|------------|
| cm | in. | Size 1 to 4 | | Size 5 to 6 | | Size 7 to 10 | |
| | | mm | in. | mm | in. | mm | in. |
| 7 | 3 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 10 | 4 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 12 | 5 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 15 | 6 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 18 | 7 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 20 | 8 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 23 | 9 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 25 | 10 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 28 | 11 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 30 | 12 | ±3 | ±1/8 | ±5 | ±3/16 | ±6 | ±1/4 |
| 35 | 14 | +3 -5 | +1/8 -3/16 | +5 -6 | +3/16 -1/4 | +6 -8 | +1/4 -5/16 |
| 38 | 15 | +3 -5 | +1/8 -3/16 | +5 -6 | +3/16 -1/4 | +6 -8 | +1/4 -5/16 |
| 40 | 16 | +3 -5 | +1/8 -3/16 | +5 -6 | +3/16 -1/4 | +6 -8 | +1/4 -5/16 |
| 45 | 18 | +3 -5 | +1/8 -3/16 | +5 -6 | +3/16 -1/4 | +6 -8 | +1/4 -5/16 |
| 50 | 20 | +3 -6 | +1/8 -1/4 | +5 -8 | +3/16 -5/16 | +6 -9 | +1/4 -3/8 |
| 55 | 22 | +3 -6 | +1/8 -1/4 | +5 -8 | +3/16 -5/16 | +6 -9 | +1/4 -3/8 |
| 60 | 24 | +3 -6 | +1/8 -1/4 | +5 -8 | +3/16 -5/16 | +6 -9 | +1/4 -3/8 |
| 65 | 26 | +3 -8 | +1/8 -5/16 | +5 -9 | +3/16 -3/8± | +6 -11 | +1/4 -7/16 |
| 70 | 28 | +3 -8 | +1/8 -5/16 | +5 -9 | +3/16 -3/8 | +6 -11 | +1/4 -7/16 |
| 75 | 30 | +3 -8 | +1/8 -5/16 | +5 -9 | +3/16 -3/8 | +6 -11 | +1/4 -7/16 |
| 80 | 32 | +3 -9 | +1/8 -3/8 | +5 -11 | +3/16 -7/16 | +6 -13 | +1/4 -1/2 |
| 90 | 36 | +3 -9 | +1/8 -3/8 | +5 -11 | +3/16 -7/16 | +6 -13 | +1/4 -1/2 |

^A To determine metric nominal length for zippers under 36 in. long which are not shown in this table, multiply the nominal length in inches by 2.54 and round to the nearest 0.5 cm. To determine metric nominal length for zippers over 36 in. long, multiply the nominal length in inches by 2.54 and round to the nearest 5 cm.

^B For lengths under 90 cm (36 in.) long which are not shown in the table, the plus and minus tolerance shall be that shown in the table for the next shorter length. For lengths that exceed 90 cm (36 in.) the plus tolerance shall be that shown in Table 2 for the 90-cm. length. The minus tolerance shall be that shown in Table 2 for the 90-cm. length plus 3 mm (1/8 in.) for each additional 30-cm (12-in.) increment or fraction thereof of length.

TABLE 3 Tape Width

| Nominal Width, mm | Tolerance, mm | Nominal Width, in. | Tolerance, in. |
|----------------------|---------------|-----------------------|----------------|
| 6 | ±1 | 1/4 | ±1/32 |
| 11 | ±1 | 7/16 | ±1/32 |
| 13 | ±1 | 1/2 | ±1/32 |
| 14 | ±1 | 9/16 | ±1/32 |
| 16 | ±1 | 5/8 | ±1/32 |
| 19 | ±1 | 3/4 | ±1/32 |
| 21 | ±1 | 13/16 | ±1/32 |
| 25 | ±1 | 1 | ±1/32 |
| 32 | ±1 | 1 1/4 | ±1/32 |

TABLE 4 Tape End Lengths

| mm | Nominal Length | |
|----|----------------|-------|
| | mm | in. |
| 12 | | 1/2 |
| 19 | | 3/4 |
| 25 | | 1 |
| 32 | | 1 1/4 |
| 38 | | 1 1/2 |
| 44 | | 1 3/4 |
| 50 | | 2 |

6.3 *Tape Width*—Determine the zipper tape width as directed in the tape width procedure of Test Methods D 2060.

6.4 *Tape End Length*—Determine the zipper tape end length as directed in the length of tape end procedure of Methods D 2060.

7. Conformance

7.1 Material that fails to conform to the requirements of this

specification may be rejected. Rejection shall be reported to the producer or supplier promptly and in writing. In case of dissatisfaction with the results of the test, the producer or supplier may make claim for a rehearing. The terms of the rehearing shall be as agreed upon by the purchaser and the supplier.

8. Keywords

8.1 dimensions; specifications; zippers

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