



# Standard Practice for Selection of Zippers for Care-Labeled Apparel and Household Furnishings<sup>1</sup>

This standard is issued under the fixed designation D 3692; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This practice provides guidelines to the manufacturer for the selection of zippers to be used in garments and household furnishings that have care labels. The use of this practice will facilitate the selection of a zipper compatible with the end-item requirements. In the absence of complete knowledge of end-item characteristics, it is not possible to stipulate specific universal characteristics for a care label. Therefore following initial selection, the chosen zipper should be tested in a prototype item to confirm its suitability. Zipper properties to be considered are those that may, following refurbishing, be the ones likely to adversely affect the continued use and enjoyment of the item in which the zipper is installed.

1.2 The product characteristics evaluated by this practice are shrinkage, colorfastness, and ironing deformation.

NOTE 1—Test methods of interest include Test Method D 2052, Test Method for Colorfastness of Zippers to Dry Cleaning,<sup>2</sup> Test Method D 2053, Test Method for Colorfastness of Zippers to Light, Test Method D 2054, Test Method for Colorfastness of Zipper Tapes to Crocking, Test Method D 2057, Test Method for Colorfastness of Zippers to Laundering, and Method D 2060, Method for Measuring Zipper Dimensions.

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 Textiles<sup>2</sup>

D 2050 Terminology Relating to Zippers<sup>2</sup>

D 3136 Terminology for Permanent Care Labels for Consumer Textile and Leather Products Other Than Carpets and Upholstery<sup>2</sup>

## 3. Terminology

### 3.1 Definitions:

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.54 on Subassemblies. This practice was developed in cooperation with the Slide Fastener Association, Inc.

Current edition approved June 30, 1989. Published August 1989. Originally published as D 3692 – 78. Last previous edition D 3692 – 84.

<sup>2</sup> *Annual Book of ASTM Standards*, Vol 07.01.

3.1.1 *differential shrinkage, n*—in zippers, the difference in longitudinal dimensional change between the zipper tape and the fabric to which the zipper is attached.

3.1.2 *shrinkage, n*—a decrease in one or more dimensions of an object or material.

3.1.2.1 *Discussion*—In zippers, usually only length shrinkage is measured.

3.1.3 For definitions of other zipper terms used in this practice, refer to Terminology D 2050. For definitions of terms relating to care labeling, refer to Terminology D 3136. For definitions of other textile terms, refer to Terminology D 123.

## 4. Significance and Use

4.1 This practice is useful for the selection of zippers that will be compatible with items to be care labeled.

4.2 This practice is useful as a guide for the selection of test methods to evaluate zipper properties that are relevant to care-labeled items.

## 5. General

5.1 It is advisable that zippers be closed when items in which they are installed are being laundered or dry cleaned.

## 6. Shrinkage

6.1 Excessive differential shrinkage between the zipper and the material into which it is installed can impair item appearance and the functioning of the zipper. To avoid problems, zippers need to have compatible but not necessarily equal shrinkage to that of the fabric. The acceptable shrinkage differential may vary depending upon fabric weight and item construction. The fabric weight, method of zipper installation, and zipper shrinkage should be considered in determining how much shrinkage differential is acceptable.

6.2 Zipper shrinkage compatibility cannot be specified in absolute terms, therefore, it is essential that a preliminary mock-up representing the planned zipper installation be constructed and subjected to the proposed care refurbishing procedure to determine the zipper shrinkage compatibility.

6.3 The following guidelines should prove helpful by minimizing problems in the selecting of a compatible zipper based on shrinkage.

6.3.1 *Lightweight Materials*—Lightweight materials require zippers having the most compatible shrinkage. For materials up to 0.27 kg/m<sup>2</sup> (8 oz/yd<sup>2</sup>), a differential shrinkage between

zipper and fabric of approximately 1 % has been found to be satisfactory.

6.3.2 *Heavyweight Materials*—Materials over 0.27 kg/m<sup>2</sup> (8 oz/yd<sup>2</sup>) do not always require low differential shrinkage.

6.3.2.1 If the textile material shrinks less than the zipper, the differential shrinkage may exceed 1 %. Zipper shrinkages as high as 4 % have been found satisfactory depending upon the textile material involved.

6.3.2.2 If the textile material shrinks more than the zipper, a maximum differential of approximately 1 % is probably needed.

## 7. Colorfastness

7.1 *Matching Textile Material*—When a zipper of matching color to the textile material is to be installed, colorfastness may not be critical. For initial evaluation purposes, it may be assumed that any commonly accepted home or commercial washing procedure will not cause objectionable zipper color loss or staining of item in which installed.

7.2 *Contrasting Textile Material*—The general colorfastness properties of zippers are predicated on the assumption that the zipper will be installed in material of like color. If such zippers are utilized in contrast-colored material, it is necessary to include on the care label instructions to machine dry promptly following laundering and to avoid soaking, hand washing, the use of low-water levels in laundering, and line drying. To avoid such undesirable labeling, the zipper supplier should be contacted and advised of the intended use so that a zipper with suitable colorfastness properties will be furnished for installation in a contrast-colored, washable material. For

specific colors and by arrangement with the zipper supplier, it is possible to obtain zippers whose colorfastness properties will preclude the need for special care label instructions for the zipper.

7.2.1 If the end-item with a contrasting color zipper is to be care labeled “Dry Clean Only,” then commercially furnished zippers should be found to be colorfast.

## 8. Ironing Deformation

8.1 When zippers are to be used in items not requiring ironing as a refurbishing procedure, there is no need for special care labeling.

8.2 When zippers are to be used in items requiring ironing, the following must be observed:

8.2.1 If the zipper is installed so that it will not come into contact with the iron during ironing, no special care labeling is required.

8.2.2 If the zipper is installed so that it can come into contact with the iron, the following is recommended:

8.2.2.1 *Metal-Element Zippers*—When the zipper is made on cotton tapes, no special care instructions are necessary. When the zipper is made on tapes containing synthetics, it should be used only on items to be care-labeled “use cool iron.”

8.2.2.2 *Plastic-Element Zippers*—Plastic-element zippers should be used only on items to be care-labeled “use cool iron.”

## 9. Keywords

9.1 Zipper; care-label; apparel; household furnishings.

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