



Designation: D 2058 – 87 (Reapproved 1997)

Standard Test Method for Durability of Finish of Zippers to Drycleaning¹

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1. Scope

1.1 This test method covers the determination of the durability of the enamel or other decorative coating of zippers when subjected to drycleaning.

1.2 The values stated in SI units are to be regarded as the standard. The values in parentheses are for information only.

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 2051 Test Method for Durability of Finish of Zippers to Laundering²

D 2052 Test Method for Colorfastness of Zippers to Drycleaning²

D 2053 Test Method for Colorfastness of Zippers to Light²

D 2054 Test Method for Colorfastness of Zipper Tapes to Crocking²

D 2057 Test Method for Colorfastness of Zippers to Laundering²

D 2059 Test Method for Resistance of Zippers to Salt Spray (Fog)²

D 2060 Test Methods for Measuring Zipper Dimensions²

D 2061 Test Methods for Strength Tests for Zippers²

D 2062 Test Methods for Operability of Zippers²

2.2 AATCC Method:

Method 86 Drycleaning: Durability of Applied Designs and Finishes³

3. Terminology

3.1 Definitions:

3.1.1 For definitions of zipper terms used in this test method refer to Terminology D 2050. For definitions of other textile

terminology used in this standard refer to Terminology D 123.

4. Summary of Test Method

4.1 A specimen is agitated in a solution of solvent and a drycleaning detergent with steel balls to simulate the action that occurs in a drycleaning machine.

5. Significance and Use

5.1 This test method is useful for determining the effect of repeated drycleaning on the appearance of the decorative coating of a zipper.

5.2 This test method is considered satisfactory for acceptance testing of commercial shipments since the method has been used extensively in the trade for acceptance testing.

5.2.1 In case of a dispute arising from differences in reported test results when using Test Method D 2058 for acceptance testing of commercial shipments, the purchaser and the supplier should conduct comparative tests to determine if there is a statistical bias between their laboratories. Competent statistical assistance is recommended for the investigation of bias. As a minimum, the two parties should take a group of test specimens that are as homogeneous as possible and that are from a lot of material of the type in question. The test specimens should then be randomly assigned in equal numbers to each laboratory for testing. The average results from the two laboratories should be compared using Student's *t*-test for unpaired data and an acceptable probability level chosen by the two parties before the testing is begun. If a bias is found, either its cause must be found and corrected or the purchaser and supplier must agree to interpret future test results in the light of the known bias.

5.3 The method(s) in the standard along with those in Test Methods D 2051, D 2052, D 2053, D 2054, D 2057, D 2059, D 2060, D 2061, and D 2062 are a collection of proven test methods. They can be used as aids in the evaluation of zippers without the need for a thorough knowledge of zippers. The enumerated test methods do not provide for the evaluation of all zipper properties. Besides those properties measured by means of the enumerated test methods there are other properties that may be important for the satisfactory performance of a zipper. Test methods for measuring those properties have not been published either because no practical methods have yet been developed or because a valid evaluation of the information resulting from existing unpublished methods requires an intimate and thorough knowledge of zippers.

¹ This test method is under the jurisdiction of ASTM Committee D-13 on Textiles, and is the direct responsibility of Subcommittee D13.54 on Subassemblies. The method was developed in cooperation with the Slide Fastener Assn. Inc.

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

³ Technical Manual of the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709.



6. Sampling

6.1 *Lot Sample*—As a lot sample for acceptance testing, take at random the number of individual containers from each shipping carton as directed in an applicable material specification or other agreement between the purchaser and the supplier. Consider individual containers from each shipping carton to be the primary sampling units.

NOTE 1—An adequate specification or other agreement between the purchaser and supplier requires taking into account the variability between shipping cartons and between zippers in a container to provide a sampling plan with a meaningful producer's risk, consumer's risk, acceptable quality level, and limiting quality level.

6.2 *Laboratory Sample and Test Specimens*—As a laboratory sample for acceptance testing, take at random two zippers from each container in the lot sample. Consider the zippers as both the laboratory samples and the test specimens.

7. Test Specimen

7.1 The test specimen shall consist either of a completely assembled zipper or a length of chain. In either case, the length shall not be greater than 254 mm (10 in.). In the case of a completely assembled zipper that is longer than 254 mm, the specimen may be made up by cutting out and removing the central portion of the chain, and then securely attaching the cut ends together, using suitable noncorrosive materials such as sewing thread or stainless steel staples. If it is desired to test the entire length of a long zipper, it should be cut into parts 254 mm or less in length and those parts tested separately.

8. Conditioning

8.1 No special environmental conditions are required.

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9. Procedure

9.1 Test each specimen as directed in AATCC Test Method 86, except air dry only rather than hot press the specimen.

10. Interpretation of Results

10.1 Interpret the results of the tests on specimens by visually examining the chain and components for exposed base metal and compare observations to samples illustrating an acceptable degree of coating loss as agreed upon between the purchaser and the supplier.

11. Report

11.1 State that the specimens were tested as directed in ASTM Test Method D 2058. Describe the material or product sampled, and the method of sampling used.

11.2 Report the following information:

11.2.1 Number of specimens tested, and

11.2.2 Number of specimens equal to or not equal to the agreed upon standard.

12. Precision and Bias

12.1 No justifiable statistical statement can be made on either the precision or the bias of the procedures in ASTM Test Method D 2058 for testing coating resistance to abrasion in drycleaning, since the method can be used only to secure information concerning the conformance of a specimen with previously agreed upon standards.

13. Keywords

13.1 drycleaning; durability; zipper