



Designation: D5430 – 07

Standard Test Methods for Visually Inspecting and Grading Fabrics¹

This standard is issued under the fixed designation D5430; 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 These test methods describe a procedure to establish a numerical designation for grading of fabrics from a visual inspection.

1.2 These test methods may be used for the delivery and acceptance of fabrics with requirements mutually agreed upon by the purchaser and the supplier.

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:*²

D123 Terminology Relating to Textiles

D3990 Terminology Relating to Fabric Defects

D4850 Terminology Relating to Fabrics and Fabric Test Methods

2.2 *ANSI Standards:*³

ANSI/ASQC Standard A1-1978 Definitions, Symbols, Formulas, and Tables for Control Charts

ANSI/ASQC Standard Z1.4-1981 Sampling Procedures and Tables for Inspection by Attributes.

3. Terminology

3.1 For all terminology relating to D13.59, Fabric Test Methods, General, refer to Terminology **D4850**.

3.1.1 The following terms are relevant to this standard: critical defect, defect, in inspection and grading, grade, inspection major defect, minor defect.

3.2 For all terminology related to Fabric Defects, refer to Terminology **D3990**.

¹ These test methods are under the jurisdiction of ASTM Committee **D13** on Textiles and is the direct responsibility of Subcommittee **D13.59** on Fabric Test Methods, General.

Current edition approved Dec. 1, 2007. Published January 2008. Originally approved in 1993. Last previous edition approved in 2004 as D5430-04. DOI: 10.1520/D5430-07.

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

³ American Society for Quality Control, 310 W. Wisconsin Ave., Milwaukee, WI 53203.

3.3 For all other terms related to textiles, refer to Terminology **D123**

4. Summary of Test Method

4.1 Rolls or bolts of fabric are visually inspected and individually graded at an examination station using an agreed upon point system.

4.2 Fabric is normally inspected and graded on one side only. Certain types of end use fabrics may be inspected and graded on both sides as agreed upon between the purchaser and supplier.

5. Significance and Use

5.1 Test Method D5430 is considered satisfactory for acceptance testing a commercial shipments since the method has been used extensively in the trade for grading of fabric and fabric acceptance determination.

5.2 The penalty points obtained in grading the same rolls or bolts of fabric may vary considerably when using each of the three options listed herein. For this reason, the same point assignment option should be used in cases of disagreement arising from differences of values reported by the purchaser and the supplier.

5.3 If there are differences of practical significance between reported test results for two laboratories (or more), comparative test should be performed to determine if there is a statistical bias between them, using competent statistical assistance. As a minimum, ensure the test samples to be used are as homogeneous as possible, are drawn from the material from which the disparate test results were obtained, and are randomly assigned in equal numbers to each laboratory for testing. The test results from the two laboratories should be compared using a statistical test for unpaired data, at a probability level chosen prior to the testing series. If a bias is found, either its cause must be found and corrected, or future test results for that material must be adjusted in consideration of the known bias.

6. Apparatus

6.1 A suitable fabric inspection machine providing a flat viewing area and an interruptible speed controlled fabric rewind. Examination and grading are usually done with overhead direct lighting. The inspection machine may be equipped with the option of back lighting (transmitted) light providing the choice by prior agreement depending on the fabric end use.