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Standard Test Methods for BREAKING LOAD AND ELONGATION OF TEXTILE FABRICS¹

This standard is issued under the fixed designation D 1682; 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 NOTE—Section 1.2 was added editorially and Notes 1 through 20 renumbered in August 1986.

1. Scope

1.1 These test methods cover procedures for determining the breaking load and elongation of textile fabrics using the Grab, Ravelled Strip, and Cut Strip methods, presented in two sections as follows:

1.1.1 *Part I* describes aspects of the procedure which are common to all three methods.

1.1.2 *Part II* describes those details of procedure especially applicable to the method under discussion.

1.2 The values stated in inch-pound units are to be regarded as the standard.

PART I—GENERAL

2. Applicable Documents

2.1 *ASTM Standards:*

D 76 Specification for Tensile Testing Machines for Textiles^{2,3}

D 123 Terminology Relating to Textiles^{2,3}

D 259 Specification for Woven Tapes²

D 315 Specification for Woven Asbestos Tape³

D 461 Methods of Testing Felt²

D 579 Specification for Greige Woven Glass Fabrics³

D 580 Specification for Greige Woven Glass Tapes and Webbing³

D 629 Test Methods for Quantitative Analysis of Textiles³

D 1117 Methods of Testing Nonwoven Fabrics²

3. Definitions

3.1 *grab test*—in fabric testing, a tension test in which only a part of the width of the specimen

is gripped in the clamps. For example, if the specimen width is 4 in. (100 mm) and the width of the jaw faces 1 in. (25 mm), the specimen is gripped centrally in the clamps.

3.2 *strip test*—a tension test in which the full width of the specimen is gripped in the clamps.

3.3 *modified grab test*—a test in which only a part of the width of the specimen is gripped in the clamps and in which lateral slits are made in the specimen to sever all yarns bordering the portion whose strength is to be tested, reducing to a practical minimum the “fabric assistance” inherent in the grab method.

3.4 *raveled strip test*—a strip test in which the specified specimen width is secured by raveling away yarns.

3.5 *cut strip test*—a strip test in which the specimen width is secured by cutting the fabric.

3.6 *constant-rate-of-extension tensile testing machine (CRE)*—a testing machine in which the rate of increase of specimen length is uniform with time.

3.7 *constant-rate-of-traverse tensile testing machine (CRT)*—a testing machine in which the pulling clamp moves at a uniform rate and the load is applied through the other clamp which moves appreciably to actuate a weighing mechanism, so that the rate of increase of load or

¹ These test methods are under the jurisdiction of ASTM Committee D-13 on Textiles, and are the direct responsibility of Subcommittee D13.59 on Fabric Test Methods, General.

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² Annual Book of ASTM Standards, Vol 07.01.

³ Annual Book of ASTM Standards, Vol 07.02.