



Designation: ~~D6077~~—~~10~~ **D6077** – 16

Standard Test Method for Trapezoid Tearing Strength of Leather¹

This standard is issued under the fixed designation D6077; 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 This test method covers the measurement of the tearing load of nonwoven fabrics by the trapezoid method for leather. This test method does not apply to wet blue.

1.2 The values stated in SI units are to be regarded as the standard. The values given 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:*²

[D1610 Practice for Conditioning Leather and Leather Products for Testing](#)

[D2813 Practice for Sampling Leather for Physical and Chemical Tests](#)

3. Summary of Test Method

3.1 An outline of a trapezoid (see [Fig. 1](#)) is marked on a specimen cut for the determination of breaking load, and the nonparallel sides of the specimen are clamped in the jaws of a tensile testing machine. A continuously increasing load is applied to the specimen in such a way that the tear propagates across the specimen width. The value of the breaking load of the specimen is obtained from the load-elongation (stress-strain) curve recorded autographically.

4. Significance and Use

4.1 The trapezoid tearing load is a tension test in which the test strength is determined primarily by the interlocking structure of the fibers. It is useful for estimating relative ease of tearing of leather.

4.2 The procedure can also be used to determine if there is any appreciable difference in the relative strength of the leather in the parallel and the perpendicular directions to the backbone.

5. Apparatus

5.1 *Tensile Testing Machine*, constant-rate-of-traverse type, equipped with an autographic recorder to register the applied load.

5.2 *Clamps*, with faces measuring 25 by 75 mm (1 by 3 in.) with the longer dimension perpendicular to the direction of application of the load.

5.3 *Template*, optional, having the dimensions shown in [Fig. 1](#).

5.4 *Pawls*, bolt on a machine to allow motion in only one direction.

6. Sampling

6.1 Unless otherwise specified, sample as directed, parallel and perpendicular to backbone or parallel and perpendicular to the cut part. Sampling per Practice [D2813](#).

¹ This test method is under the jurisdiction of ASTM Committee [D31](#) on Leather and is the direct responsibility of Subcommittee [D31.05](#) on Upholstery. Current edition approved April 1, 2010; Sept. 1, 2016. Published May 2010; October 2016. Originally approved in 1997. Last previous edition approved in 2005 as [D6077 - 00](#); [D6077 - 10](#), (2005); DOI: [10.1520/D6077-10](#); [10.1520/D6077-16](#).

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.