Designation: D1814 – 70 (Reapproved 2005)

Standard Test Method for Measuring Thickness of Leather Units[1]

This standard is issued under the fixed designation D1814; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method covers the measurement of the thickness of units of all types of leather. It is not suitable for measuring the thickness of test specimens.

1.2 The thickness of leather units may be reported in millimetres, ounces, or irons. Ounces are generally used when referring to the thickness of shoe upper leather. Irons are generally used when referring to the thickness of sole leather. (One ounce equals 1/64 in. or 0.0156 in. or 0.396 mm. One iron equals 1/48 in. or 0.0208 in. or 0.53 mm.)

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]

D1813 Test Method for Measuring Thickness of Leather Test Specimens

3. Terminology

3.1 *Definition:*

3.1.1 *unit*—a piece of leather in the form in which it is purchased, such as a single hide, skin, or part thereof; or a single fabricated-leather article in the form in which it is purchased, such as a counter, a pair of shoes, a gasket, etc.

4. Significance and Use

4.1 This test method is designed for the routine measurement of the thickness of leather units as a means of production control and determining conformance to specifications. It utilizes a secondary type of gage that is capable of rapid measurement.

5. Specimen

5.1 The specimen for measurement shall be the full unit.

6. Apparatus

6.1 *Gage, Spring-Type*, graduated in 0.1 mm or 0.5 oz, having a flat presser foot 0.4 ± 0.025 in. (10.2 ± 0.6 mm) in diameter and a flat anvil 0.4 ± 0.025 in. (10.2 ± 0.6 mm) in diameter. The spring shall exert a force of 1 lbf (4.45 N) on the foot when the gage reads 2 oz, and 2 lbf (8.9 N) when the gage reads 12 oz.

6.2 *Gage, Standard Wedge-Type*, having the two legs graduated alternatively from 1 to 14 and from 1½ to 13½ iron, enclosing an angle of about 4° and 0.425 ± 0.005 mm thick, preferably made from stainless steel.

7. Procedure

7.1 *Leather Other than Sole Leather*—Place the portion of the specimen to be measured between the anvil and presser foot of the spring-type gage (6.1) in such a manner that the specimen is in contact with the whole area of the anvil. With the specimen held in this position, compress the thumb lever of the gage so that the gage reads approximately 15 oz. Allow the thumb to slide off the lever so that the gage presser foot snaps onto the leather. Read the thickness to the nearest 0.1 mm or estimate it to the nearest ¼ oz. Measure the thickness at not less than five approximately equally spaced places along and approximately 6 in. (150 mm) from the backbone. Space the measurements from an initial point of measurement approximately 5 in. (130 mm) in from the root of the tail and the final place of measurement, which shall extend no farther than 130 mm into the neck area.

[1] This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.07 on Physical Properties. This test method was developed in cooperation with the American Leather Chemists Assn. (Standard Method E3–1963).

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[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.