

This document is not an ASTM standard and is intended only to provide the user of an ASTM standard an indication of what changes have been made to the previous version. Because it may not be technically possible to adequately depict all changes accurately, ASTM recommends that users consult prior editions as appropriate. In all cases only the current version of the standard as published by ASTM is to be considered the official document.



Designation: D 2346 – 68 (Reapproved 1997)^{e1}



Designation: D 2346 – 00

Standard Test Method for Apparent Density of Leather¹

This standard is issued under the fixed designation D 2346; 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.

~~^{ε1} Note—A keyword was added and a cross-reference was updated editorially in 6.16.1 in April 1997.~~

¹ This test method is under the jurisdiction of ASTM Committee D-31 on Leather and is the direct responsibility of Subcommittee D31.03 on Footwear. This test method was developed in cooperation with the American Leather Chemists Assn. (Standard Method E 62 – 1972).

Current edition approved ~~Nov. 6, 1968~~; Sept. 10, 2000. Published ~~December 1968~~; October 2000. Originally published as D 2346 – 65 T. Last previous edition D 2346 – 00.

1. Scope

1.1 This test method covers the determination of the apparent density of specimens of leather. This test method does not apply to wet blue.

1.2 *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 1813 Test Method for Measuring Thickness of Leather Test Specimens²

D 2347 Test Method for Measuring Area of Leather Test Specimens²

3. Terminology

3.1 Definition:

3.1.1 *apparent density*—the weight of a unit volume of bulk leather conditioned for 48 h in an atmosphere maintained at 73.4 ± 1.8°F (23 ± 1°C) and 50 ± 4 % relative humidity.

4. Significance and Use

4.1 This test method is designed to determine the apparent density of specimens from their area and thickness. By measuring apparent density, the degree of loading or of compression of leather can be evaluated. The test method is unsuitable for very soft leathers such as chamois whose thickness cannot be accurately measured by the test method cited.

5. Apparatus

5.1 *Round Die*, 2.7 to 3.0 in. (68.6 to 76.2 mm) in diameter.

5.2 *Mallet or Clicking Machine*.

5.3 *Rule or Steel Tape*, graduated in 1/32 in. or 0.02 in. or in millimetres.

5.4 *Balance* and set of weights.

5.5 *Thickness Gage* as described in Test Method D 1813.

6. Test Specimen

6.1 The test specimen shall be a disk of leather that has been conditioned as specified in 3.1.1. This specimen may be the same as that used in Test Method D 2347.

7. Procedure

7.1 Weigh the specimen to the nearest 0.001 g.

7.2 Measure the thickness to the nearest 0.025-cm in four quadrants of the specimen disk, equidistant from the rim and center (10 mil = 0.025 cm).

² *Annual Book of ASTM Standards*, Vol 15.04.

7.3 Measure the area to the nearest second decimal place in accordance with Test Method D 2347.

8. Calculation and Report

8.1 Calculate the apparent density to the second decimal place by dividing the weight of the specimen in grams by the product of area in square centimetres and the average thickness in centimetres.

9. Precision and Bias

9.1 Results by the same operator on duplicate, adjacent specimens from the same skin should not be considered suspect unless the coefficient of variation exceeds 4 %.

9.2 Results of two laboratories on duplicate specimens, same skin, should not be considered suspect unless the coefficient of variation exceeds 10 %.

10. Keywords

10.1 apparent density; area; leather; thickness

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).