



Designation: D2810 – 18

Standard Test Method for pH of Leather¹

This standard is issued under the fixed designation D2810; 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 U.S. Department of Defense.

1. Scope

1.1 This test method covers the determination of the pH of all types of leather. This method does not apply to wet blue or wet white.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:

D2813 Practice for Sampling Leather for Physical and Chemical Tests

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 The pH of a solution has been defined as the negative logarithm of the hydrogen ion activity. A solution of pH 7 is neutral at 24°C. Lower numbers indicate increasing acidity; higher numbers, increasing alkalinity.

3.1.2 The pH difference figure (delta pH) is the difference between the pH of a solution and its ten-fold dilution.

¹ This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.06 on Chemical Analysis. This test method was developed in cooperation with the American Leather Chemists Assn. (Standard Method B20 – 1969).

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4. Significance and Use

4.1 This test method is designed to measure the pH of a distilled water extract of leather. This is considered to be a measure of the acidity or alkalinity of the leather. Excessive acidity or alkalinity may have a deleterious effect on the aging characteristics of leather.

4.2 This test method is suitable for development, control, and service evaluation of leather.

5. Interferences

5.1 If the leather contains an excessive amount of fats or greases or has been treated with a material to obtain water repellency, the wettability and consequently the extractability may be affected.

5.2 If the specimen is difficult or impossible to wet, it may be treated by any of the following procedures:

5.2.1 A vacuum may be used to effect wetting.

5.2.2 Mix with the required amount of water for 1 min in a disintegrator.²

5.2.3 Extract the weighed specimen with a fat solvent in a Soxhlet apparatus for 5 h. Allow the specimen to air until all solvent has evaporated; then proceed as outlined in Section 10.

6. Apparatus

6.1 *Electronic pH Meter*, with a suitable electrode. The meter shall have an accuracy of at least 0.01 pH unit, and reproducibility of 0.05 pH unit.

6.2 *Analytical Balance*, sensitive to 0.01 g or greater.

7. Reagents

7.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society,

² A Waring Blender has been found satisfactory.