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**Leather — Determination of abrasion
resistance —**

Part 1:
Taber® method

Cuir — Détermination de la résistance à l'abrasion —

Partie 1: Méthode Taber®

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by the Physical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUP Commission, IULTCS) in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather.

This second edition cancels and replaces the first edition (ISO 17076-1:2012), which has been technically revised. Moderate changes have been made to [Clauses 5](#) and [7](#). Small changes have been made to [Clause 8 d\)](#) and [Annex A. Clause 3](#) has been added.

A list of all parts in the ISO 17076 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Leather — Determination of abrasion resistance —

Part 1: Taber® method

1 Scope

This document specifies a method of determining the abrasion resistance of leather using a Taber® apparatus.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-A02, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

ISO 2418, *Leather — Chemical, physical and mechanical and fastness tests — Sampling location*

ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

ISO 6103, *Bonded abrasive products — Permissible unbalances of grinding wheels as delivered — Static testing*

3 Terms and definitions

<https://standards.iteh.ai/ISO/17076-1:2020/25-4267-a161-5d1219490b81/iso-17076-1-2020>
No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Principle

The test piece is rotated on a vertical axis against the sliding rotation of two abrading wheels which are pressed against the test piece with a specified force. One abrading wheel rubs the test piece outwards towards the periphery, the other inwards to the centre. Any damage to the test piece is noted along with any change in colour.

NOTE This method is also referred to as the “Taber® test”.

5 Apparatus

5.1 Horizontal, motor-driven platform, rotating at (60 ± 5) rpm.

5.2 Removable, flat, circular test piece holder.

5.3 Pair of pivoted arms, for holding the abrasive wheels with the inner edge of the wheels ($26,2 \pm 0,5$) mm from the centre of the motor shaft and pressing each abrasive wheel against the test piece with a force of ($2,5 \pm 0,1$) N.

The arms should preferably be designed so that, without any counterweights or additional masses, each would exert a force of 2,5 N on the abrasive wheel.

5.4 Vacuum nozzle, with inlet set approximately 7 mm above the upper surface of the test piece.

5.5 Counter, indicating the number of revolutions of the platform (5.1).

5.6 Abrasive wheels, tungsten carbide ("S" series, e.g. "S-35", see Annex A), rubber-based ("CS" series, e.g. "CS-10", see Annex A) or silicon carbide ("H" series, e.g. "H-22", see Annex A), width ($12,7 \pm 0,1$) mm, maximum diameter 51,7 mm and minimum diameter 44,0 mm. Abrasive wheels are gradually abraded away during use. The maximum diameter of 51,7 mm is the diameter of a new wheel. Used wheels shall be discarded when the diameter falls to 44,0 mm. The type of abrasive wheels to be used should be agreed with the client and the type of wheel used reported in the test report [8 c)]. Other types of abrasive wheels can also be used at the client's request. The abrasive wheels used in the test should be of the same diameter.

5.7 Additional weights, to increase the force between the abrasive wheel and the test piece to ($4,9 \pm 0,2$) N or ($9,8 \pm 0,4$) N.

5.8 Specimen mounting sheet, such as a card of minimum 1,0 mm thickness, with an adhesive where necessary, to keep the test pieces rigid and flat.

5.9 Vacuum cleaner, with an adapter to connect to the nozzle (5.4).

5.10 Abrasive paper, silicon carbide, grade 150, for example E150 (FEPA standard) or Cami 150 grit.

5.11 Soft brush or compressed air.

5.12 Brush, stiff bristle.

5.13 Grey scale, for assessing change in colour conforming to ISO 105-A02.

5.14 Magnifier with fourfold to sixfold magnification, for visual evaluation of the friction track.

5.15 Suitable apparatus for preparation and reconditioning of the rubber-based and silicon carbide abrasive wheels and ensuring that the re-faced wheel is within the permissible unbalances of grinding wheels specified in ISO 6103, and that there is full surface and perpendicular contact with the test pieces. A diamond re-facing tool is required for preparing silicon carbide abrasive wheels (Annex A).

6 Sampling and sample preparation

6.1 Sample in accordance with ISO 2418.

If there are more than two hides or skins to be tested in one batch then only one sample needs be taken from each hide or skin, provided that the overall total is not less than three test pieces.

6.2 Apply the specimen mounting sheet (5.8) to the sample, if required. Cut three circular test pieces of diameter (106 ± 1) mm with a central circular hole to fit over the central drive shaft.