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Leather — Identification of leather with microscopy

Cuir — Identification du cuir par microscopie

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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).

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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 European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in collaboration with the Physical Tests Commission of the International Union of Leather Technologists and Chemists Societies (IUP Commission, IULTCS) 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 sampling and the 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 17131:2012), which has been technically revised. The main changes to the previous edition are as follows:

— light microscope phase contrast cross-section photographs added in a new normative Annex C;

— Clauses 5 and 6 have been modified to include the preparation for this light microscopy technique.

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.

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Introduction

The identification of leather is best made by operators experienced in material identification using microscopy, which is the preferred method. With other methods, such as chemical analysis, it can be difficult to absolutely determine that the material is leather.

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Leather — Identification of leather with microscopy

1 Scope

This document specifies a method using microscopy to identify leather and distinguish it from other materials. The method is not applicable for identifying specific leathers (e.g. sheep leather).

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 17186, *Leather — Physical and mechanical tests — Determination of surface coating thickness*

EN 15987, *Leather — Terminology — Key definitions for the leather trade*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15987 apply.

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

A cross-section of the material is cut perpendicular to the surface. The material structure is compared with typical pictures or known samples by means of microscopy.

The method should be carried out by operators experienced in material identification by microscopy.

5 Apparatus and materials

5.1 Light microscope (optical, phase-contrast or stereo) or scanning electron microscope, capable of giving a normal magnification of at least 20 ×.

NOTE For some materials it is necessary to use a microscope with a magnification of 500 ×.

5.2 Razor blade, capable of cutting a clean cross-section in leather, if the microscope illuminates from above or a scanning electron microscope is used.

5.3 Cryomicrotome, if the microscope illuminates from below or a phase-contrast microscope is used.

5.4 Coating unit, sputter or evaporation, including a suitable element or alloy (e.g. gold) for coating, if a scanning electron microscope is used.

5.5 Specimen stubs, suitable for a scanning electron microscope, if used.

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