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IULTCS/IUP 29

Second edition
2017-02

**Leather — Physical and mechanical
tests — Determination of cold crack
temperature of surface coatings**

*Cuir — Essais physiques et mécaniques — Détermination de la
température de fissuration à froid des revêtements de surface*

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Reference numbers
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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 on 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 the following URL: www.iso.org/iso/foreword.html.

ISO 17233 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).

It is based on IUP 29 originally published in *J. Soc. Leather Tech. Chem.*, **69**, p. 85, (1985) and declared an official method of the IULTCS in 1987. This updated version was published in *J. Soc. Leather Tech. Chem.*, **84**, p. 369, (2000) and reconfirmed as an official method in March 2001. The same principle is used but the text has been updated and includes the number of test pieces to be taken.

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 17233:2002), which has been technically revised with the following changes:

- the cooled chamber (5.1) and the hinged sample holder (5.3) have been specified more precisely;
- the number of test pieces has been changed to six for each temperature tested and a number of associated changes has been made;
- in addition to the fixing of samples with screws, it is now also possible to fix the samples with adhesive tape.

Leather — Physical and mechanical tests — Determination of cold crack temperature of surface coatings

1 Scope

This document specifies a method for determining the cold crack temperature of surface coatings applied to leather. It is applicable to all leathers which have a surface coating and which can be easily flexed.

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

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

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:

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

4 Principle

A strip of leather is held in a hinged apparatus in a cooled chamber at a given temperature. The hinged apparatus is closed rapidly causing the leather to be folded with the surface coating outwards. The leather is examined to determine if the surface coating has cracked.

5 Apparatus and materials

5.1 Cooled chamber, minimum internal height 500 mm and minimum internal width and depth 300 mm, fitted with a rack or other support and capable of maintaining temperatures between +5 °C and –30 °C and of controlling the temperature to ± 2 °C at any temperature within the range. The design of the chamber shall allow free circulation of air around the test piece and holder.

The cooled chamber should have the door on the top. If a cooled chamber with the door on the front is used, the chamber or sample holder (5.3) shall incorporate a mechanism to enable the sample holder (5.3) to be snapped shut without opening the front door.

5.2 Temperature measuring device, readable to 1 °C and operating between at least +5 °C and –30 °C.