INTERNATIONAL STANDARD

ISO 3380

IULTCS/IUP 16

Second edition
2002-12-15

Leather — Physical and mechanical tests — Determination of shrinkage temperature up to 100 °C

Cuir — Essais physiques et mécaniques — Détermination de la température de rétrécissement jusqu'à 100 °C

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 3380 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 16 originally published in *J. Soc. Leather Trades Chemists* **47**, p. 122, (1963) and declared an official method of the IULTCS in 1963. This updated version was published in *J. Soc. Leather Tech. Chem.* **84**, p. 359, (2000) and reconfirmed as an official method in March 2001. This same principle is used but the text has been updated and includes the number of test pieces to be taken.

This second edition cancels and replaces the first edition (ISO 3380:1975), which has been technically revised.

Leather — Physical and mechanical tests — Determination of shrinkage temperature up to 100 °C

1 Scope

This International Standard specifies a method for determination of the shrinkage temperature of leather up to 100 °C. It is applicable to all leathers.

2 Normative references

The following referenced documents are indispensable for the application 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 2589 *Leather - Physical and mechanical tests - Determination of thickness*

ISO 3696:1987 *Water for analytical laboratory use - Specification and test methods*

3 Principle

The test piece is heated at a specified rate in water until a sudden shrinkage occurs.

4 Apparatus

4.1 A schematic layout of a suitable instrument is shown in figure 1. The instrument should include the following parts:

4.1.1 Vessel, minimum volume 500 ml and minimum working depth 110 mm. The vessel may be pressurised to operate at temperatures in excess of 100 °C.

4.1.2 Fixed test piece holder, for example a pin or clip, 30 mm ± 5 mm above the base of the vessel.

4.1.3 Moveable test piece holder, for example a hook or clip. One end is attached to the top of the test piece. The other end is attached to a thread which passes over a pulley and terminates in a mass 3 g heavier than the moveable holder.

4.1.4 Pointer, with means of monitoring its movement. In the instrument shown, the relative dimensions of the pulley and pointer shall be such that any movement of the moveable holder (4.1.3) is magnified by a factor of at least 5.

4.1.5 Temperature measuring device, graduated to 1 °C and shown to be accurate to ± 0,5 °C with the sensor placed close to the centre of the test piece and a working range suitable for the sample under test.

4.1.6 Distilled or de-ionized water, conforming to the requirements of grade 3 of ISO 3696:1987.

4.1.7 Heater, capable of heating the vessel filled to its working depth with distilled or deionized water at a rate of 2 °C ± 0,2 °C/min.

4.1.8 Stirrer, capable of sufficiently agitating the water in the vessel such that the temperatures at the top and bottom of the test piece do not differ by more than 1 °C.