
**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.

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 (www.iso.org/directives).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

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 an updated version published in J. Soc. Leather Tech. Chem. 84, p. 359, (2000).

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 third edition cancels and replaces the second edition (ISO 3380:2002), 6.5 of 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 documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *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 Schematic layout of a suitable instrument is shown in [Figure 1](#). The instrument should include the following parts.

4.1.1 Vessel, minimum volume of 500 ml and minimum working depth of 110 mm. The vessel may be pressurized 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 five.

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 grade 3 of ISO 3696.

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