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**Leather — Physical and mechanical  
tests — Sample preparation and  
conditioning**

*Cuir — Essais physiques et mécaniques — Préparation et  
conditionnement des échantillons*

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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 2419 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, in collaboration with the Physical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUP Commission, IULTCS), in accordance with the Agreement on technical co-operation between ISO and CEN (Vienna Agreement). It is based on IUP 1 and IUP 3 originally published in *J. Soc. Leather Trades Chemists*, **42**, p. 382 (1958) and **42**, p. 386 (1958) respectively and declared official methods of the IULTCS in 1959. Updated versions were published in *J. Soc. Leather Tech. Chem.*, **82**, p. 199 (1998) and further revisions published in *J. Soc. Leather Tech. Chem.*, **84**, p. 241 (2000) and reconfirmed as official methods in March 2001. A further revision of IUP 3 was published in *J. Soc. Leather Tech Chem.*, **83**, p. 337 (2002) which was confirmed as an official method in May 2003.

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 fourth edition cancels and replaces the third edition (ISO 2419:2006), which has been technically revised and includes the alternative tropical standard atmosphere (3.2.3).

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# Leather — Physical and mechanical tests — Sample preparation and conditioning

## 1 Scope

This International Standard specifies the preparation of leather for physical and mechanical testing together with standard atmospheres for conditioning and testing. It is applicable to all types of dry leather.

## 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 2.1

#### **atmosphere**

ambient conditions defined by the parameters temperature and relative humidity

### 2.2

#### **standard atmosphere**

atmosphere maintained within prescribed tolerances, in which a sample is kept for a given period of time before being subjected to testing

### 2.3

#### **conditioning**

operation designed to bring a sample into a specified condition in relation to temperature and relative humidity by keeping it for a given period of time in the standard atmosphere with free access of moving air to all surfaces

## 3 Standard atmospheres

### 3.1 Reference standard atmosphere

The reference standard atmosphere shall have a temperature of 23,0 °C and a relative humidity of 50,0 %.

### 3.2 Alternative standard atmospheres

#### 3.2.1 General

Alternative, but not equivalent, atmospheres may be used only if the parties involved agree on their use. In case of dispute, the reference standard atmosphere shall be used.

#### 3.2.2 Specific standard atmosphere

The alternative specific standard atmosphere shall have a temperature of 20,0 °C and a relative humidity of 65,0 %.

### 3.2.3 Tropical standard atmosphere

The alternative tropical standard atmosphere shall have a temperature of 27,0 °C and a relative humidity of 65,0 %.

### 3.3 Tolerance zone for standard atmospheres

The tolerance for temperature is  $\pm 2,0$  °C. The tolerance for relative humidity is  $\pm 5,0$  %.

## 4 Design of press knives

The design of press knives is shown in Figure 1. The internal surfaces shall be perpendicular to the plane which contains the cutting edge. The angle formed between the internal and external surfaces of the press knife at the cutting edge shall be approximately 20°, and the wedge of this angle shall be of a depth ( $d$ ) exceeding the thickness of the leather.

NOTE Hardened, knife-grade steel is suitable for press knives.

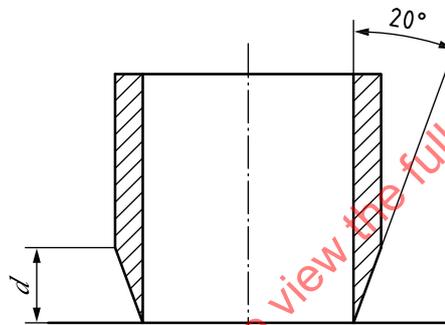


Figure 1 — Design of press knives

## 5 Preparation of test pieces

Prepare test pieces by applying the press knife to the grain surface (or simulated grain surface) if present. If no grain or simulated grain is present, apply the press knife to either surface. If preferred, leather may be conditioned (see Clause 6) before test pieces are prepared.

## 6 Conditioning

Condition the sample by keeping it in one of the standard atmospheres specified in Clause 3. Support the sample to allow free access of air to all surfaces, keeping the air in motion around it (see 2.3). Condition the test pieces for a minimum of 24 h prior to testing.

The 24 h conditioning is for dry leathers. Leathers with high moisture contents should be dried prior to conditioning.