
**Leather — Wet blue sheep skins —
Specification**

Cuir — Peaux d'ovins à l'état «bleu humide» — Spécifications

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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 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 Technical Committee ISO/TC 120, *Leather*, Subcommittee SC 2, *Tanned leather*.

This third edition cancels and replaces the second edition (ISO 5432:2013), which has been technically revised.

The main changes are as follows:

- 'Chromic Oxide Content' and 'Matter soluble in dichloromethane' has been added in Chemical requirements in [4.6, Table 1](#);
- sample preparation method has been added in [6.3](#) and [6.4](#);
- determination of matter soluble in dichloromethane has been added as [6.6](#) in Test methods;
- type of material has been mentioned in [7.2](#) (a);
- values for 'pH of water extract' and 'Volatile matter' has been revised;
- normative references have been updated.

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.

Leather — Wet blue sheep skins — Specification

1 Scope

This document specifies requirements, sampling methods and testing methods for wet blue leather produced from sheep skins tanned without wool and with the use of basic chromium sulfate as the primary tanning agent.

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 3380, *Leather — Physical and mechanical tests — Determination of shrinkage temperature up to 100 °C*

ISO 4044:2017, *Leather — Chemical tests — Preparation of chemical test samples*

ISO 4045, *Leather — Chemical tests — Determination of pH and difference figure*

ISO 4048, *Leather — Chemical tests — Determination of matter soluble in dichloromethane and free fatty acid content*

ISO 4684, *Leather — Chemical tests — Determination of volatile matter*

ASTM D4576, *Standard test method for mold growth resistance of wet blue*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

3.1

cured

preserved temporarily from putrefaction until it can be tanned

Note 1 to entry: Any method of curing, including wet or dry salting or drying, is included.

3.2

pigmentation

colouration produced by fungi growing on wet blue chrome leather

Note 1 to entry: The colouration produced by fungi will normally be black, white, green or yellow but can also be pink or violet.

4 Requirements

4.1 Raw material

Wet blue sheep skins shall be processed from cured or fresh sheep skins.

4.2 Tanning

After pretanning operations, the skins shall be tanned with basic chromium sulfate as the primary tanning agent. The cut cross-section shall be such that the skin is completely penetrated by the bluish colour of the chromium sulfate when examined visually. Tanning shall be completed at a pH of 3,0 or above.

4.3 Fungicidal additives

Fungicides shall be used to inhibit mould growths in the wet blue sheep skins.

Fungicides used to inhibit mould growth and pigmentation in wet blue sheep skins should be effective and should not cause a health hazard. The types of fungicide used and their dosage should be as agreed upon between the purchaser and the supplier

Fungicides should preferably be applied in quantities appropriate to ensure storage for up to 4 months at the temperature and humidity prevailing during storage or transportation.

4.4 Presentation

Wet blue sheep skins shall have clean flesh side and the grain side shall be free from wool. The size and grading shall be as agreed between the interested parties.

Wet blue sheep skins should have a tight grain and be free from creases, drum folds and stains caused by iron salts. At least 95 % of the number of pieces in a lot should be free from stains caused by chromium salts, and the aggregate of the stained area in any one piece should not exceed 10 % of the total area of the piece.

4.5 Shrinkage temperature

The shrinkage temperature shall not be less than 95 °C when determined using the method specified in ISO 3380.

4.6 Chemical requirements

Wet blue sheep skins shall conform with the requirements given in [Table 1](#). The sample should be cut into small pieces without conditioning in accordance with ISO 4044.

Table 1 — Chemical requirements

Characteristic	Requirement
Volatile matter	>50 % of dry mass of leather or as otherwise agreed between the interested parties
Matter soluble in dichloromethane	<4 % of dry mass of leather or as agreed between the interested parties
pH of water extract	≥3,2
Chromic oxide content	≥3,0 % of dry mass of leather
A minimum shrinkage temperature of 95 °C normally needs a minimum chromic oxide content of 3,0 % relative to the dry mass, as determined by the method given by ISO 5398-1. Once the chromic oxide content has been determined in this way, it can be used to estimate how much more chromic oxide has to be added to achieve the desired level (i.e. the extent of further rechroming).	
NOTE Regulations on chemical substances can differ from country to country.	

5 Sampling

5.1 Sampling for routine testing

The number and location of samples taken for routine testing shall be as agreed between the interested parties.

5.2 Sampling in cases of dispute

The number of samples shall be as given in [Table 2](#) and the location shall be as specified in ISO 2418.

Table 2 — Number of samples to be taken in cases of dispute

Number of skins	Number of samples
Up to 100	3
101 to 300	4
301 to 500	5
501 to 700	6
701 and over	7

5.3 Preparation of samples

Prepare samples by wiping off excess water and keeping wrapped in filter paper for 30 min without applying any extra pressure.

6 Method of testing

6.1 Visual tests

Examine the wet blue sheep skins for uniformity of colour of the surface, penetration of chromium sulfate, absence of wool and cleanness of the flesh side.

6.2 Shrinkage temperature

Determine the shrinkage temperature by the method specified in ISO 3380.

6.3 Volatile matter

Determine the volatile matter by the method specified in ISO 4684. Sample preparation shall be done in accordance with ISO 4044:2017, 5.2.

6.4 pH of the water extract

Determine the pH of the water extract by the method specified in ISO 4045. Sample preparation shall be done in accordance with ISO 4044:2017, 5.2.

6.5 Effectiveness of the fungicide

Determine the effectiveness of the fungicide by the method specified in ASTM D4576.

6.6 Determination of matter soluble in dichloromethane

Determine matter soluble in dichloromethane by the method specified in ISO 4048. Sample preparation shall be done in accordance with ISO 4044:2017, 5.2.

7 Packaging and Marking

7.1 Packaging

Wet blue sheep skins shall be packed suitably as agreed between the interested parties so as to preserve their original wet condition.

7.2 Marking

The following shall be marked or labelled on each package:

- a) the type of material (i.e. wet blue sheep skin), and the trade name or brand name, if any;
- b) name and address of the manufacturer;
- c) month and year of the tanning;
- d) number of pieces of skins;
- e) other details desired by the purchaser.

Bibliography

- [1] ISO 5398-1, *Leather — Chemical determination of chromic oxide content — Part 1: Quantification by titration*

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