

Second Edition
2021

**Leather – Chrome tanned sheep,
goat, calfskins and hide crust
leather - Specification**



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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Raw Hides and Skins, and Tanned Leather (TC 73) and published by the Ethiopian Standards Agency (ESA).

This Compulsory Ethiopian Standard cancels and replaces CES 47:2013.

Application of this standard is COMPULSORY with respect to clauses 5,6 and 9.

A Compulsory Ethiopian Standard shall have the same meaning, interpretation and application of a "Technical Regulation" as implied in the WTO-TBT Agreement.

Implementation of this standard shall be effective as of 01 October 2013.

Leather – Chrome tanned sheep, goat, calfskins and hide crust leather - Specification

1. Scope

This Ethiopian standard specifies the requirements for chrome tanned sheep, goat, calfskins and hide crust leather.

2. Normative references

The following referenced documents are indispensable for the application of this Ethiopian standard. Only the latest edition of the documents (including any amendments) shall be applicable.

ES 1180, Leather – Terminology,

ES 1188, Leather. Chromium as chromic oxide (Cr_2O_3),

ES ISO 4045, Leather -Determination pH,

ES 1195, Leather - Determination of moisture content,

ES ISO 3380, Leather- Determination of shrinkage temperature at the wet-blue stage,

ES ISO: 2418, Leather - Determination of Laboratory samples – Location and Identific

ES ISO 2419, Leather - Preparation and conditioning of test samples,

ES ISO 4044, Leather – Preparation of chemical test sample,

ES ISO 2588, Leather -Sampling – Number of items for a gross sample.

ES 1189 Leather Determination of Volatile Matter

3. Definitions

For the purpose of this standard the definitions in ES 1180 shall apply.

4. Types

Chrome crust leather shall be of the following types:

- a) Sheep, goat, calfskins; and
- b) Hide

5. Grading of Chrome crust leather by appearances / defects.

5.1 Chrome tanned crust leather of sheep, goat and calfskins shall be graded according to table 1 here in.

Table 1. Grading requirements for Hide chrome crust Leather.

Grade	Useable area by % of total area	Description
I	85 – 100	One quadrant can have minor defects and the rest three free from defects
II	70 – 84	Two quadrants are free from defects and the remaining two with minor defects
III	55 – 69	Two quadrant free from defects, one quadrant with major defects) and one quadrant with miner defects.
IV	40 – 54	One quadrant free from defects, one quadrant with major defects and two quadrant with minor defects (s)
V	25 – 39	Minor defects in all quadrants, major defects in other due quadrants
R (Reject)	< 25	Major defects in all quadrants

5.2 Chrome tanned crust leather of hides shall be graded according to table 2 here in.

Grade	Useable area by % of total area	Description of visual assessment defects
I	85 – 100	The hide should have well filled flanks and even substance with smooth and light grain appearance. The crust hide could have closed surface defects randomly spread out which could be covered on light finishing. The closed defects could be healed snatch, thick, small scars.
II	70 – 84	The crust will have good grain with well filled blanks and could have few open defects as well as closed defects which could arise from thick ekeks, scars, and scratches which eventually will be covered on finishing.
III	55 – 69	This hide will have similar grain pattern and filled as grade II and similar defect including one or two cuts on hides randomly scattered over major portions of surface.
IV	40 – 54	The Hides chrome crust will have similar defects as in grade III with some more open defects like open scratches, open licks, wound, grain indentation and grain damages as well as some loose flanks.
V	25 – 39	This Hide Chrome crust will be similar to grade IV but will include brand marks, holes, deep knife cuts.
R (Reject)	< 25	Hides Chrome crust will have usable area of less than 25%.

Identification of major and minor defects:

Major defects: Ekek, hole, putrefaction, pox, poor pattern, wound/sears, deep knife cut damage, old animal skins, poor substance, process defects are among others.

Minor defects: Such as scratch, blood stains, gouge mark, wrinkles, pinhole, heat damage, vainness, blood stain, process defects.

6. Requirements

6.1 General

The material after wet-blue chrome crust tanning operation shall be tanned, fat – liquored, pressed and dried.

6.2.1 Physical requirements

Chrome crust leather shall comply with the physical requirements specified in table 1 here in

6.2.2. Chemical requirements

Chrome crust leather shall comply with the chemical requirements specified in table 2 here in.

Table 3. Chemical requirements for chrome crust tanned sheep, goat, and calfskins and hides leather

Sr. No	Characteristics	Requirements	Method of test
1	Chromium as ($\text{Cr}_2 \text{O}_3$) percent by mass, min	2.5	ES 1188
2	pH of water soluble, min	2.8	ES ISO 4045
3	Solvent extractable substance percent by mass.	3.0-16	ES ISO 4048
4	Moisture content, % by mass,	14-16	ES 1189
5	Shrinkage temperature, $^{\circ}\text{C}$, min.	90	ES ISO 3380

6.3 Classification of chrome crust skins by size

Chrome crust sheep and goatskins shall be classified by size according to table 3 when measured by pin – wheel or electronic method.

Table 4. Classification of sheep and goat chrome crust skins by size

Types	Category by size	Size in dm ²	Size in ft ²
Sheepskins – and Goatskins	Extra small	Less than 23	Less than 2.5
	Small	23 – 32	2.5 – 3.5
	Medium	33 – 42	3.6 – 4.5
	Large	43 – 51	4.6 – 5.5
	Extra large	above 51	above 5.5

* 1ft² = 9.29 dm², values converted to dm² and the result rounded to the nearest whole number.

7. Sampling

Sampling of Chrome crust leathers shall be carried out in according to the methods specified in ES ISO 2418, ES ISO 2419, ES ISO 2588 and ES ISO 4044.

8. Packing

Chrome Crust leather shall be packed in polyethylene plastic bags or wrapped in them as agreed to between the purchaser and producer.

9. Labeling

Each container of Chrome Crust leather shall be labeled with the following information:

- Name and address of manufacturer;
- Country of origin;
- The number of pieces and/or total area;
- Batch number (s);
- The type and grade, and
- Any other label information required by the purchaser.

10. Compliance with the Standard.

A lot of Chrome crust leather shall be deemed to comply with this Ethiopian standard if up on inspection and testing the provision in clause 4,5,6,8 and 9 are satisfied.

Organization and Objectives

The Ethiopian Standards Agency (ESA) is the national standards body of Ethiopia established in 2010 based on regulation No. 193/2010. ESA is established due to the restructuring of Quality and Standards Authority of Ethiopia (QSAE) which was established in 1998.

ESA's objectives are:-

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and services are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.

Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational institutions, research institutes, government organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes. Orders for all Ethiopian Standards, International Standard and ASTM standards, including electronic versions, should be addressed to the Documentation and Publication Team at the Head office and Branch (Liaisons) offices. A catalogue of Ethiopian Standards is also available freely and can be accessed in from our website.

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