

CES 50

Compulsory Ethiopian Standard

Fourth Edition
2021

Leather – lining leather – Specification



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Foreword

This Ethiopian Standard has been prepared under the direction of the Technical Committee for Leather and Leather Products (TC 74) and published by the Ethiopian Standards Agency (ESA).

This Compulsory Ethiopian Standard cancels and replaces CES 50:2015

Application of this standard is COMPULSORY with respect to clause 6.4(table 3)

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 – lining leather – Specification

1. Scope

This Ethiopian standard specifies the requirements for lining 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 ISO 2417, Leather – Physical and mechanical tests - Determination of static absorption of water;

ES ISO 2418, Leather – Chemical, physical and mechanical fastness test – Sampling;

ES ISO 2419, Leather – Physical and mechanical test – Sample preparation and conditioning;

ES ISO 4045, Leather -Determination of pH;

ES ISO 2588, Leather- Sampling - Number of items for gross sample;

ES ISO 4044, Leather - Preparation of chemical test samples;

ES ISO 3376, Leather - physical and mechanical tests - Determination of tensile strength and percentage extension;

ES 1192, Leather Determination of double hole stitch tear strength kg/cm thickness;

ES ISO 4047, Leather-Determination of sulphated total ash and sulphated water- in soluble ash;

ES ISO11640, Leather color fastness - color fastness to cycles of to-and-fro rubbing-Shrinkage temperature at the wet-blue stage;

ES 1193, Leather - Determination of mildew resistance (including wet –blue chrome).

ES ISO 105 - A02, Textile - Tests for color fastness Part A02: 2 -Grey scales for assessing change in color;

ES ISO 105-A03, Textile - Tests for color fastness. Part A03: Grey scale for assessing staining

ES 1188,Leather - Determination of chromium content;

ES 1194, Leather - Determination of bound organic matter substance and degree of tannage.

ES ISO 11642, Leather -Tests for color fastness to water.

3. Definition

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

3.1 In this specific product, Tannery Round (TR) is a grade and a grading system at the same time that accommodates the literary known top grade mixes of I, II, III and IV in one pack while the distribution of each grade in mix shall be determined based on the sellers and buyers prior agreement.

4. Types

Lining leather shall be of the following types:

Type I. - Combination tanned lining leathers, (combination of vegetable and mineral tanning)

Type II - Vegetable tanned Lining leathers and

Type III - Full chrome tanned lining leathers

5. Sampling

Sampling of lining leather shall be carried out in according to the method specified in ES ISO 2418, ES ISO 2419, ES ISO 2420 and ES ISO 4044.

6. Requirements

6.1 General

6.1.1 The material for lining leather shall be sheep or goatskins, split or lightweight hides

6.1.2 Combination tanned lining leather shall be tanned either:

- a) Vegetable tanning process followed by chrome tanning with or without the use of auxiliary tanning materials or
- b) Chrome tanning process followed by vegetable tanning process with or without the use of auxiliary tanning materials.

6.1.3 Vegetable tanned lining leather shall be tanned by vegetable tanning process with or without the use of syntans.

6.1.4 Full chrome tanned lining leather shall be tanned by chrome tanning process with basic chromium salts.

6.1.5 At the end of tanning operation and before drying suitable fungicide shall be added to promote mildew resistance when determined in accordance with ES1193 in the leather. The fungicide shall be effective and non-toxic. .

6.1.6 The leather shall be grain finished or s ueded with the flesh side smooth and free from loose flesh. It shall be free from cuts and open surface blemishes and shall be mellow and yet tight grained.

6.1.7 The leather shall be dyed fast or pigment finished, if necessary, subject to agreement between the purchaser and the producer.

6.2 Physical requirements

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

Table 1. Physical requirements for grading lining leather.

Ser. No	Characteristics	Combination tanned	Vegetable tanned	Full chrome tanned	Method of test
1	Tensile strength N/mm ² , min.	15	15	15	ES ISO 3376
2	Elongation at break, by%, max.	100	70	100	ES ISO 3376
3	Water absorption % by mass, min. a) After 2 hrs b) After 24 hrs	- 100 --	-- 100 --	-- 100 --	ES ISO 2417
4	Double hole stitch tear strength kg/cm thickness, min	50	50	50	ES 1192
5	Color fastness to rubbing a) Dry rubbing, 100 cycles b) Wet rubbing, 50 cycles	Good 4 4	Good 4 4	Good 4 4	ES ISO 11640 ES ISO 105-A02 ES ISO 105-A03 ES ISO 11642 ES ISO 15700
6	Martindale Abrasion a, Dry 25,600 revolution b, Wet 6,400 revolution	Not worse than moderat wear			

6.3 Chemical Requirements.

Lining leather shall comply with the chemical requirements specified in table 2 here in

Table 2. Chemical requirements for lining leather.

Ser. No	Required test	Combination tanned	Vegetable tanned	Full chrome tanned	Method of test
1	Total ash, percent by mass, max. (Cr ₂ O ₃)	2.0	2.0	2.0	ES ISO 4047
2	Chromium as (Cr ₂ O ₃) percent by mass, min.	0.5	-	2.5	ES 1187
3	Water-soluble matter, percent by mass, max.	0.1	10	0.1	ES 1190
4	Solvent extractable substances percent by mass max.	8	12	8	ES ISO 4048
5	Hide substance, % by mass, min	60	60	60	ES ISO 5397
6	pH of water soluble, min	3.5	3.5	3.5	ES ISO 4045
7	Difference figure, max	0.7	0.7	0.7	ES ISO 4045
8	Bound organic matter, percent by mass, max.	18	18	18	ES 1194
9	Degree of tannage, percent, min.	40	50	-	ES 1194

6.4 Restricted Chemicals shall be as table 3 below

Table 3: - Restricted Chemical requirements

Characteristics	Requirement	Test method
Chromium VI content	below 3 mg/kg	ES ISO 17075
Formaldehyde content	below 300 mg/kg	ES ISO 17226
Pentachlorophenol (PCP)	maximum 5 ppm	ES ISO 17070
Lead (Pb)	Strictly less than 0.8mg/kg	ES ISO 17072
AZO Dyes	30 ppm of any of the amines	ES ISO 17234

7. Grading

Table 4: Grading of lining leathers

Grade	Usable Area by % of Total Area	Description
TR(I-IV)	40-100	Leather with even substance, good pattern, filled flanks, uniform shade; while it could have some defects like drawn grain, scars, holes, knife cuts , ekek, looseness etc. on belly, shoulder or but areas as far as the distribution and sizes of the defects shall not affect the usable area not more than its 40% of the total area.
V	15-39	Leather with varied substances loose flanks and cuts holes brands which are randomly spread on leather surface.
Reject	Less than 15	Leather with having a cutting value of less than 15 %

8. Sizes and shape

The material shall be supplied in the form of full pieces trimmed free of toggle, punch and nail marks.

9. Packing

Lining leather shall be packed in suitable packing materials such as polyethylene plastic bags or as agreed between the supplier and purchaser.

10. Labeling

Each container of lining leather products shall clearly labeled with the following information

- Name of manufacturers;
- Country of Origin;
- Type and grade of lining leather;
- The number of leather lining contained;
- Area in square feet
- Batch number(s) or code number, and
- And any other labeling information required by the purchaser.

11. Compliance with the standard

A lining leather shall be deemed to comply with this Ethiopian standard if upon inspection and testing the provision in clause 6.4(table 3) is 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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