
Patent leather- Specification

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Foreword

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

In preparing this Ethiopian Standard reference has been made to the following:
IS 14361:2011, "Patent leather- Specification ", published by the Bureau of Indian standards.

Acknowledgement is made for the use of information from the above publication.

Patent leather- Specification

1. Scope

This standard prescribes requirements, methods of sampling and test for patent leathers.

2. Normative reference

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 3376, Leather — Physical and mechanical tests — Determination of tensile strength and percentage elongation

ES ISO 3377-2, Leather — Physical and mechanical tests — Determination of tear load — Part 2: Double edge tear

ES ISO 5402-1, Leather — Determination of flex resistance — Part 1: Flexometer method

ES ISO 3379, Leather — Determination of distension and strength of surface (Ball burst method)

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

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

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

ES ISO 17226-1, Leather — Chemical determination of formaldehyde content — Part 1: Method using high-performance liquid chromatography

ES ISO 17070, Leather — Chemical tests — Determination of tetrachlorophenol-, trichlorophenol-, dichlorophenol-, monochlorophenol-isomers and pentachlorophenol content

ES ISO 17234-2, Leather — Chemical tests for the determination of certain azo colorants in dyed leathers — Part 2: Determination of 4-aminoazobenzene

ES ISO 17075-1, Leather — Chemical determination of chromium(VI) content in leather — Part 1: Colorimetric method

ES ISO 17075-2, Leather — Chemical determination of chromium(VI) content in leather — Part 2: Chromatographic method

ES ISO 2588, Leather — Sampling — Number of items for a gross sample

ES ISO 2418, Leather — Chemical, physical and mechanical and fastness tests — Sampling location

ES ISO 4047, Leather — Determination of sulphated total ash and sulphated water-insoluble ash

ES 1191, Leather- determination of total water- soluble matter, water-insoluble inorganic matter and water-soluble organic matter

3. Terms and definitions

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

4. Requirements

4.1 General

The leather shall be full chrome or semi-chrome tanned from hide and skins and re-tanned with vegetable tannins/syntans .it shall be finished with polyurethane finish and shall have a high gloss as agreed to between the purchaser and manufacturer or supplier.

4.2 Physical requirements

The leather shall conform to the requirements given below in table 1, when tested in accordance with the methods prescribed in table 1.

Table 1 - Physical requirements

Characteristics/parameters	requirements	Method of test
Tensile strength, kg/cm ² , min.	250	ES ISO 3376
Elongation at break %, max.	80	ES ISO 3376
Double hole stitch strength, kg/cm, min.	125	ES ISO 3377-2
Flexing endurance: a, wet b, dry	10,000 flexes 50,000 flexes	ES ISO 5402-1
Ball burst strength, kg	30-50	ES ISO 3379
Distention in mm, min	7	ES ISO 3379

4.3 Chemical requirements

The leather shall conform to the requirements given below in table 2, when tested in accordance with the methods prescribed in table 2.

Table 2 - chemical requirements

Characteristics/parameters	Requirements	Method of test
Total ash % by mass (over Cr ₂ O ₃ content), max.	2.0	ES ISO 4047
Chromium content as Cr ₂ O ₃ % by mass, min.	2.5	ES ISO 5398-1
Solvent extractable substance % by mass	3-7	ES ISO 4048
Water soluble matter % by mass, max.	2.5	ES 1191
PH of water soluble aqueous extract, min	3.5	ES ISO 4045
Different figure, max	0.7	ES ISO 4045

4.4 Hazardous chemical requirements

The leather shall conform to the requirements given below in table 3, when tested accordance with the methods prescribed in table 3.

Table 3- hazardous chemical requirements

Characteristics	requirements	Method of test
Formaldehyde, mg/kg, max.	150	ES ISO 17226-1
Pentachlorophenate, mg/kg, max.	5	ES ISO 17070
Azo-dyes(sum parameters), mg/kg, max.	30	ES ISO 17234-2
Hexavalent chromium, mg/kg, max.	3	ES ISO 17075-1/-2

5. Sampling

Representative samples of the product shall be drawn and tested for their conformity with the requirements of this standard in accordance with the method of sampling shall be as specified in ES ISO 2588. The location of test pieces shall be as specified in ES ISO 2418.

6. Packing

The leather shall be packaged suitably as agreed between the interested parties in such a way that it is protected from, for example, humidity, heat and light.

7. Marking /labeling

The leather shall be legibly marked on the flesh side of each piece with its area in square feet with the following details:

- a) batch number;
- b) Date of finishing;
- c) manufacturer's identification mark;

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- ❖ 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.

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