

Tanzania Standard
(2nd revision)

Leather –Vegetable tanned Sole- Specification



TANZANIA BUREAU OF STANDARDS

FOREWORD

This Draft Tanzania Standard is being reviewed by the Leather and leather products Technical Committee under supervision of the Textile and Leather Division Standards Committee and it is in accordance with the procedures of the Bureau.

This standard was first published in 1984 and later revised in 2013. This revision introduces the requirements for elongation and imposed restrictions on hazardous chemicals, reflecting the growing global demand for eco-friendly production practices in response to environmental concerns and the pursuit of sustainable manufacturing. Even though the technological advancement has replaced the leather sole by synthetic rubber and plastics to a larger extent; traditionally the vegetable tanned sole is still in use.

The assistance to review this standard was obtained from:

IS 579: 2017, Vegetable Tanned Sole Leather -Specification published by the Bureau of Indian standards.

ES 6817: 2021, Leather-Vegetable tanned specification published by the Ethiopian Standards Agency (ESA).

For the purpose of deciding whether a particular requirement of this Draft Tanzania Standard is complied with, the final value observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with TZS 4 (see clause 2).

1. SCOPE

This Draft Tanzania Standard prescribes the requirements and the methods of test, sampling for sole leather produced by vegetable tanning and used for making and repairing soles of all types of leather sole footwear.

2. NORMATIVE REFERENCES

For the purpose of this Draft Tanzania Standard the following references shall apply:

- a). TZS 4: Rounding off numerical values.
- b). TZS 188: Leather –Hides, skins and leather glossary.
- c). TZS 190: Leather –Methods of sampling.
- d). TZS 199: Leather – Determination of pH and difference figure of aqueous extract.
- e). TZS 197: Leather – Determination of sulphated total ash.
- f). TZS 196: Leather – Determination of total water-soluble matter, water-soluble inorganic matter and water-soluble organic matter.
- g). TZS 204: Leather – Determination of mildew resistance.
- h). TZS 203: Leather – Determination of absorption of water (under static condition).
- i). TZS 202: Leather – Determination of resistance to grain cracking and crack index.
- j). TZS 200: Leather – Determination of nitrogen, hide substance, and degree of tannage.
- k). TZS 209: Leather – Determination of apparent density.
- l). TZS 195: Leather – Determination of matter soluble in dichloromethane or other solvents.

m).TZS 4060: Leather - Physical and mechanical tests - Determination of tensile strength and percentage elongation

3. TERMINOLOGY.

For the purpose of this Draft Tanzania Standard the terms and definitions given in TZS 188 shall apply.

4. REQUIREMENTS.

4.1 Raw material.

4.1.1 The material shall be dried, wet salted or green hides and skins which are well cured and free from serious grain and flesh defects.

4.2 Tanning.

4.2. 1 The hides and skins shall be tanned with natural vegetable tanning material or their extracts or either of these in combination with or without syntans. The leather shall be fully tanned. A sharp cut made by knife or scissors shall show uniform tannage when examine visually.

4.2.2. The treatment for water resistance properties of the tanned sole leather shall be subject to an agreement to between the seller and buyer, however the suitable impregnating materials for treatment shall be used in such a way that no restricted hazardous chemical shall appear in compliance of Table 3.

4.3 Finishing

The grain shall be tight in the butt area and shall be well set out and rolled to make it smooth and even. The flesh side shall be smooth and clean. The material shall be trimmed.

4.4 Fungicidal additives

4.4.1 At the end of the tanning operation and before drying, suitable fungicides shall be incorporated in the leather in required proportions. Fungicides used to promote mildew resistance in leather shall be effective and non-toxic. The leather shall show no growth of mildew when examine visually after the completion of the test prescribed in TZS 204: (see clause 2).

4.4.2 On pelt or shaved weight basis, the use of fungicides as per manufacturer's suggestion is recommended.

4.5 Physical requirements.

4.5.1 The material shall comply with physical requirements specified in Table 1.

4.6 Chemical requirements.

4.6.1 The material shall comply with chemical requirements specified in Table 2.

4.7 Hazardous chemical requirements

4.7.1 The material shall comply with hazardous chemical requirements specified in Table 3.

TABLE 1-Physical requirements for sole leather

Characteristics	requirements	Test method
Apparent density g/cm ³ , Min.	0.90	TZS 209
Elongation at break %	35-80	TZS 4060
% in water absorption by mass, maximum. a) after 30 min b) after 2hrs c) after 24hrs	45 50 55	TZS 203
Resistance to grain cracking	Shall not crack on mandrel No.1 and shall not show any sign of permanent loosening of the grain in the form of wrinkles	TZS 202

TABLE 2-Chemical requirements for sole leather

Characteristics	Requirements	Test method
% total ash by mass, Max.	3	TZS 197
% Solvent extractable substances, by mass, Max.	6	TZS 195
%Water soluble matter by mass, Max.	21	TZS 196
pH of water soluble, Min.	3.5	TZS 199
Difference figure of aqueous extract, Max.	0.7	TZS 199
%Degree of tannage by mass, Min.	50	TZS 200

TABLE 3: Hazardous Chemical Limit

Characteristics	Requirements	Test methods
Formaldehyde,mg/kg, Max.	150	TZS 4066-2
Pentachlorophenate, mg/kg, Max.	5	TZS 4064
Azo –dyes (sum parameters), mg/kg, Max.	30	TZS 4065-1
Hexavalent chromium, mg/kg, Max.	3	TZS 4061

5. PACKING AND MARKING.

5.1 The packing of tanned sole leather shall be subject to an agreement to between the seller and buyer. .

5.2 The package shall bear the following information;

- a) Manufacturer's name, address, and/or trademark
- b) Number of pieces in a package,
- c) Date of manufacture,
- d) Bale's batch number, and
- e) Total weight in kg.

5.2.1 The tanned sole leather pieces and/or package may also be marked with the 'tbs' certification mark.

Note; the 'tbs' certification mark shall be used by manufacturers only under license from TBS.

6. SAMPLING AND CRITERIA FOR CONFORMITY.

The scale of sampling and criteria for conformity of the material to this standard shall be prescribed in TZS 190: (see clause 2).