



TANZANIA STANDARD

Draft Tanzania Standard

Sisal bales Part 1: Dimensions and density

Draft for Public Comments' Only

TANZANIA BUREAU OF STANDARDS

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Foreword

This Draft Tanzania Standard was published under the authority of the Board of Director of Tanzania Bureau of Standards.

Tanzania Bureau of Standards (TBS) is the statutory national standards body for Tanzania established by the Standards Act Cap. 130.

Tanzania Standards are developed through Technical Committees that are representatives of key stakeholders including government, academia, consumer groups, private sector and other interested parties. The Technical Committees work under the supervision of Divisional (sectoral) Committees. The Standards are developed in accordance with the Guide and Procedure for Development of Tanzania Standards and TZS 0: *Guide for presentation of Tanzania Standards*.

Tanzania Standards are subject to review to keep pace with science and technological advances. Users of the Tanzania Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

This Tanzania Standard was developed under the supervision of the Textile and Leather Division standards Committee (TLDC). The technical committee responsible for this standard is TDC7-Textile fibres

1. Scope

This Draft Tanzania Standard specifies the nominal overall dimensions and bale density of banded sisal bale. It applies to shaping, forming, transport, and opening of bales. It does not cover wrapping, banding, or marking.

2. Normative References

The following standards are referred to in the text in such a way that some or all of their content constitutes requirements of this Draft Tanzania Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

TZS 4, Rounding off numerical values

TZS 534 – Standard atmospheres for conditioning and testing of textiles.

TZS 3375 – *Textile fibres – some methods of sampling for testing.*

ISO 668, Series 1 freight containers — Classification, dimensions and ratings

ISO 6938 Textiles — Natural fibres — Generic names and definitions

3. Terms and definitions

For the purposes of this Draft Tanzania standard, the terms and definitions are those explained in ISO 6938.

4 Requirements

4.1 The requirements of nominal dimension and density of banded sisal bale shall be as given in Table 1 below.

Table 1- Nominal dimensions and density requirements for banded sisal bales

SN	Parameters	Requirements	Test methods
1	Length, cm	110	Annex A
2	Width, cm	55	
3	Height, cm	45	
4	Density, kg/m ³	360-400	
5	Weigh of the bale, Kg	100-250, Tolerance ± 2	ISO 668
6	Container utilization, bales or tone	20 ft: ~220–240 bales (≈ 22 –24 t) 40 ft: ~440–480 bales (≈ 44 –48 t)	

5. Packing

Unless otherwise agreed to between the seller and buyer, each bale shall be tightly compressed and secured with galvanized steel bands or high-tensile polypropylene straps.

6. Marking

Each bale shall be clearly stenciled or tagged with:

- i) Producer's name/Trademark or code
- ii) Bale number
- iii) Fibre grade
- iv) Net weight (kg)
- v) Country of origin
- vi) Production date

7. Sampling and Criteria for conformity

The number of test and criteria for conformity shall be done in accordance with TZS 3375. The criteria for conformity shall be assessed as shown procedure given in Annex A.

8. Conditioning and testing atmosphere

8.1 Before testing, the fibre should be conditioned to equilibrium at 0 % relative humidity (RH) at the temperature the testing will occur. This will remove moisture that can outgas during the testing.

8.1.1 The testing atmosphere shall be conditioned as specified in TZS 532 i.e. a relative humidity of $(65\pm 2\%)$ and a temperature of $(20\pm 2)^\circ\text{C}$. In tropical regions, a temperature of $(27\pm 2)^\circ\text{C}$ may be used, subject to agreement between the interested parties.

8.1.2 If the sample is expected to be tested without conditioning, its moisture content should be included in the report and the sample should be evaluated for outgassing and, if required, outgassing mitigation methods used during testing.

Annex A

Procedure for finding dimensions and density of banded sisal bale

A-1 Prepare the Bale

A-1.1 Ensure the bale is banded and representative of shipment condition.

A-1.2 Select a finished sisal bale ready for transport

A-1.3 Confirm bale is properly banded and compressed

A-1.4 Record bale identification number

A-2 Measure Bale Dimensions

A-2.1 Accurate dimensions are essential for volume calculation.

A-2.2 Use a steel tape or caliper to measure length, width, and height

A-2.3 Take measurements at midpoints to avoid edge irregularities

A-2.4 Record dimensions in centimeters

A-3 Weigh the Bale

A-3.1 Determine the bale mass under controlled conditions.

A-3.2 Place bale on a calibrated industrial weigh scale

A-3.3 Record mass in kilograms

A-3.4 Ensure scale is zeroed before weighing

A-4 Calculate Bale Volume

A-4.1 Compute the volume using measured dimensions by using the formular below:

$$V=L \times W \times H$$

Where; V=Volume, L=Length, W= Width and H=Height

4.1.1 Convert dimensions to meters

4.1.2 Multiply length × width × height

4.1.3 Record volume in m³

A-5 Determine the bale Density

A-5.1 Result

A-5.1.1 Divide bale mass by volume to obtain density.

$$\rho = M/V$$

Where; ρ =Density, M =Mass, V = Volume

A-5.1.2 Use mass in kg and volume in m³

A-5.1.3 Express density in kg/m³

A-5.1.4 Compare the results with nominal range between 360–400 kg/m³