



TDC3 (5616)P₃
Second Edition

Textiles – Woven bags made from natural fibres – Part 2: Bags for milled products – Specifications

Draft for stakeholders comments only!

Foreword

This second edition of this Draft Tanzania Standard has been prepared to specify requirements to be complied by manufacturers producing woven bags from natural fibres for packing and storage of milled products.

In this second edition, review has been made to oil content and moisture regain parameters and their test methods respectively.

In the preparation of this Draft Tanzania Standard assistance was derived from:

KS 133: 2013 Woven bags made from natural fibres for milled products – Specifications.

This second edition cancels and replaces the first edition TZS 1263: 2010: *Textiles – Woven bags made from natural fibres – specification Part 2: Bags for milled products.*

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1 Scope

This Draft Tanzania Standard specifies the bag cloth and making-up requirements for woven bags made from coarse natural fibres for packing and storage of milled products.

2 Normative references

The following referenced documents are indispensable for the application 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, *Textiles - Rounding off numerical values*

TZS 20, *Textiles – Woven fabrics – Determination of number of threads per unit length and per unit width*

TZS 21, *Textiles – Woven or knitted fabrics – Determination of mass per unit length and per unit area*

TZS 22, *Textiles – Woven fabrics – Determination of breaking load and extension*

TZS 44, *Textiles – Woven or knitted fabrics - determination of width and length*

3 Terms and definitions

For the purposes of this Draft Tanzania Standard, the following terms and definitions shall apply;

3.1 Fibre

Unit of matter characterised by flexibility fineness and high ratio of length to thickness.

3.2 Natural fibre

Fibres that are produced from plants, animals, and geological processes. They can be used as a component of composite materials, where the orientation of fibres impacts the properties. Natural fibres can also be matted into sheets to make products such as paper, felt or fabric.

3.3 Bag cloth

Heavy cloth made from natural fibres in either plain/twill.

3.4 Sacks

Bags made from materials as defined in 3.1 and used for packing various products.

3.5 Double warp (DW) tarpaulin

Double warp, single weft plain woven fabric of finer construction than bagging.

3.6 Double warp (DW) bagging

As in 3.5, but a coarser fabric.

3.7 Cropping

Process whereby the short protruding fibres on the fabric surface are removed by sharpened, spiral blade.

3.8 Singeing

Process whereby the short protruding unwanted surface fibres on the fabric surface are removed by burning against a hot plate or in a flame.

3.9 Ends

Yarns running along the length of the fabric and parallel to the direction of selvedge.

3.10 Picks

Yarns running across the width of the fabric and perpendicular to the direction of the warp ends.

3.11 Selvedge

Longitudinal edges of a fabric that are formed on the right and left sides during the weaving process.

4 Requirements

For the purpose of this Draft Tanzania Standard, the woven bag shall comply with the requirements as shown in Table 1.

4.1.1 Construction and properties

The bag cloth shall be woven from natural fibre yarns and shall comply with the requirements in Table 1.

4.1.2 Freedom from defects

The bag cloth when visually examined shall be free from weaving defects such as holes, tears, floats, crushed selvedge, spots and stains.

Table 1: Sacking construction and properties

SN	Characteristic	Requirements	Test method
1.	Dimensions (100kg maximum) i) Outside length ii) Inside width	110cm 70cm	TZS 44
2.	Mass per unit area g/m ² , min	600	TZS 21
3.	Warp (ends) per 10 cm <i>min</i> Weft (shots) per 10 cm <i>min</i>	34 56	TZS 20
4.	Bag cloth breaking force, N, <i>min</i> Warp Weft	700 700	TZS 22
5.	Added oil content, max.	5%	Annex A.1
6.	Moisture regain, max.	10%	Annex A.2
7	Breaking strength of seam, N, <i>min</i> , (warp and weft direction)	650	TZS 22
8	Number of stitches per 10 cm, min	12	Clause 4.2.2

4.2 Making-Up.

4.2.1 Stitching thread

The stitching thread shall be of natural or man-made fibres.

4.2.2 Determination of stitch density

Count the number of stitches over a length of 10 cm on each side seam and bottom seam (if any) of each bag. Space the measurements so that both sides are adequately assessed. Calculate the mean reading and report the mean for each bag.

4.2.3 Hemming

Where selvedge do not form the mouth hems, the raw edges of the sacking at the mouth of the paper bag shall first be turned over to a depth of at least 1.5 cm then to a depth of at least 2.00 cm and the three layers of the sacking thus formed shall be firmly stitched.

4.3 Identification of the bag

For the purpose of identification, there shall be a minimum of two bands of coloured threads woven into the bag cloth. Each band shall have a minimum of two threads. The colours used shall be clearly visible or otherwise as may be agreed between purchaser and manufacturer.

5 Packing

The bags shall be packed in bales of agreed quantity. The bales shall be wrapped or covered with suitable materials and securely bound or stitched to prevent damage/or contamination.

Table 2 – Requirements of a packed bale

Characteristic	Requirements	Tolerance
Total number of bags per bale	150	-
Contract mass of a bale	150 kg (min.)	±2.5
Correct mass of a bale	150kg (min.)	-

6 Marking

The following information shall be clearly marked on each bale:

- manufacturer's name and address and/or registered trade mark;
- description of goods;
- quantity of pieces;
- lot number;
- gross mass of the bale;
- dimensions of bag.

Annex A

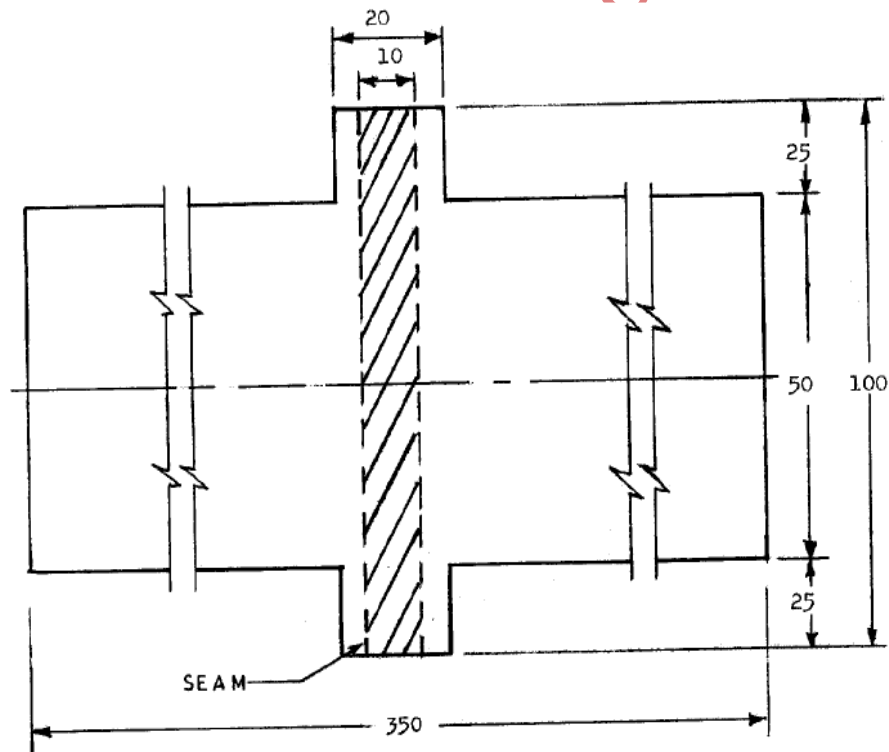
(Normative)

A.1 Oil content

A.1.1 Cut out one strip measuring 5 cm x 5 cm. Place it in a thimble in a soxhelt extractor. Add about 100mL of trichroethylene or light petroleum to the clean, dry extraction flask previously weighed correct to 1 mg. extract the test specimen for 1 h 30 min to 2 h such that the extractor siphons at least 10 times. Disconnect the apparatus.

A.1.2 Recover the excess of solvent by heating the flask on water bath at 90 °C to 95 °C (see Note) and allow a stream of air to pass through the flask by means of a tube terminating just below the neck. Remove all traces of moisture by heating the flask to $105 \pm 3^\circ\text{C}$ for 3min. Weigh the flask and determine the mass of the extract.

Note: If light petroleum is used as solvent, the temperature of water bath shall be 60 °C to 65 °C



Note: All dimensions in millimetres

FIG1. – SIZE AND SHAPE OF TEST – SPECIMEN FOR SEAM STRENGTH

A.1.3 Remove the thimble from the soxhelt extractor and allow the solvent to evaporate. Transfer the extracted specimen to a tared weighing bottle. Dry the specimen at $105 \pm 3^{\circ}\text{C}$ for at least 3h. Cool and weigh. Determine the oven dry mass of the extracted specimen by the following formula:

$$A = \frac{100x - d}{V}$$

Where,

A = Percentage, the mass, of the added oil content of the test specimen,

X = Mass, in g, of the extract (see Clause A10.3).

d = the percentage of naturally occurring oil and wax in the sample removed during extraction, and

V = Oven dry mass, in g, of the extracted test specimen (see clause 10.3)

Note: The value of d lies between 0.19 and 0.34% for trichloroethylene and 0.16 and 0.22% for light petroleum. For general calculations, the values for d may be as taken as 0.25% for trichloroethylene and 0.2 for light petroleum. However, if correct figures can be obtained, they shall be used.

A.2 Moisture regain

Cut out two strips, each measuring about 25 cm x 25 cm, from the sacking of each bag and determine the average moisture regain in using the formula:

$$R = 100 \frac{(M-m)}{m}$$

Where,

R is the percentage moisture regain;

M is the original mass of the strip; and

m is the oven-dry mass of the strip.