



DRAFT TANZANIA STANDARD

Textiles – Polyester straps – Specification

DRAFT FOR STAKEHOLDERS' COMMENTS ONLY

0. FOREWORD

This Draft Tanzania Standard is being developed by the Yarns and Twines Technical Committee under supervision of the Textile and Leather Divisional Standards Committee, and it is in accordance with the procedures of the Tanzania Bureau of Standards.

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

IS 15559:2004 Polyester Strapping — Specification.

In reporting the results of a test or analysis made in accordance with this Draft Tanzania Standard if the final value, calculated or observed is to be rounded off, it shall be done in accordance with TZS 4 Rounding off numerical values.

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1. Scope

This Draft Tanzania Standard specifies requirements for polyester straps intended for use in baling, closing, reinforcing and bundling articles for shipment, unitizing and palletizing.

2. Normative reference

TZS 3, *Atmospheric conditions for testing.*

TZS 4, *Rounding off numerical values.*

TDC 8 (1094) CD₂, *Polyester strapping - Methods for testing - Mechanical properties - Determination of tensile properties - General requirements.*

3. Terms and definitions

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

3.1 strap

strip of leather, plastic, cloth, or other flexible material, used to fasten, secure, or carry something or to hold on to something.

4. Types

Based on the strength, the Polyester strapping shall be of the following three types:

- a) Type I – Lower strength
- b) Type II – Regular strength and
- c) Type III – High strength.

5. Requirement

5.1 Manufacture

The straps shall be made by extruding and orienting the Polyester (Polyethylene-terephthalate — PET). The material shall be of the quality necessary to meet the physical requirements of this Draft Tanzania Standard.

5.2 Surface finish

The requirements in regard to finishing shall be subject to agreement between the purchaser and the manufacturer, but in the case of strap required for baling jute, they shall be free of wax coating.

5.3 Colour

The polyester straps shall be supplied in colour as agreed to between the buyer and the seller.

5.4 Intrinsic viscosity

The material used for manufacturing of PET strap shall have intrinsic viscosity (IV), minimum of 0.84 grade measured at 25°C with solution of phenol 60% and Tetrachloroethane 40%.

5.5 Freedom from defects

The material shall be free from harmful defects such as kinks, edge curvature, cracks or any other defects, which may impair the serviceability of the straps.

5.6 Dimensions and mechanical properties

The nominal width and corresponding thickness and breaking strength shall be as given in Table 1.

5.7 Tolerance width and thickness

Tolerance on thickness and width of the polyester strap shall not exceed the following limits:

<i>Requirement</i>	<i>Tolerance</i>
Thickness	±0.06 mm
Width	±0.70 mm

Table 1: Dimensions and mechanical properties

S/N	Type	Nominal width, mm	Nominal thickness, mm	Breaking load, min N
1.	I	10.5	0.670	1244
2.	I	10.5	0.681	1259
3.	I	10.5	0.684	1270
4.	I	10.5	0.692	1283
5.	I	10.5	0.702	1315
6.	II	10.5	0.510	1950
7.	II	10.5	0.610	2350
8.	II	11.1	0.510	2055
9.	II	11.1	0.610	2460
10.	II	12.7	0.510	2350
11.	II	12.7	0.710	3275
12.	III	15.6	0.760	4890
13.	III	15.6	0.900	5790
14.	III	15.6	1.020	6560
15.	III	19.05	0.760	5970
16.	III	19.05	0.890	6990
17.	III	19.05	1.020	8010
18.	III	19.05	1.270	10005
19.	III	25	1.02	10510

6. MECHANICAL PROPERTIES

6.1 Tensile Strength and Elongation

The tensile strength and elongation of a test piece, when tested in accordance with TDC 8 (1094) CD₁ shall meet the requirements as given in Table 2.

Table 2: Tensile Strength and Elongation

S/N	Type	Tensile Strength, Kg/mm ² ,min	Elongation, %
1.	I	17	10 to 20
2.	II	38	10 to 20
3.	III	42	10 to 16

6.2 Split Resistance

The test piece when tested in accordance with 6.2.1 shall conform the split resistance test.

- 6.2.1** Cut a test piece of 750 ± 5 mm length. Punch the test piece with a sharp pin along the longitudinal axis of the test piece at intervals of 75 mm. Fold the strap along the longitudinal axis at each of the punched area with the help of pliers. Observe the sample for any possible propagation of the split between two holes. The propagation should not be more than 2.5 mm. The pin shall be of diameter 2.4 mm, and a taper of 4 mm on one end.

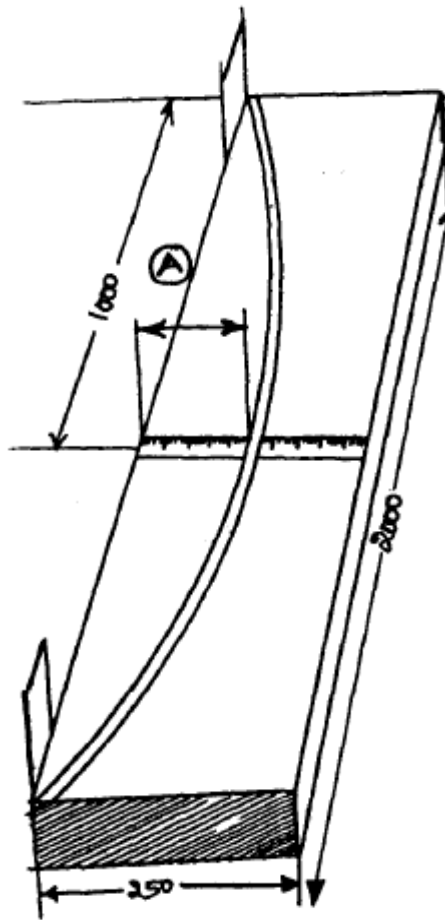
6.3 Camber

The test piece when tested in accordance with 6.3.1, shall conform the requirement of camber as given in Table 3.

Table 3: Camber

S/N	Nominal Width, mm	Camber, max mm
1.	9-11.5	150
2.	11.6-25	120

- 6.3.1** Take a test piece of 2000 mm length. Place it on a flat surface (see Fig. 1). Report the distance 'A', in mm, as camber.



All dimensions in mm

Fig. 1: Camber Calculation

7. PACKING AND MARKING

7.1 Packing

The straps shall be properly wound on 16" core and shall be supplied in coils securely packed as agreed to between the buyer and the seller.

7.2 Marking

Each coil of strap shall be marked with the following:

- Identification in code or otherwise to enable the lot of consignment of manufacture to be traced back from records;
- Name of the product;
- Width and thickness;
- Indication of the source of manufacture, recognized trade-mark, if any;
- Net mass/length of the strap; and
- Packing shall be marked with proper recyclable emblem.

8. SAMPLING AND RETESTING

- 8.1 One sample for tensile test and two for split tests shall be drawn for every 10,000 m of strap or part thereof of the strap of the same width and thickness. Test samples may be taken from any part of the coil.
- 8.2 Should the test piece fail to conform any of the tests specified in this Draft Tanzania Standard, two fresh samples shall be drawn from the same lot for retesting for all the requirements. In case these test pieces conform to the tests, the material represented by the test samples shall be deemed to comply with the requirements of the standard. If either of these additional samples fail, the material represented by the test samples shall be deemed to be rejected.

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