

# DRAFT UGANDA STANDARD

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## Textiles — Cotton T-Shirts — Specification

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## Foreword

Uganda National Bureau of Standards (UNBS) is a parastatal under the Ministry of Trade, Industry and Cooperatives established under Cap 327, of the Laws of Uganda, as amended. UNBS is mandated to co-ordinate the elaboration of standards and is

- (a) a member of International Organisation for Standardisation (ISO) and
- (b) a contact point for the WHO/FAO Codex Alimentarius Commission on Food Standards, and
- (c) the National Enquiry Point on TBT Agreement of the World Trade Organisation (WTO).

The work of preparing Uganda Standards is carried out through Technical Committees. A Technical Committee is established to deliberate on standards in a given field or area and consists of key stakeholders including government, academia, consumer groups, private sector and other interested parties.

Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

The committee responsible for this document is Technical Committee UNBS/TC 07, *Textiles, Leather, Paper and related products*, Subcommittee SC 1, *Textiles and related products*.

## Introduction

A tee-shirt (or T-shirt) is a shirt with short sleeves, round neck, put on over the head, usually without pockets (though terms such as long sleeved T-shirts and sleeveless T-shirts are sometimes used, suggesting that T-shirt by itself has a more general meaning)

T-shirt was originally used as undershirt. This is still done, but it is also worn as the only clothing on the upper part of the body (except that women often wear a bra under it). The length varies, but it typically reaches the waist. One fashion is an “oversized” T-shirt, a more recent trend is tight and short T-shirt for women that frequently show part of the lower abdomen with the belly button. T-shirt fashions include styles for men and women and styles for all age groups including baby, youth and adult sizes. T-shirts are decorated with text and/or pictures

T-shirts are manufactured by the textile industry using the jersey stitch knitting method. Cotton, polyester or a mix of the two fibres can be used commercially to produce the fabric



# Textiles — Cotton T-Shirts — Specification

## 1 Scope

This Draft Uganda Standard prescribes the constructional, dimensional details, sampling and other particulars as a guideline to manufacturers of various types of T-shirts manufactured from 100% cotton yarn.

## 2 Normative references

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

US ISO 9073-1, *Textiles – Test methods for nonwovens – Part 1: Determination of mass per unit area*

US ISO 105-B01, *Textiles – Tests for colour fastness – Part B01: Colour fastness to light: Daylight*

US ISO 5077, *Textiles – Determination of dimensional change in washing and drying*

US ISO 105-X12, *Textiles – Tests for colour fastness – Part X12: Colour fastness to rubbing*

US ISO 1833-1, *Textiles – Quantitative chemical analysis – Part 1: General principles of testing*

US ISO 10290, *Textiles – Cotton yarns – Specifications*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **T-shirt (or tee-shirt)**

A half sleeved, short sleeved or sleeveless outerwear with round neck and with folded rib tape attached to the neck and sometimes to sleeves and bottom also or may be manufactured as agreed upon between the manufacturer and the purchaser.

### 3.2

#### **Dressing material**

Material applied to yarns during preparation such as waxing

### 3.3

#### filling material

Non-substantive and generally insoluble materials, such as china clay, gypsum among others added to fabric together with starches or gums during finishing to add weight or to modify the appearance and handle of the fabric

## 4 Manufacture

### 4.1 Yarn

The yarn used in the manufacture of T-shirts shall comply with US ISO 10290.

### 4.2 Fabric

The fabric used in the manufacture of T-shirts shall be single jersey, rib, pique among others. The fabric shall be free from dressing and filling materials and other substances liable to cause subsequent tendering.

## 5 Requirement

The knitted fabric for the manufacture of T-shirt shall comply with the requirements given in tables 1 and 2

**Table 1 – Requirement for a crew neck type T-shirt**

Sr. No.	Requirement	Crew neck T-shirt (Normal)	Crew neck T-shirt (Heavy)	Test Method
01	Raw material	100% Cotton	100% Cotton	US ISO 1833-1
02	Yarn	Ring Spun/open end	Ring Spun/open end	Visual examination
03	Fabric type Body fabric Neck fabric	Single jersey 1 x 1 Rib	Single jersey 1 x 1 Rib	Visual examination Visual examination
04	Mass of fabric, g/m <sup>2</sup> Body fabric Neck fabric	140 min 200 min	180 min 200 min	US ISO 9073-1
05	Shrinkage %, max Length Width Skewness %, max	6 6 3	6 6 3	US ISO 5077
06	Colour fastness to: Rubbing (Wet) Rubbing (Dry) Light	4-5 4-5 4 or better	4-5 4-5 4 or better	US ISO 105-X12 US ISO 105-X12 US ISO 105-B01



Table 2 – Requirement for a polo T-shirt

Sr. No.	Requirement	Light weight Polo T-Shirt	Heavy weight Polo T-Shirt	Test Method
01	Raw material	100% Cotton	100% Cotton	US ISO 1833-1
02	Yarn	Ring Spun/open end	Ring Spun/open end	Visual examination
03	Fabric type			
	Body fabric	1 x 1 Pique	1 x 1 Pique	Visual examination
	Collar/cuffs	1 x 1 Rib	1 x 1 Rib	Visual examination
04	Mass of fabric, g/m <sup>2</sup>			
	Body fabric	180 min	210 min	US ISO 9073-1
	Collar/cuffs	600 min	600 min	
05	Shrinkage %, max			
	Length	7	7	US ISO 5077
	Width	7	7	
	Skewness %, max	3	3	
06	Colour fastness to:			
	Rubbing (Wet)	4-5	4-5	US ISO 105-X12
	Rubbing (Dry)	4-5	4-5	US ISO 105-X12
	Light	4 or better	4 or better	US ISO 105-B01

## 6 Dimensions

6.1 The sizes of T-shirts for adults shall be of any of the following:

- a) Small (S)
- b) Medium (M)
- c) Large (L)
- d) Extra large (XL)
- e) Extra extra large (XXL)
- f) Extra extra extra large (XXXL)

6.2 The sizes of T-shirts for children shall be of any of the following:

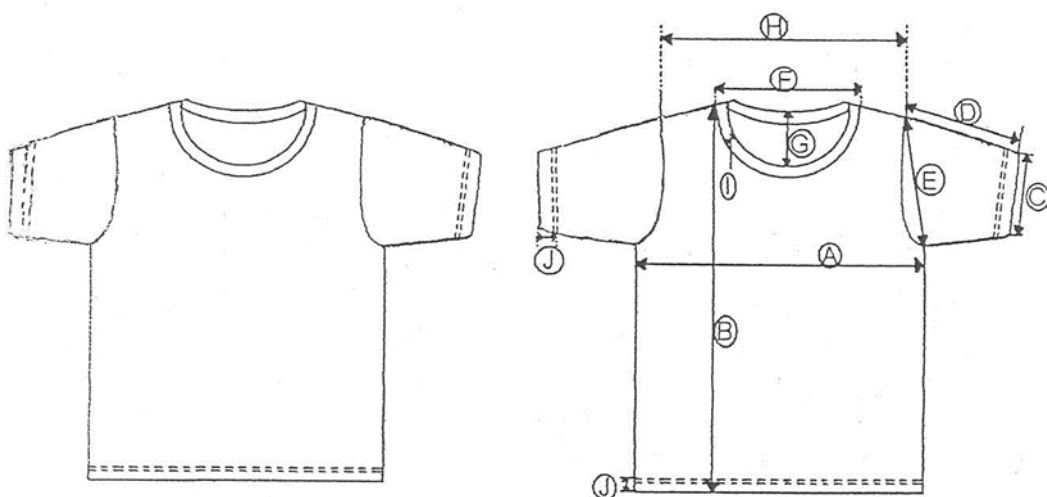
- a) size 2
- b) size 4
- c) size 6
- d) size 8

e) size 10

f) size 12

g) size 14

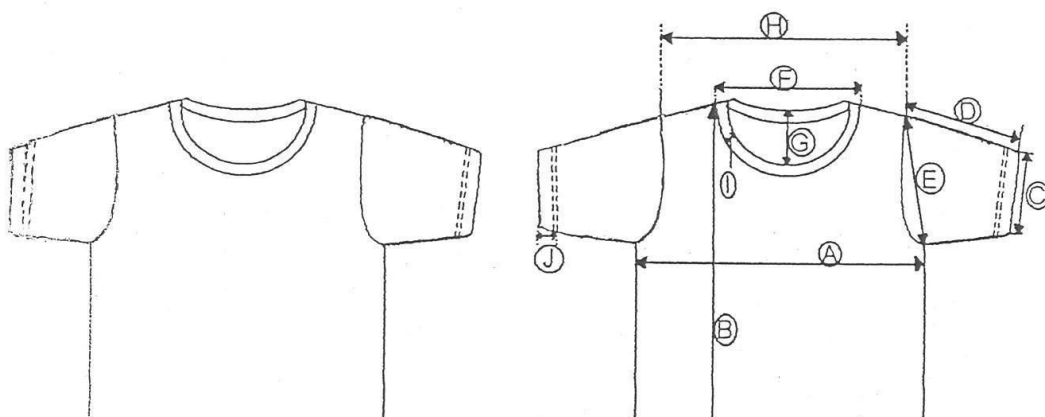
**6.3** The dimensions/sizes given in tables 3 and 4 are for guideline to the manufacturer unless otherwise, these should be agreed upon between the purchaser and manufacturer.



**Figure 1- Sketch model showing how to measure crew neck type T-shirt (Refer to Annex B)**

**Table 3 – Dimensions and how to measure crew neck type T-shirt (See figure 1)**

Ref	Description	Dimensions in centimeters					
		S	M	L	XL	XXL	XXXL
A	½ chest flat	50	53	56	59	64	66
B	Full length	68	70	73	75	78	80
C	½ sleeve opening	18	19	20	21	22	23
D	Sleeve length	19.5	20	21	2.5	22.5	23
E	Armhole (straight)	24	25	27	28	29	30
F	Neck width (seam to seam)	18	18	19	19	19.5	20
G	Neck drop	7.5	7.5	8	8	8	8
H	Across shoulders	48	51	54	57	59	61
I	Rib width	2.5	2.5	2.5	2.5	2.5	2.5
J	Sleeve hem (height)	2	2	2	2	2	2



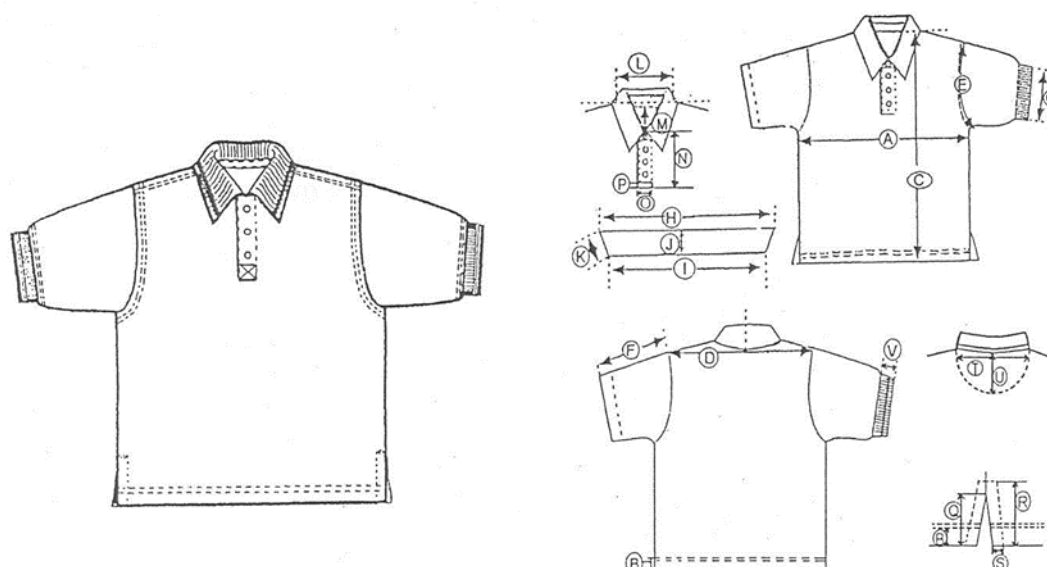


Figure 2 – Sketch model showing how to measure Polo T-shirt (Refer to Annex B)

Table 4 – Dimensions and how to measure polo type T-shirt

Ref	Description	Dimensions in centimeters				
		S	M	L	XL	XXL
A	½ Chest width - 1" below armhole	52	56	60	64	66
B	Hem bottom	2	2	2	2	2
C	Front length	74	76	48	80	82
D	Shoulder to shoulder	47	49.5	52	54	57
E	Armhole (straight)	24.75	24.75	25.5	26	26.75
F	Sleeve length (from shoulder seam)	24	24.75	25.5	26	26.75
G	½ Cuff/ Sleeve opening	16	17	18	18	19
H	Collar- point to point	35.75	38.25	40.75	43.25	43.25
I	Neck circle (closed at neck seam)	39.5	42	44.5	47	47
J	Collar height	8.25	8.25	8.25	8.25	8.25
K	Collar points	7.5	7.5	7.5	7.5	7.5
L	Neck width (seam to seam)	18.5	19.25	20	20.75	21
M	Front neck drop	6	6.5	7	7.5	7.5
N	Front placket length	15.5	15.5	15.5	15.5	15.5
O	Front placket width	3.5	3.5	3.5	3.5	3.5
P	Placket box stitch	0.75	0.75	0.75	0.75	0.75
Q	Side vents opening	6.25	6.25	6.25	6.25	6.25
R	Side vent stitch length	7.5	7.5	7.5	7.5	7.5

S	Side vent double fold width	1	1	1	1	1
T	Locker patch width	18	19	20	20.5	20.5
U	Locker patch length	10	10.75	11.5	12	12.5
V	Cuff height	2.5	2.5	2.5	2.5	2.5

## 7 Packaging

7.1 The T-shirts shall be individually packed in suitable packaging materials

7.2 The T-shirts as in 7.1 shall be packed into bundles of any number as agreed upon between the purchaser and manufacturer and then packed in cardboard boxes.

## 8 Labelling

8.1 A suitable cloth label or print shall be attached to each T-shirt and shall be legibly and indelibly labelled with the following:

- a) manufacturer's name and/ or trade mark,
- b) type of material i.e. 100% cotton;
- c) size;
- d) country of origin; and
- e) care instructions.

8.2 The following information shall be legibly and indelibly labelled on package:

- a) manufacturer's name, address and/or trade mark;
- b) type of material i.e. 100% cotton;
- c) colour;
- d) size; and
- e) country of origin.

## 9. sampling

Random samples shall be selected in accordance with Annex A

## **Annex A** (normative)

### **Compliance of a lot**

The sampling procedure given below shall give desired protection to the buyer and seller provided that the lot submitted for inspection is homogeneous. To achieve this, the manufacturer shall maintain a system of process control at all stages of manufacture and shall ensure that the T-shirts tendered by him for inspection comply with the requirements of this standard in all respects

#### **A.1 Lot**

In any consignment, all packages of T-shirts of the same size, material composition and construction and belonging to the same batch shall constitute a lot

#### **A.2 Scale of sampling**

**A.2.1** Samples shall be tested from each lot for ascertaining its conformity to the requirements of this Uganda Standard.

**A.2.2** The number of T-shirts to be selected from a lot shall be in accordance with table 5.

**A.2.3** The number of bundles or packages to be selected shall be in accordance with table 5. One T-shirt shall be selected from each bundle or package to form a sample.

**A.2.4** The bundles or packages shall be selected at random. In order to ensure randomness of selection tables of random numbers may be used

#### **A.3 Number of tests**

**A.3.1** Each T-shirt selected as in A.2.2 or A.2.3 shall be inspected for labelling and packaging requirements as given in clause 7 and clause 8

**A.3.2** Each bundle or package selected as in A.2.3 shall be inspected for packaging and labelling requirements as given in clause 7 and clause 8

**A.3.3** Each T-shirt selected as A.2.2 and A.2.3 shall be inspected for requirements given in tables 1 and 2.

#### **A.4 Criteria for conformity**

A lot shall be declared as conforming to the requirements of this standard if the following conditions are satisfied:

**A.4.1** Each T-shirt inspected as in A.3.1 satisfies the labelling and packaging requirements.

**A.4.2** Each bundle or package inspected as in A.3.2 satisfies the packaging and labelling requirements.

**A.4.3** The T-shirts inspected as in A.3.3 satisfies the requirements given therein in such a way that the number of non-conforming T-shirts observed in the lot shall not exceed the permissible number allowed as given in column 3 of table 5

**Table 5 – Scale of sampling**

Number of T-shirts in the lot	Dimensions and visual inspections	
	Number of T-shirts to be inspected	Permissible number of non-conforming T-shirts
Up to 50	8	0
51 to 100	13	1
101 to 150	20	1
151 to 300	32	2
301 to 500	50	3
501 to 1000	80	5
1001 and above	125	7

## **Annex B**

### **(Normative)**

## **Method for measuring dimensions**

### **B.1 Procedure**

**B.1.1** Lay flat and allow the T-shirt to relax, free from applied tension in the standard atmosphere for at least 24 hours. Condition it until the difference between successive measurements made at intervals of at least 24 h of appropriate measurements at three noted measuring points if possible is less than 0.25 percent at each measuring point.

**B.1.2** Take each measurement to the nearest millimetre with steel ruler resting in a direction parallel and close to the measuring points that are to be measured of the T- shirt as shown in the figures. In case measurements cannot be taken by ruler, an accurate measuring tape may be used.

**B.1.3** Take the average of the three measurements obtained in B.1.2 to calculate the final measurement

## Bibliography

- [1] TYS 912:2006, *Textiles — Specification for Cotton T-shirts*

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