

# DRAFT UGANDA STANDARD

First Edition  
2017-mm-dd

## School wear fabrics – Part 2: Blazer fabrics

DRAFT FOR PUBLIC REVIEW

---



Reference number  
DUS 1700-2:2017

© UNBS 2017

**Compliance with this standard does not; of itself confer immunity from legal obligations**

**A Uganda Standard does not purport to include all necessary provisions of a contract. Users are responsible for its correct application**

DRAFT FOR PUBLIC REVIEW

© UNBS 2017

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilised in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from UNBS.

Requests for permission to reproduce this document should be addressed to

The Executive Director  
Uganda National Bureau of Standards  
P.O. Box 6329  
Kampala  
Uganda  
Tel: +256 417 333 250/1/2  
Fax: +256 414 286 123  
E-mail: [info@unbs.go.ug](mailto:info@unbs.go.ug)  
Web: [www.unbs.go.ug](http://www.unbs.go.ug)

## Contents

Page

Foreword .....	iv
<b>1 Scope .....</b>	<b>5</b>
<b>2 Normative references .....</b>	<b>5</b>
<b>3 Requirements .....</b>	<b>6</b>
3.1 General .....	6
3.2 Fabric .....	6
3.3 Moth resistance .....	6
3.4 Defects .....	6
<b>4 Packing, labelling, marking and inspection .....</b>	<b>8</b>
<b>Annex A (Normative) Note to purchasers .....</b>	<b>9</b>
<b>Annex B (Normative) Removable non-fibrous material content of textiles (scouring method) .....</b>	<b>10</b>
B.1 Purpose .....	10
B.2 Reagents .....	10
B.3 Apparatus .....	10
B.5 Procedure .....	11
B.5.1 Prescouring .....	11
B.5.2 Scouring .....	11
B.6 Calculation .....	11
B.7 Test report .....	11

## **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 coordinate 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 7, [Textile, Leather, Paper and Related products], Subcommittee SC 1, [Textile and Related products].

DUS 1700 consists of the following parts, under the general title School Clothing:

- Part 1: Basic requirements
- Part 2: Blazer fabrics
- Part 3: Polyester and wool fabrics
- Part 4: Polyester and viscose fabrics
- Part 5: Polyester and cotton fabrics
- Part 6: Shirting and blouse fabrics
- Part 7: Fabrics containing textured yarns
- Part 8: Warp knitted fabrics

# School wear fabrics — Part 2: Blazer fabrics

## 1 Scope

This part of DUS 1700 covers the specific requirements for six types of plain dyed fabric and one type of striped fabric suitable for use in the manufacture of school wear blazers.

## 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.

DUS 1789, *Standard Test Methods for Quantitative Analysis of Textiles*

DUS ISO 137, *Wool — Determination of fibre diameter — Projection microscope method*

DUS ISO 3175-2, *Textiles — Professional care, dry-cleaning and wet-cleaning of fabrics and garments — Part 2: Procedure for testing performance when cleaning and finishing using tetrachloroethene*

DUS ISO 3998, *Textiles — Determination of resistance to certain insect pests*

DUS ISO 8498, *Woven fabrics — Description of defects — Vocabulary*

DUS ISO 12945-3, *Textiles — Determination of the fabric propensity to surface pilling, fuzzing or matting — Part 3: Random tumble pilling method*

US 441-2/ISO 7211-2, *Textiles — Woven fabrics — construction — Methods of analysis — Part 2: Determination of number of threads per unit length*

US ISO 105-B02, *Textiles — Tests for colour fastness — Part B02: Colour fastness to artificial light: Xenon arc fading lamp test*

US ISO 105-C10, *Textiles — Tests for colour fastness — Part C10: Colour fastness to washing with soap or soap and soda*

US ISO 105-D01, *Textiles — Tests for colour fastness — Part D01: Colour fastness to dry-cleaning using perchloroethylene solvent*

US ISO 105-E04, *Textiles — Tests for colour fastness — Part E04: Colour fastness to perspiration*

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 3801, *Textiles — Woven fabrics — Determination of mass per unit length and mass per unit area*

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

US ISO 5089, *Textiles — Preparation of laboratory test samples and test specimens for chemical testing*

US ISO 13934-1, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force*

### 3 Requirements

#### 3.1 General

The fabric shall

- a) comply with the basic requirements given in DUS 1700-1;
- b) have been made from two-ply yarns(except in the case of fabric of Types SPT58, SPT59 and SPT 61);
- c) in the case of fabric of Types SPR62, SPR47 and SPR62S, have been singed and heat set;
- d) in the case of fabric of TypesSPT58, SPT59 and SPT61, have been heat set and have a dyed finish(see A.1);
- e) in the case of fabric of Types SW63, SPR 62 and SPR47 have been plain dyed;
- f) in the case of fabric of Type SW63,and when so required (see A.1), also have a moth-resistant finish; and
- g) in the case of fabric of Type SPR62S, have in-woven coloured stripes, made from dyed yarns, and have warp stripes of the required colour(s), width(s) and colour sequence and weft yarns of black or dark grey, or a colour that is an acceptable match to the ground colour of the fabric (see A.1).

#### 3.2 Fabric

The fabric shall be one of the types, and shall comply with the relevant requirements given in table 1 (see A.1).

#### 3.3 Moth resistance

The fabric shall comply, when relevant and when tested in accordance with the requirements for DUS ISO 3998

#### 3.4 Defects

The assessment and stringing of defects, in terms of 4.8 of DUS 1700-1, shall be in accordance with DUS ISO 8498.In each case the assessment shall be based on the following LAQ's:

- a) For pieces:10
- b) For a lot: 8

**Table 1—Fabric requirements**

1	2	3	4	5	6	7	8	9
Property	Requirement							US number (unless otherwise indicated)
	Type <sup>a</sup>							
	SPT58	SPT59	SPT61	SW63	SPR62	SPR47	SPR62S	
Composition,%								US ISO 1833-1

Wool	-		100		-		
Polyester, min	-		-		50		
Viscose, max	-		-		50		
Textured continuous filament Polyester	100		-		-		
<b>Wool fibre diameter</b> , Mean $\mu\text{m}^b$	-		22		-		DUS ISO 137
<b>Weave</b>	See Venetian(see figure 2) 4/1satin figure 1						Visual examination
<b>Mass per unit area</b> (free from non-fibrous material), $\text{g/m}^2$ , min	250	250	255	265	280	285	285
<b>Number of threads per cm</b> , min							
Warp	27	33	30	33	30	24	40
Weft	31	25	31	27	29	23	21
<b>Breaking Strength</b> , N, min							
Warp	1300	1620	1720	450	1000	1200	1350
Weft	1400	1150	1950	400	1000	1200	650
<b>Ply of yarns</b>							
Warp	-			2		2	
Weft	-			2		2	
<b>Resistance to pilling</b>							
Rating, in	-			-	3-4 (i.e. slight to moderate)		DUS ISO 12945-3
<b>Removable non-fibrous Material content</b> , %, max	5			-		5	Annex B
<b>Non-fibrous material content</b> , %, max	-			2.5		-	DUS 1789
<b>Dimensional changes on:</b>							US ISO 5077
<b>Washing</b> , %, max							
Warp	2			-		3	
Weft	2			-		3	
<b>Dry cleaning</b> , %, max							DUS ISO 3175-2
Warp	-			2		-	
Weft	-			2		-	
<b>Colour fastness to:</b>							
<b>Washing</b> , rating, min.							US ISO 105-C10
Change in colour	4			-		4	
Staining of transfer cloths	3-4			-		3-4	
<b>Dry cleaning</b> , rating, min							US ISO 105-D01

Change in colour	-	4	-	US ISO 105-E04
<b>Perspiration, rating, min.</b>				
Change in colour	4	-	4	
Staining of transfer cloths	3-4	-	3-4	US ISO 105-X12
<b>Rubbing, rating, min.</b>				
Dry	4	4	4	
Wet	3-4	3-4	3-4	US ISO 105-B02
<b>Light, rating, min</b>	5	4	4	
<p>a Designation by the type number is restricted to fabrics that comply with the above requirements.</p> <p>b Subject to a tolerance of ±5%.</p>				

	X		X	X
	X	X		X
X		X		X
X		X	X	
X	X		X	

Figure1—Weave diagram for Type SPT 58

	X	X		X
	X		X	X
X	X		X	
X		X	X	
X		X		X

Figure2— Venetian weave

#### 4 Packing, labelling, marking and inspection

The relevant clauses of DUS 1700-1 shall apply (see A.1).



## Annex A (Normative)

### Note to purchasers

**A.1** The following requirements shall be specified in tender invitations and in each order or contract:

- a) in the case of plain dyed fabric, the colour (see 3.1, and also 4.7 of DUS 1700-1);
- b) the fabric type (see 3.2);
- c) when relevant, that a Type SW 63 fabric shall have a moth-resistant finish (see 3.3);
- d) in the case of a Type 62S striped fabric, the colour(s), width(s) and the colour sequence of the stripes (see 3.1, and also 4.7 of DUS 1700-1);
- e) the method of packing, if other than specified (see 6.1 of DUS 1700-1); and
- f) additional marking, if required (see 6.3 of DUS 1700-1).

**A.2** The following requirements shall be agreed upon between the purchaser and the supplier:

- a) the acceptance of split or fringe selvages (see 4.3 of DUS 1700-1); and
- b) the fabric width (see 4.4 of DUS 1700-1).

## Annex B (Normative)

### Removable non-fibrous material content of textiles (scouring method)

#### B.1 Purpose

This annex specifies the scouring method for the determination of the removable non-fibrous material content of textiles.

#### B.2 Reagents

**B.2.1 Soap powder or chips**, as specified in US ISO 105-C10.

**B.2.2 Soap solution**, that contains 1 g of soap (see B.2.1) per 1,000 mL of water.

**B.2.3 Scouring solution** that contains 3 g of sodium carbonate ( $\text{Na}_2\text{CO}_3$ ) and 3 g of soap per 1,000 mL of water.

**B.2.4 Scouring solution** that contains a volume fraction of approximately 5 % ethanoic acid (acetic acid).

#### B.3 Apparatus

**B.3.1 Analytical balance**, with a resolution of 0.01 g or better.

**B.3.2 Forced-draught oven**, maintained at between 105 °C and 110 °C

**B.3.3 Heat-resistant container**, of size suitable for accommodating the test specimen(s) in the appropriate volume of solution

#### B.4 Sampling and preparation of test specimen

**B.4.1** Take a laboratory sample in accordance with US ISO 5089. Condition the laboratory sample in accordance with DUS ISO 139. From the conditioned laboratory sample cut a test specimen of mass approximately 10 g (see B.3.1).

**B.4.2** Take the test specimen in accordance with US ISO 5089 or as agreed upon between the test laboratory and the manufacturer to assure a reasonable and acceptable reliability at a reasonable and acceptable confidence level.

**B.4.3** Dry the test specimen to constant mass in the forced-draught oven (see B.3.2) and record, to the nearest milligram, the final result as the oven-dry mass, in grams, of the test specimen before treatment.

**NOTE** Constant mass is assumed to have been attained when successive weighings, at intervals of 20 min, differ by less than 0.05 %.

## B.5 Procedure

### B.5.1 Prescouring

**B.5.1.1** Immerse the test specimen, using a liquor ratio of 100 mL/g of the oven-dried mass of the test specimen (see B.4.3), in the soap solution (see B.2.2 and B.3.3) maintained at boiling point, and allow it to boil for 15 min.

**B.5.1.2** Rinse the test specimen twice with water at a temperature of  $80\text{ °C} \pm 5\text{ °C}$ .

### B.5.2 Scouring

**B.5.2.1** Immerse the test specimen, using a liquor ratio of 100 mL/g of the oven-dried mass of the test specimen (see B.4.3), in the scouring solution (see B.2.3) maintained at  $75\text{ °C} \pm 5\text{ °C}$ , and allow the test specimen to steep in the solution for 30 min with intermittent stirring.

**B.5.2.2** Rinse the test specimen five times with water at a temperature of  $80\text{ °C} \pm 5\text{ °C}$ .

**B.5.2.3** Rinse the test specimen once with the scouring solution (see B.2.4) and then five times with cold water.

**B.5.2.4** Dry the test specimen to constant mass in the forced-draught oven and record, to the nearest milligram, the final result as the oven-dry mass, in grams, of the test specimen after treatment.

## B.6 Calculation

Calculate the removable non-fibrous material content of the test specimen as follows:

$$N = \frac{m_1 - m_2}{m_1} \times 100$$

where

$N$  is the non-fibrous material content, expressed as a percentage of the oven-dried mass of the test specimen;

$m_1$  is the oven-dry mass, in grams, of the test specimen before treatment (see B.4.3);

$m_2$  is the oven-dry mass, in grams, of the test specimen after treatment (see B.5.2.4).

## B.7 Test report

Report the following information:

- a) all the data needed to identify the laboratory sample tested;
- b) confirmation that the test was carried out in accordance with this standard;
- c) if applicable, the sampling method used (see B.4.2);
- d) any deviation from this standard; and
- e) the percentage of non-fibrous material content present.

## Certification marking

Products that conform to Uganda standards may be marked with Uganda National Bureau of Standards (UNBS) Certification Mark shown in the figure below.

The use of the UNBS Certification Mark is governed by the Standards Act, and the Regulations made thereunder. This mark can be used only by those licensed under the certification mark scheme operated by the Uganda National Bureau of Standards and in conjunction with the relevant Uganda Standard. The presence of this mark on a product or in relation to a product is an assurance that the goods comply with the requirements of that standard under a system of supervision, control and testing in accordance with the certification mark scheme of the Uganda National Bureau of Standards. UNBS marked products are continually checked by UNBS for conformity to that standard.

Further particulars of the terms and conditions of licensing may be obtained from the Director, Uganda National Bureau of Standards.



DRAFT FOR PUBLIC REVIEW

DRAFT FOR PUBLIC REVIEW