

DRAFT UGANDA STANDARD

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School Clothing — Part 7: Knee-high stockings and ankle socks



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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 7, *Textile, Leather, Paper and Related Products*, Subcommittee SC 1, *Textile and Related products*.

DUS 1687 consists of the following parts, under the general title School Clothing:

Part 1: General requirements for school clothing.

Part 2: Blazers.

Part 3: Trousers and shorts.

Part 4: Shirts.

Part 5: Dresses, tunics and gyms.

Part 6: Girls' slacks and skirts.

Part 7: Knee-high stockings and ankle socks.

Part 8: Jerseys and cardigans.

Part 9: Briefs.

Part 10: Tracksuits.

Part 11: Athletic wear.

Introduction

NOTE

- a) requirements that must be specified by the purchaser are listed in Annex A; and
- b) guidance on the verification of the quality of knee-high stockings and ankle socks and a sampling plan that could be used to assess compliance with this part of DUS 1687 of a lot of knee-high stockings or ankle socks are given in Annex B

DRAFT UGANDA STANDARD FOR PUBLIC REVIEW

School Clothing — Part 7: Knee-high stockings and ankle socks

1 Scope

This part of DUS 1687 covers the requirements for two types of knee-high stockings and two types of ankle socks for school wear.

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

US ISO 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

US ISO 3758, *Textiles -- Care labelling code using symbols*

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

US ISO 9001, *Quality management systems — Requirements (3rd edition)*

DUS 1687-1, *School clothing — Part 1: General requirements for school clothing*

3 Definitions

For the purposes of this part of DUS 1687 the definitions given in DUS 1687-1 and the following definitions shall apply:

automatic toe closure

an acceptable and approved method, other than linking, of effecting closure of the toe and in step pieces of knee-high stockings or of ankle socks

linking

a method of joining the toe and in step pieces of knee-high stockings or of ankle socks by a chain stitch (single or double) that passes through adjacent loops of the same knitted course

nominal

subject to the tolerances normal to good manufacturing practice

size designation

the length range, in millimetres, of the foot of the intended wearer

Acceptable

Acceptable to the authority administering this standard, or to the parties concluding the purchase contract, as relevant

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>

4 Requirements

4.1 General

The knee-high stockings and ankle socks shall have been made in accordance with good workmanship and shall be of uniform and acceptable make, colour(s), finish and, when applicable, design. They shall be acceptably paired and free from defects that impair their appearance or may impair their serviceability (or both).

4.2 Type

Knee-high stockings and ankle socks shall be of one of the following types, as required:

Type KH. Knee-high stockings, other than stretch type

Type KHS. Knee-high stockings, stretch type

Type A. Ankle socks, other than stretch type.

Type AS. Ankle socks, stretch type.

4.3 Fibre composition

The nominal fibre composition of the knee-high stockings and ankle socks, excluding the elastic splicing (where applicable), shall be as required and as stated, and the actual content of each constituent fibre, determined in accordance with 6.8, shall, subject to a tolerance of $\pm 5\%$, conform to the stated content.

4.4 Size designation

4.4.1 The size designation shall be one of the following, as required:

115-135, 140-160, 165-185, 190-225, 230-255 and 260-280

4.4.2 When knee-high stockings or ankle socks are tested in accordance with 6.6, the size of each foot and leg shall be deemed correct if

- a) its volume and shape are in close harmony with those of the appropriate size-board without excessive tightness or looseness being present;
- b) a straight line extension of the gore(searcher) line bisects the heel reference mark; and
- c) the top of the knee-high stocking or ankle sock is between the appropriate datum lines.

4.5 Elastic splicing

The elastic splicing in a knee-high stocking shall start two-thirds of the way down the rib top and shall continue in the direction of manufacture for the appropriate distance given in table 1.

4.6 Colour

The colour of the knee-high stockings and ankle socks and, when so required, the colour(s) of stripes incorporated in their rib tops, shall be an acceptable match to the required colour(s) as agreed upon between the purchaser and the supplier

4.7 Toe closure

The toe shall be closed by linking or by automatic toe closure, as required. In the case of

- a) closure by linking, the ends of the linking yarns shall extend not less than 12mm and not more than 25 mm beyond the ends of the toe linking; and
- b) automatic toe closure, the seam shall be sufficiently extensible to prevent cracking and undue shrinkage, and acceptably flat to prevent discomfort.

4.8 Constructional requirements

The knee-high stockings and ankle socks shall comply with the requirements given in table 1, appropriate to the type and size designation required.

Table 1— Constructional requirements

1	2	3	4	5	6	7
Property	Size designation	Requirements				Test Method sub section
		Type KH	Type KHS	Type A	Type AS	
Mass per 10 pairs, g, min	115-135	-	-	-	120	6.3
	140-160	370	270	175	145	
	165-185	410	320	215	185	
	190-225	510	410	260	225	
	230-255	630	500	310	240	
	260-280	730	570	330	-	
Nominal length of rib top, mm	115-135	-		60		6.4
	140-160	120		60		
	165-185	120		80		
	190-225	120		80		
	230-255	160		100		
	260-280	160		100		
Depth of elastic splicing, mm, min.	115-135	-		-		6.5
	140-160	20		-		
	165-185	20		-		
	190-225	20		-		
	230-255	30		-		

	260-280	30	-	
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4.9 Performance requirements

The knee-high stockings and ankle socks shall comply with the performance requirements given in table 2.

5 Packing, care-labelling and marking

5.1 Packing

Pairs of knee-high stockings and ankle socks of the same type, size and colour(s) shall be acceptably packaged and packed. Unless otherwise required, only knee-high stockings or ankle socks of the same type and colour(s), but not necessarily of the same size, shall be packed together in a bulk container. The knee-high stockings and ankle socks shall be delivered in a clean and commercially dry condition

Table 2— Performance requirements

1	2	3
Property	Requirement	Test method sub section
Shrinkage, %, max		6.7
Length of foot	5	
Length of leg	5	
Colour fastness to		
a) Light, rating, min	5	6.9
b) Perspiration, rating, min		6.10
Change in colour	4	
Staining of transfer cloths	4	
c) Washing rating, min		6.11
Change in colour	4	
Staining of transfer cloths	4	

5.2 Care-labelling

Each pair of knee-high stockings and ankle socks shall have a printed adhesive label attached that provides appropriate care instructions in accordance with US ISO 3758.

5.3 Marking

5.3.1 Knee-high stockings and ankle socks

The following information shall appear in legible and indelible marking either on an adhesive label (see 5.2) attached to each pair of knee-high stockings and ankle socks or in transfer printing on one sole of each pair of knee-high stockings and ankle socks, or both:

- a) the manufacturer's name or trade mark or both;
- b) the nominal over all composition, e.g. "45 % polyester, 25 % rayon, 30 % nylon";
- c) the size designation; and
- d) country of origin.

5.3.2 Containers

The following information shall appear in legible and indelible marking on the outside of each bulk container and shall be visible when the containers are stacked:

- a) the information specified in 5.3.1(a) and (b);
- b) a description of the contents, e.g. "Knee-high stockings, type KH";
- c) the quantity(in pairs) per size;
- d) the colour(s);
- e) the gross mass, in kilograms;
- f) the order or contract number; and
- g) country of origin

5.3.3 Additional marking

When so required, knee-high stockings and ankle socks or containers (or both) shall bear information additional to that specified in 5.3.1 and 5.3.2.

6 Inspection and methods of test

6.1 Inspection

After inspecting the sample for compliance with the requirements of section 5, inspect all the knee-high stockings or ankle socks in the sample for compliance with the requirements given in 4.1, 3.2 and 4.4-3.7 (inclusive).

6.2 Conditioning and sequence of testing

Condition (in accordance with US ISO 2419) the knee-high stockings or ankle socks in the sample for testing and then divide them into three sets, each set consisting of an equal (or as nearly equal as possible) number of pairs of knee-high stockings or ankle socks. Use a different set for each of the following groups of tests:

Group 1: 6.3, 6.4, 6.5 and 6.6

Group 2: 6.7

Group 3: 6.8, 6.9, 6.10 and 6.11

6.3 Mass per ten pairs

For each size designation, determine, to an accuracy of 1 part in 500, the mass of each pair of knee-high stockings or ankle socks and calculate the mass per 10 pairs in grams.

6.4 Length of rib top

Use US ISO 5077

6.5 Depth of elastic splicing

Use US ISO 5077

6.6 Size designation

6.6.1 Apparatus

A set of size-boards conforming in volume, shape and markings to the master set

6.6.2 Procedure

So fit each knee-high stocking or ankle sock in turn on the appropriate size-board that all avoidable wrinkles are eliminated without the use of excessive force. Turn the rib top over at a point halfway between its start and finish, and check for compliance with 4.4.2

6.7 Shrinkage

Use US ISO 5077, procedure D1, drying procedure F. Condition and calculate, separately, the mean dimensional changes in the length of the foot and the length of the leg in the case of knee-high stockings, and of the length of the foot only in the case of ankle socks.

6.8 Fibre composition

Determine by microscopical examination and chemical analysis.

6.9 Colour fastness to light

Use US ISO 105-B02.

6.10 Colour fastness to perspiration

Use US ISO 105-E04.

6.11 Colour fastness to washing

Use US ISO 105-C10.

Annex A

(normative)

Notes to purchasers

The following requirements must be specified in tender invitations and in each order or contract:

- a) the type (see 4.2);
- b) the fibre composition (see 4.3);
- c) the size(s) required (see 4.4.1);
- d) the colour and, when relevant, the colour(s) of stripes incorporated in the rib top (see 4.6);
- e) the method of toe closure (see 4.7); and
- f) additional marking, if required (see 5.3.3).

Annex B (normative)

Quality evaluation of knee-high stockings and ankle socks

B.1 Quality verification

B.1.1 When a purchaser requires ongoing verification of the quality of knee-high stockings and ankle socks, it is suggested that, instead of concentrating solely on evaluation of the final product, he also directs his attention to the manufacturer's quality system. In this connection it should be noted that US ISO 9001 covers the provision of an integrated quality system.

B.1.2 If the knee-high stockings or ankle socks do not bear the certification mark and no information about the implementation of quality control or testing during manufacture is available to help in assessing the quality of a lot, and a purchaser wishes to establish by inspection and testing of samples of the final product whether a lot (as defined in B.2.1) of the knee-high stockings or ankle socks complies with this part of WDUS 1687, the sampling plan given in B.2 can be applied.

B.2 Assessment of compliance with this part of WDUS 1687

B.2.1 Definitions

acceptable quality level AQL

the maximum number of defects per hundred units that, for the purpose of sampling and inspection, can be considered satisfactory as process average

defective

a knee-high stocking or an ankle sock, a component of either, a test sample, a test specimen or a set of test specimens whose average property has been determined, that fails in one or more respects to comply with the relevant requirements of this part of WDUS 1687

lot

not less than 151 pairs and not more than 10000 pairs of knee-high stockings or ankle socks of the same material(s), colour(s), components, style and size designation, made by one manufacturer, and submitted at any one time for inspection and testing

B.2.2 Sampling

Use the following sampling procedure when determining whether a lot complies with this part of WDUS 1687, and deem the samples so taken to represent the lot for the respective properties:

- a) **Sample for inspection.** From the lot take at random the number of pairs of knee-high stockings or ankle socks given in column 2 of table B.1, relative to the appropriate lot size shown in column 1.
- b) **Sample for testing.** After inspection of the sample taken in accordance with (a) above, take from it at random the appropriate number of pairs of knee-high stockings or ankle socks given in column 3 of table B.1

Table B.1 — Sample sizes

1	2	3
Lot size Pairs of knee-high stockings or ankle socks	Sample for inspection Pairs of knee-high stockings or ankle socks	Sample for testing Pairs of knee-high stockings or ankle socks
151-280	32	9
281-500	50	12
501-1200	80	12
1201-3200	125	18
3201-10000	200	18

B.2.3 Criteria of compliance

Deem the lot to comply with the applicable requirements of this part of WDUS 1687 if,

- a) on inspection of the sample taken in accordance with B.2.2(a), no defective is found; and
- b) on testing of the sample taken in accordance with B.2.2(b), no defective is found.

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.

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