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Socks — Specification



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Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements.....	2
4.1 General requirements	2
4.1.1 Types	2
4.1.2 Materials	2
4.2 Specific requirements	3
4.3 Size.....	4
5 Marking.....	4
6 Packing.....	5
Annex A (normative) measurement of socks for size determination	6
A.1 Conditioning of socks.....	6
A.2 Sample sock preparation.....	6
A.3 Measurements	6
Bibliography.....	7

Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 356 was prepared by Technical Committee RSB/TC 029, *Textiles and Leather Engineering*. In the preparation of this standard, reference was made to the following standards:

- 1) S.L.S. 400: 1976 Specification for nylon stretch socks.
- 2) IS: 5084-1969 Specification for nylon socks.
- 3) SI 839-1972 Men's socks of polyamide stretch yarn.
- 4) KS 08-583: 1984 Specification for socks

The assistance derived from the above sources is hereby acknowledged with thanks.

Committee membership

The following organizations were represented on the Technical Committee on Textiles and Leather Engineering (RSB/TC 029) in the preparation of this standard.

C&H

Consumer Association (ADECOR)

National Agricultural Export Board (NAEB)

National Industrial Research Institute (NIRDA)

Rwanda Development Board (RDB)

University of Rwanda- College of Science and Technology (UR-CST)

UTEXRWA

Rwanda Standards Board (RSB) – Secretariat

Introduction

At present, a variety of socks sizes are being imported and manufactured locally from a number of textile fibres mainly nylon, polyester, wool, acrylic, cotton and their blends. This standard is intended to streamline the socks sizes into uniform dimensions and stipulate the quality requirements of materials used in manufacturing socks.

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Socks — Specification

1 Scope

This Draft Rwanda Standard specifies the requirements, methods of test and sampling for seamless socks knitted in plain, rib or fancy stitches.

This Draft Rwanda Standard applies to seamless socks manufactured from nylon, polyester, wool, acrylic, cotton and/or their various blends.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 139, *Textiles Standard atmospheres for conditioning and testing*

ISO 2060, *Textiles — Yarn from packages — Determination of linear density (mass per unit length) — Skein method.*

ISO 2062, *Textiles — Yarn from packages — Method for determination of breaking toad and elongation at the breaking toad of single strands (CRL, CRE and CRT testers).*

ISO 6939, *Textiles — Yarns from packages — Method of test for breaking strength of yarn by the skein method*

ISO 105-C06, *Textiles — Tests for colour fastness -- Part C06: Colour fastness to domestic and commercial laundering*

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

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

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

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

ISO 105-N02, *Textiles — Tests for colour fastness -- Part N02: Colour fastness to bleaching: Peroxide*

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply

3.1

foot length

distance from the tip of the toe to the apex of the heel, that is the distance between C and 0 (Figure 1).

3.2

leg length

distance from the top of the socks to the apex of the heel, that is, the distance between A and 0 (Figure 1).

3.3

batch of socks

batch of socks shall mean more than one pair of socks of the same type and size packed together.

3.4

tenacity

ratio of the breaking strength to the linear density of the unstrained specimen, usually expressed in centinewtons per tex.

4 Requirements

4.1 General requirements

4.1.1 Types

Depending upon the pattern of stitches, socks shall be of any one of the following three types:

- a) plain-knitted;
- b) rib-knitted; or
- c) fancy-knitted.

4.1.2 Materials

4.1.2.1 Non Elastic Yarn

4.2.1.1 The yarn used in knitting, linking and splicing the socks shall conform to the requirements of Table 1

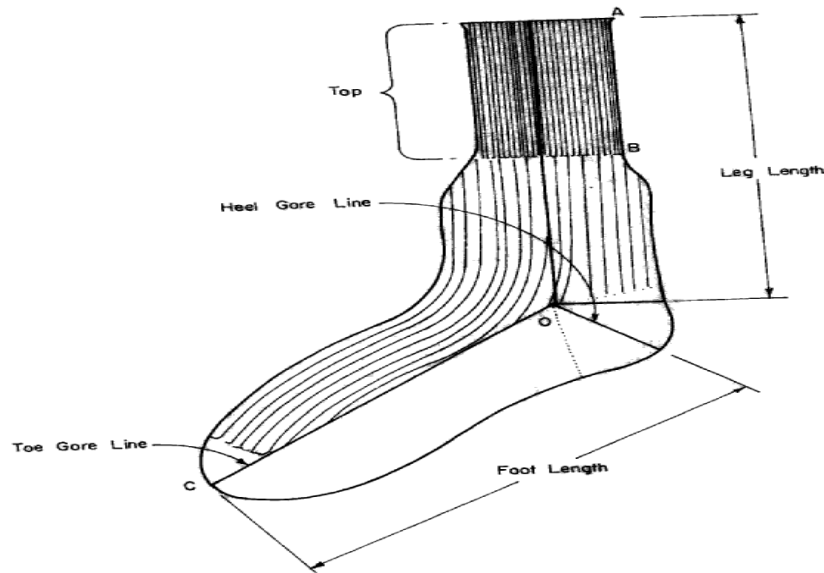
property	YARN TYPE					METHOD OF TEST
	Nylon (6 and 6.6)	Polyester	Wool	Acrylic	Cotton	
Minimum Tenacity g/tex (breaking strength/Linear density)	35.0	35.0	35.0	35.0	35.0	ISO 6939 ISO 2060
Elongation at break	30.0	30.0	30.0	30.0	30.0	ISO 2062

4.2.1.2 The minimum tenacity (g/tex) and elongation at break (per cent) of each yarn used to make yarn to yarn blended socks, shall be as shown against each yarn type in Table 1

4.2.1.3 The ratings of minimum tenacity (g/tex) and elongation at break (per cent) of the fibre blended yarn used in the blended socks, shall be not less than those of the fibre component in the blend whose yarn has a lower rating in accordance with Table 1 i.e. in a nylon/wool or polyester/wool blend; the minimum tenacity and elongation at break of the yarn shall be not less than that of the woollen yarn as shown in Table 1.

4.1.2.2 Elastic Yarn

The elongation of elastic yarn or covered rubber thread used for laying in the top portion of finished socks shall be not less than 450 per cent, when determined using ISO 2062.



Key

Foot Length — Distance from C to O

Leg Length — Distance from A to O

Figure 1 — Sock

4.2 Specific requirements

4.2.1 The socks shall be knitted on circular machines. The top of the socks shall be knitted in rib or plain stitches with covered rubber thread or any other suitable elastic yarn laid in; and the leg and instep shall be knitted in plain, rib or fancy stitches depending on the type of socks.

4.2.2 The top portion of socks with covered rubber thread or any other suitable elastic yarn shall be not less than 25 mm.

4.2.3 In case the covered rubber thread or any other suitable elastic yarn is not used at the top of the socks, the top portion shall be knitted in a rib of not less than 80 mm and it shall be extended proportionally according to socks sizes.

4.2.4 The heel and toe portions of the socks shall be knitted in plain stitches with splicing. The splicing shall be uniform throughout and spliced portions free from creases and/or folds.

4.2.5 The socks shall be securely joined at the toe. The joining shall be elastic, smooth and free from knots. It shall not give way when the socks are stretched to the full extent of the stretchability of the socks.

4.2.6 The socks shall be free from manufacturing defects, such as mends, ladders, improper splicing and both dyeing and finishing defects.

4.2.7 The dyed socks shall conform to colour fastness requirements as given in Table 2.

Table 2 — Colour fastness requirements

S/N	Colour fastness	Numerical rating	Method of test
(i)	Washing (change in colour and staining)	≤4	ISO 105-C06
(ii)	Perspiration (acid and alkali)	≤3	ISO 105-E04†
(iii)	Rubbing (staining dry and wet)	≤4	ISO 105-X12
(iv)	Light	≤5	RS ISO 105-B01
(v)	Peroxide Washing	≤4	RS ISO 105-N02

4.3 Size

4.3.1 The socks shall be grouped into five different sizes namely:

- a) Small;
- b) Medium;
- c) Large;
- d) Extra Large; and
- e) Free

4.3.2 The size of socks shall be determined by both foot length and leg length dimensions given in Table 3.

Table 3 — Size dimensions

S/N	Socks size	Foot length in mm	Leg length in mm	Method of test
(i)	Small	100-125	120-145	Annex A
(ii)	Medium	130-155	150-175	
(iii)	Large	160-185	180-205	
(iv)	Extra Large	190-215	210-225	
(v)	Free	Above 220	Above 230	

4.4.3 The free size shall be grouped further and designated numerical sizes whose size dimensions shall not be less than those specified in Table 3, (v). The dimensions of subsequent sizes shall be at intervals of at least 30 mm.

4.4.4 In every size as given in Table 3, there shall be an increase of not less than 20 % in the foot length and leg length dimensions of 100 % cotton socks and blended socks in which cotton is in higher proportion.

5 Marking

5.1 One sock in each pair of socks shall be marked with the following information; except (iv) and (v) of which if not marked on the sock, shall be displayed as specified in 5.2:

- a) name/trade mark of the manufacturer;
- b) fibre composition;
- c) size;
- d) care instructions
- e) country of origin.

5.2 (d and (e) of 5.1 shall be clearly displayed on each pair of socks.

6 Packing

6.1 Each pair of socks shall be folded properly at the heel gore line so as to form two layers. Each folded pair shall be wrapped or placed in an appropriate bag or cardboard box of suitable size.

6.2 A batch of pairs of socks or several batches shall be placed in a packing material of suitable size which shall be secured properly.

6.3 Each package containing a batch of socks or several batches shall have the following information which shall be legibly and indelibly indicated on the package, the swing ticket and/or accompanying documents:

- a) name/trade mark and address of manufacture;
- b) number of pairs in each batch;
- c) total number of batches in the package;
- d) (iv) fibre composition
- e) country of origin

Annex A

(normative)

measurement of socks for size determination

A.1 Conditioning of socks

Before foot length and/or leg length dimensions are taken, the socks shall be conditioned in accordance with ISO 139. Take the measurements in an atmosphere similar to that used for conditioning.

A.2 Sample sock preparation

Take the conditioned sample sock to be measured. Lay it flat on a smooth table. Remove by hand all creases and wrinkles without stretching the sock.

A.3 Measurements

A3.1 Take the dimensions of both the foot length and leg length as defined in 3.1, 3.2 and Figure 1, both measurements to be taken correct to the nearest 5 mm.

A3.2 The pair shall be in conformity with the requirements of Table 3 if none of the values as determined in 3.1 varies from the specified value by more than the specified tolerance.

Bibliography

- [1] ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*, 2016

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