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DRAFT EAST AFRICAN STANDARD

Crepe bandages — Specification

EAST AFRICAN COMMUNITY

Second Edition 2021

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 061, Textiles, textile products and accessories.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

This second edition cancels and replaces the first edition (EAS 229:2001), which has been technically revised. The main changes compared to the previous edition are as follows:

— A clause on normative references has been added;

— The requirements have been modified to cater for knitted crepe bandages

Introduction

Crepe bandage is a fabric having a high stretch due to the amount of twist in the yarns. It is used in the treatment of sprains and strains and in other surgical conditions where light support is required.

Crepe bandages — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for crepe bandages.

2 Normative references

The following documents are 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.

ASTM D 2255, *Standard Test Method for Grading Spun Yarns for Appearance*

ISO 139, *Textiles — Standard atmospheres for conditioning and testing* EAS 155-1, *Cotton yarns — Code of practice for the grading of spun yarns — Part 1: Grading by appearance*

ISO 3071, *Textiles — Determination of pH of aqueous extract*

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

ISO 8498, *Woven fabrics — Description of defects — Vocabulary* EAS 237, *Methods for determination of colourfastness of textile materials to washing*

ISO 8499, *Knitted fabrics — Description of defects — Vocabulary*

3 Terms and definitions

For the purposes of this document, the following terms and definitions shall 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
crepe
fabric having high elasticity, resulting from the amount of twist in the yarns and the method of weaving or knitting

3.2
fast edge
edge defined by the outer warp thread

3.3
recovery
recovered extension expressed as a percentage of the imposed extension

4 Requirements

4.1 General requirements

4.1.1 Crepe bandages shall:

a) be made out of either woven or knitted fabrics

b) be free from defects as described in ISO 8498 and ISO 8499

c) have one continuous length containing no joints

d) have a high elasticity in the both directions, resulting from the amount of twist in the yarn and the method of weaving or knitting

e) have fast edges

4.1.2 The bandage may be either dyed or undyed (bleached or unbleached) and may have a coloured thread woven along the length.

4.1.3 Crepe bandages may come with clips for fastening. Clips shall be corrosion resistant

4.2 Specific requirements

4.2.1 Yarns

The yarns used for the manufacture of crepe bandages shall be even and of at least appearance grade C as specified in ASTM D 2255

4.2.2 Mass per unit area

The mass per square metre of bandage shall be not less than 90 g/m^2 when tested in accordance with ISO 3801.

4.2.3 Width

When tested in accordance with Annex A, the width of the bandage (measured between the fast edges) shall be as declared on the label, subject to a tolerance of ± 2 mm.

4.2.4 Length

The unstretched length of the crepe bandage shall be as declared on the label, subject to a tolerance of minus 2 per cent. The length shall be determined in accordance with Annex B.

4.2.5 Stretch and recovery

The fully stretched length of the bandage shall be not less than 1.5 times unstretched length, and the recovery shall be not less than 40 per cent.

The stretch shall be determined in accordance with Annex C.

4.2.6 Foreign matter

The extractable foreign matter in the bandage shall not exceed one per cent of the dry mass.

This shall be tested in accordance with Annex D.

4.2.7 pH

When tested in accordance with ISO 3071, crepe bandages shall have a pH of 6.0 – 8.5

4.2.8 Colour fastness

Coloured bandages shall comply with the colour fastness ratings given in Table 1 when tested in accordance with the test methods specified therein.

Table 1 — Colour fastness requirements of crepe bandages

Parameter		Requirement	Test method
Colour fastness to Washing, min.	Colour change	4	ISO 105-C10
	Staining	3	
Colour fastness to Rubbing, min.	Wet	3	ISO 105-X12
	Dry	4	
Colour fastness to Perspiration (both alkali and acid), min.	Colour change	4	ISO 105-E04
	Staining	3	

5 Packaging

5.1 Each bandage shall be rolled and individually wrapped with suitable material that protects product integrity during storage, transportation and handling

5.2 Bandages of the same width and colour shall be packed in the same bulk container and wrapped suitably so as to be adequately protected against soiling and other contamination.

6 Labelling

6.1 Labelling on individual packages

Packages shall be legibly and indelibly labelled on the outside with the following information:

a) manufacturer's name, physical address and/or registered trade mark;

b) width and length;

c) fibre composition and proportion;

d) country of origin or manufacture;

e) date of manufacture and expiry.

f) the word "sterile" for sterilized crepe bandage;

g) instructions for use, storage and disposal; and

h) batch number

6.2 Labelling on bulk packages

The following information shall appear in legible and indelible labelling on the outside of each bulk package:

a) manufacturer's name, physical address and/or registered trade mark;

b) width and length ;

c) gross weight;

d) country of origin or manufacture;

e) date of manufacture and expiry.

f) the word "sterile" for sterilized crepe bandage;

g) batch number; and

h) instructions for handling and storage

7 Sampling

Random samples of the product shall be drawn for test in accordance with ISO 2859-1.

Annex A
(Informative)

Determination of width

A.1 Procedure

A.1.1 Condition the samples in accordance with ISO 139.

A.1.2 Lay one bandage, without tension, on a flat table.

A.1.3 Take width measurements (between the fast edges) perpendicular to the edges of the sample at five different positions equally distributed along the length of the sample.

A.1.4 Repeat the procedure on each of the five bandage samples.

A.2 Calculation

A.2.1 Calculate the average width of each sample from the average of the five measurements.

A.2.2 Calculate the bandage width as the average of the widths of the five samples measured. Report this value as the bandage width.

Annex B
(Normative)

Determination of length

B.1 Procedure

B.1.1 Condition the samples in accordance with ISO 139.

B.1.2 Take one bandage sample and lay it, without tension, on a flat table.

B.1.3 Take the length measurement parallel to the edges of the bandage.

B.1.4 Repeat the test on all the five bandages.

B.2 Calculation

B.2.1 Calculate the average length from the five measurements.

Report this value as the length of the bandage.

Annex C
(Normative)

Determination of stretch, stretched length and recovery

C.1 Apparatus

C.1.1 A suitable apparatus having the grips that hold the specimen in a horizontal plane, and capable of applying within approximately 5 s a tensile load of 27 N per 25 mm of width of bandage under test.

C.1.2 a steel tape of length greater than the stretched length of the sample to be measured, graduated in centimetres and millimetres

C.2 Procedure

C.2.1 Measure the unstretched length of the bandage under tests, according to the procedure given in Annex B. Make a pair of datum marks not less than 30 mm from each end of the bandage and measure, to the nearest 2 mm, the unstretched length between the datum marks. Secure each end of the bandage in a grip of the apparatus, apply the tensile load (see C1.1), and as soon as the full load is attained, measure, to the nearest 2 mm, the stretched length between the datum marks. Maintain the load for 1 min. Release the load, remove the bandage from the grips, lay it on a horizontal flat surface and allow it to relax for 5 min, releasing any drag on the bandage caused by adhesion to the flat surface by gently running a smooth rod under the full length of the bandage. Then measure, to the nearest 2 mm, the recovered length between the datum marks.

C.3 Calculation

Calculate separately the stretched length, the percentage stretch and the percentage recovery as follows:

(i) $Stretch\ strength, \quad M = \frac{L_2}{L_1} \times L_0 \times \frac{1}{1000}$

(ii) $Stretch, \quad per\ cent = \frac{L_2 - L_1}{L_1} \times 100$

(iii) $Recovery, \quad per\ cent = \frac{L_2 - L_3}{L_2 - L_1} \times 100$

Where;

L_0 = mean unstretched length of bandage, in mm.

L_1 = mean unstretched length between datum marks, in mm.

L_2 = mean stretched length between datum marks, in mm.

L_3 = recovered length between datum marks, in mm.

Annex D
(Normative)

Determination of foreign matter

D.1 Apparatus

D.1.1 a stoppered bottle

D.1.2 Extraction apparatus

D.1.3 A fine sieve No. 150 micron

D.2 Reagents

D.2.1 Chloroform

D.2.2 0.5 per cent diatase solution

D.3 Procedure

D.3.1 Dry the sample to constant weight at 105 °C. Weigh accurately 5 g of the dried sample and put it in a stoppered bottle and weigh. Repeat drying and weighing until constant weight.

D.3.2 Extract the dried sample with chloroform for one hour in the soxhlet apparatus. Remove the sample from the apparatus and allow the residual chloroform to evaporate.

D.3.3 Transfer the sample to a suitable vessel and add 400 ml of water. Heat slowly and boil for about one minute, cool by adding approximately an equal volume of water.

D.3.4 Decant the liquid through a fine sieve No. 150 micron, squeezing the sample by hand to remove as much of the liquid as possible.

D.3.5 Return the sample to the vessel and repeat the washing process for five further times with 400 ml of water each time.

D.3.6 Place the washed sample and any loose threads or fibres from the sieve in a beaker and immerse with a 0.5 per cent solution of diastase. Maintain the sample at 70 °C until it is free from starch.

D.3.7 Decant the liquid through the sieve, return any loose threads or fibres on the sieve to the sample in the beaker and repeat the washing process with boiling water.

D.3.8 Dry the sample at 105 °C to constant weight.

D.4 Calculation

Calculate the percentage of loss in weight, which is expressed as a percentage of foreign matter, by the following formula:

$$k = \frac{w_0 - w}{w_0} \times 100$$

Where;

K = percentage of foreign matter;

W = weight of residue;

W_0 = weight of sample used in the test.

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Bibliography

EAS 229:2001, Crepe bandages — Specification