KENYA STANDARD

DKS 2796:2017

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Disposable Nursing Pad – Specification

First Edition 2017

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

InterConsumer Products Ltd

Kenya Industrial Research and Development Institute

Kenya Medical Association

Kenya Medical Supplies Authority

Kimberly Clark

KIM FAY East Africa Ltd

Ministry of Health – Public health

Ministry of Health – Nursing

Nairobi Enterprises Limited

National Environmental Management Authority

Radbone Clark

The Nairobi Hospital

University of Nairobi – School of Medicine

Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

In order keep abreast of progress in industry, Kenya standards shall be regularly reviewed. Suggestion for improvements to published standards addressed to the Managing Director, Kenya Bureau of Standards, are welcome.

Draft Standard

Disposable Nursing Pad – Specification

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Foreword

This Kenya standard has been prepared by the Technical Committee on Towels, Medical and Hygienic Textile Products under the guidance of the Standards Project Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

During the period of pregnancy and lactation, breast milk may leak. Breast pads help to absorb milk and prevent soiling of clothes. This standard specifies requirements for nursing pads.

In preparation of this Kenya Standard reference was made to

AATCC 90-1982, Standard test method for measuring antimicrobial of textile materials"
AATCC (1700a) Standard test method for measuring for determining the roughness, (1700a
ASTM-D 737- 1996 "Standard test method for determining the air permeability of textile materials"
AATCC, D-79-1968 Standard test method for measuring water absorption of textile materials
ASTM-D 1777- 1996, "Standard test method for measuring thickness of textile materials

Acknowledgment is hereby made for the assistance received from these sources.

KENYA STANDARD

1.0 SCOPE

This Kenyan Standard specifies minimum requirements for disposable nursing pads for external use.

2.0 Normative References

The following standards were used as normative references.

KS 08-32, Conditions for the testing of textiles
KS ISO 3071:2005 Determination of pH of aqueous extract of textiles
KS ISO 9073-6:2000 Absorption
KS 2659:2016 Packaging of textile Products-Code of practice (First Edition)
KS ISO 21149:2006-Microbiology -- Enumeration and detection of aerobic mesophilic bacteria
KS ISO 22717:2015- Microbiology - Detection of Pseudomonas aeruginosa.
KS ISO 22718:2015- Microbiology - Detection of Staphylococcus aureus.
KS ISO 18416:2015- Microbiology - Detection of Candida albicans.
KS ISO 21150:2015- Microbiology - Detection of Escherichia coli.

3.0 Definitions

For the purpose of this standard, the following definitions shall apply:

3.1 **Non-woven**

A fabric-like material made from long fibers, bonded together by chemical, mechanical, heat or solvent treatment. The term is used in the textile manufacturing industry to denote fabrics, such as felt, which are neither woven nor knitted.

3.2 **Absorbent filler**: the material at the core of the nursing pad that absorbs fluids.

3.3 **Rewet**: The mass of test solution which returns to surface under specific pressure after a certain amount of that being absorbed by the specimen.

3.4 **Breast Pads:** synonym for nursing pads.

4.0 REQUIRMENTS

4.1 Materials

The materials used for making the disposable nursing pad shall not harm the skin.

4.1.1 **Absorbent filler**

4.1.1.1 The filler material, such as cellulose pulp, cellulose wadding, tissue, cotton, soft virgin fluff ideally should avoid skin reactions

4.1.1.2 Shall be of material that helps absorption, and shall have no harmful effect.

4.1.1.3 Shall be clean, free from harmful foreign materials, lumps, splits, holes and protruding points when visually examined.

4.1.2 **Top Sheet** (the layer which is in contact with the skin)

4.1.2.2 Shall be of material that covers the absorbent filler completely.

4.1.2.3 Shall have fine ventilative property that keeps the skin dry and comfortable.

4.1.2.4 Shall be of material that prevents direct contact of the absorbent filler to the skin or clothes under normal handling.

4.1.2.5 Shall be of non-woven material that is able to prevent backflow to the skin.

5.0 MANUFACTURE,

5.1 The absorbent filler material shall be arranged and neatly cut in the required size of the nursing pad and form a uniform thickness throughout, without any wrinkle or distortion.

5.1.1 The absorbent filler material shall be placed in the covering in such a way that it does not cause lump formation as a result of sudden pressure.

5.1.2 the absorbent filler material shall be arranged in a manner that will draw in and trap all moisture rapidly and efficiently.

5.1.3 The covering fabric of the nursing pad shall cover the filler completely.

5.1.4 The nursing pad shall have a securing mechanism to ensure the pad stays in place on the bra.

6.2 WORKMANSHIP AND FINISH

6.2.1 The disposable nursing pad shall not chafe.

6.2.2 The disposable nursing pad shall be free from all sorts of foreign matter.

6.2.3 The disposable nursing pad shall have no unpleasant odour either in dry state immediately after sampling from the packages or after wetting the sample with distilled water.

7.0 PERFORMANCE REQUIREMENTS

The Disposable nursing pad shall comply with the performance requirements given in Table 1 when tested in accordance with the methods specified therein.

Table 1

Characteristic	Unit	Requirement	Test Method
Rewet (max)	g	5.2	Annex B
Liquid Absorptive capacity (min)	g	74	Annex A
pH		4.0-7.5	KS ISO 3071:2005
Quantity	No of pieces	As declared	Sensory
Florescence of filler material		None	KS EAS 96:2008
Air Permeability			KS ISO 9073-15 :2007
Securing mechanism		Present	Sensory

7.1 Microbiological limits

The Disposable nursing pad shall comply with the microbiological limits given in Table 2 when tested in accordance with the methods specified therein.

Table 2

Characteristic	Unit	Requirement	Test Method
Total Viable Count	cfu/g	100	KS ISO 21149:2006
Pseudomonas aeruginosa		Not detectable per gram of sample	KS ISO 22717:2015
Staphylococcus aureus		Not detectable per gram of sample	KS ISO 22718:2015
Candida albicans		Not detectable per gram of sample	KS ISO 18416:2015
E.coli		Not detectable per gram of sample	KS ISO 21150:2015

8.0 PACKAGING

8.1 Shall be done in accordance with KS 2659:2016 - Packaging of textile products - Code of practice.

8.2 Primary Package

8.2.1 Disposable nursing pads shall be supplied in packages made of suitable materials, which are sealed so as to protect them from moisture, soiling and contamination during storage and transportation.

9.0 LABELLING

Labelling on the primary package shall be legible, in English and or Kiswahili imprinted in indelible ink and have the following information

9.1 the manufacturer's name and/or registered trade mark;
9.2 Date of manufacture and expiry date.
9.3 Country of origin stated clearly.
9.4 Name of the product
9.5 production batch number.
9.6 Quality mark on the primary packaging at point of sale.
9.7 Instructions for Use.
9.8 Instructions for Storage and disposal
9.9 No. of disposable nursing pads in a pack

ANNEX A
(Normative)

A.1 Recommended Test Method for Rewet

A.2 Apparatus

A.2.1 Qualitative chemical analysis filter paper
A.2.2 Cylindrical weight of pressure $38 g/cm^2$ and an area of $110 cm^2$
A.2.3 Measuring cylinder 100ml
A.2.4 Stopwatch 0.01s accuracy
A.2.5 Test solution (0.9% NaCl solution)

A.3 Test Procedure

A.3.1 Weigh a stack of dry filter paper and record as weight W1. The stack should have a dry weight of 10.0 grams.

A.3.2 Measure out 30ml volume of test solution (0.9% NaCl solution) for the product being tested, centering the dosing tube over the centre of each product:

A.3.3 Deliver the solution into tube by fully opening the stopcock on the funnel or starting the metering pump.

A.3.4 After all of the fluid has passed into the product, start the timer and wait 10 minutes.

A.3.5 After the 10-minute waiting period, stop the timer and place the stack of filter paper in the center of the wetted target area and place a weight on top of the dry filter paper.

A.3.6 Re-start the timer and wait one minute. Remove the weight and the wetted out papers.

A.3.7 Reweigh the filter paper stack and record as weight W2.

A.3.8 Repeat the steps, recording each result separately.

Rewet, measured in grams,

$$= W_2 - W_1.$$

ANNEX B

(Normative)

B.1 Liquid Absorptive Capacity Test

B.2 Principle

The Liquid absorptive capacity method provides a measure of the amount of liquid held within a test piece after specified times of immersion and drainage.

B.3 Apparatus

B.3.1 Wire gauze test piece support, - of atleast 120mm X 120mm
B.3.2 Clips, to hold the test piece on the gauze
B.3.3 Suitable weighing container
B.3.4 Balance, capable of determining mass to accuracy of ±0.01g
B.3.5 Stop watch
B.3.6 Specified liquid, water

B.4 Procedure

B.4.1 Weigh the test piece to an accuracy of 0.01g, using the balance
B.4.2 Place the test piece on the stainless steel gauze and fasten it
B.4.3 Place the gauze with the attached test piece approximately 20 mm below the liquid surface and start the stopwatch. Introduce the gauze obliquely in order to avoid trapping air bubbles
B.4.4 After (60 ±1)s remove the gauze test piece support and test piece
B.4.5 Hang freely and vertically to drain for (120 ±3)s
B.4.6 Take the test piece off the gauze without squeezing the liquid from it, place the test piece in the weighing container and weigh
B.4.7 Repeat b) to f) for the other four test pieces

B.5 Expression of results

Calculate:
-liquid absorptive capacity (LAC) in grams of each piece from the following;

$LAC = M_n - M_k$

Where
M_k is the mass, in grams, of the dry test piece
M_n is the mass, in grams, of the test piece and absorbed liquid at the end of the test