

**Non-woven Disposable wet Wipes —
Specification**

DRAFT KENYA STANDARD

TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

Nursing Council of Kenya
University of Nairobi – School of Medicine
Kenya Industrial Research and Development Institute
Kenya Medical Association
National Environmental Management Authority
Kenya Medical Supplies Authority
Radbone Clark
Procter and Gamble
KIM FAY East Africa Ltd
Chalange Industries
Consumer Information Network
The Nairobi Hospital
Nairobi Enterprises
Ministry of Health – Public Health
Kenya Bureau of Standards — Secretariat

REVISION OF KENYA STANDARDS

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

© Kenya Bureau of Standards, 2015

Copyright: Users are reminded that by virtue of Section 6 of the Copyright Act, Cap. 130 of the Laws of Kenya, copyright subsists in all Kenya Standards and except as provided under Section 7 of this Act, no Kenya Standard may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from the Managing Director.

Non-woven disposable wet wipes — Specification

KENYA BUREAU OF STANDARDS (KEBS)

Head Office: P.O. Box 54974, Nairobi-00200, Tel.: (+254 020) 605490, 602350, Fax: (+254 020) 604031
E-Mail: info@kebs.org, Web:<http://www.kebs.org>

Coast Region

P.O. Box 99376, Mombasa-80100
Tel.: (+254 041) 229563, 230939/40
Fax: (+254 041) 229448

Lake Region

P.O. Box 2949, Kisumu-40100
Tel.: (+254 057) 23549, 22396
Fax: (+254 057) 21814

Rift Valley Region

P.O. Box 2138, Nakuru-20100
Tel.: (+254 051) 210553, 210555

Foreword

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

Non-woven disposable wet wipes are generally used for cleaning purposes.

During the preparation of this standard, reference was made to the following documents:

SANS 1245: 2012 Edition 1, Non-woven cleaning wipes.

Note: All hygienic products are subject to strict regulatory controls and procedural guidelines to ensure their safety and efficacy to the consumer. Many regulatory agencies (e.g the U.S.Food and Drug administration(FDA) and standards organizations (ISO, IEC, KEBS) in various countries collaborate to establish the accepted standards and are integral in monitoring compliance to those standards.

Acknowledgement is hereby made for the assistance derived from these sources.

Non-woven disposable wet wipes — Specification

1 Scope

This Kenya Standard specifies **minimum** requirements for disposable Non-woven disposable wet wipes. This standard does not apply to alcohol swabs.

2 Normative References

The following standards were used as normative references.

KS ISO 139:2005 – Conditions for testing of textiles

KS ISO 1833-1:2006 – Fibre composition

KS 2659:2016 Packaging of textile products-Code of practice (First Edition)

KS ISO 9073- Test methods for nonwovens -Part 1: Determination of mass per unit area

KS ISO 9073-18 Test methods for nonwovens -- Part 18: Determination of breaking strength and elongation of nonwoven materials using the grab tensile test

KS ISO 3071:2005 –determination of pH of the aqueous extract of textiles.

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 Definitions

For the purpose of this Kenya Standard, the following definitions shall apply:

3.1 absorbency time

rate at which a liquid is dispersed into the non-woven disposable wet wipe

3.2

acceptable

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

3.3

length of piece

distance between the beginning and the end of the sample in the lengthwise or machine direction

3.4

overall width of piece

distance between the outermost edges of the sample measured perpendicular to the longitudinal edges

3.5

usable width of piece

width of the fabric excluding any selvedge materials, marks, pin-holes or other non-homogeneous areas of the fabric.

3.6

Non woven :

nonwovens are structures of textile materials, such as fibres, continuous filaments, or chopped yarns of any nature or origin, that have been formed into webs by any means, and bonded together by any means, excluding the interlacing of yarns as in woven fabric, knitted fabric, laces, braided fabric or tufted fabric

Note 2 to entry: Film and paper structures are not considered as nonwovens.

NOTE For some end uses or specifications, the usable width may be defined differently, as agreed between the interested parties.

4 Requirements

CD/EITL/2:2015

4.1 General

Non-woven disposable wet wipes shall

4.1.1 be in accordance with good manufacturing practices.

4.1.2 be of a non-woven construction,

4.1.3 be of acceptable uniform make and finish,

4.1.4 be free from defects that might impair their appearance or serviceability (or both).

4.1.5 be made from active ingredients that comply with the current approved U.S.Food and Drug administration(FDA) list .

4.2 Properties of non-woven wet wipes

Non-woven hygienic wet wipes shall comply with the requirements given in table 1

Characteristic		Unit	Requirement	Test method
Fibre Composition		%	A blend of at least 20 % cellulose and the remaining percentage of 80 % polyester	KS ISO 1833-1:2006
Size	Length	mm	As declared on the label	Annex B
	Width			
Mass per unit area	Total length	g/m2, min.	36	KS ISO 9073-1
	Total width			
	Mass piece			
Breaking Strength	Machine direction	N,min	60	KS ISO 9073-18
	Dry			
	Wet		30	
	Cross Section		3,5 2,5	
Dry				
Wet				
Absorbency Time (max)(for manufacturer)		s	5	Annex A
pH			5.5-8.0	KS ISO 3071:2005
Moisture content		%	Above 50%	Annex C
Anti-Bacterial activity (if declared) minimum		Anti-bacterial activity value (A)	2	KS ISO 20743-2013
Total Viable Count		cfu/g	100	KS ISO 21149:2006
<i>Pseudomonas aeruginosa</i>			Not detectable per gram of sample	KS ISO 22717:2015
<i>Staphylococcus aureus</i>			Not detectable per gram of sample	KS ISO 22718:2015
<i>Candida albicans</i>			Not detectable per gram of sample	KS ISO 18416:2015
<i>E.coli</i>			Not detectable per gram of sample	KS ISO 21150:2015
No of wipes.		pcs	As declared	Sensory
Flushability				KS EAS 96:2008

5 Methods of test

5.1.1 Conditioning

Condition the test samples in accordance with KS ISO 139:2005

5.1.2 Fibre composition

Use KS ISO 1833-1:2006. Check for compliance with table 1.

5.1.3 Size

Check Annex B .

5.1.4 Mass per unit area

KS ISO 9073-1. Check for compliance with table 1.

5.1.5 Breaking strength, dry

Use KS ISO 9073-18. Check for compliance with table 1.

5.1.6 Breaking strength, wet

Use KS ISO 9073-18, but immerse each sample before testing for at least 60 s in distilled water and test each specimen immediately after removal from the water. Check for compliance with table 1.

DRAFT KENYA STANDARD

6 Packaging and marking

6.1 Packaging

Non woven disposable wet wipes shall be packaged according to KS 2659:2016

Packaging of textile products-Code of practice (First Edition)

- 6.1.1 The wipes shall be packed in a suitable package that shall protect them from any form of contamination and damage.
- 6.1.2 The primary pack seal shall be secure and allow resealing as many times as possible ensuring wet wipe is not dry.
- 6.1.2 Shall be delivered in a clean and commercially dry condition.
- 6.1.3 Only non-woven wet wipes of the same size shall be packed together in secondary package.

6.2 Marking

6.2.1 The primary packs shall be marked with legible and indelible pre-printed marking bearing the following information:

- a) Manufacturer's name, address and/or trade mark;
- b) Importer/distributors name, address (if applicable)
- c) number of wipes in a pack;
- d) Intended use e.g baby, adult, facial, skin
- e) size of wipe in the pack
- f) Ingredients "fibre content" or "material content".
- g) instruction for use, storage and disposal;
- h) country of origin;
- i) date of manufacture and expiry; or best before;
- j) batch number.
- k) warranty period
- l) Each package shall have the relevant quality mark

6.2.2 Secondary Packaging

The outside of each secondary package shall bear the following information in legible and indelible marking:

- a) the manufacturer's name and/or registered trade mark ;
- b) the words "non woven disposable wet wipes".
- c) The number of packages
- d) Quality Mark

Annex A
(normative)
Method for determination of absorbency rate

A.1 Apparatus

- A.1.1 Water tub**, of a depth of at least 100 mm and maintained at room temperature.
- A.1.2 Stop watch**, with an accuracy of 0.2 s
- A.1.3 Cylindrical basket**, weighing 2.7 ± 0.3 g of height 80 mm, diameter 50 mm with square opening of 15 mm to 20 mm, made of copper wire of 0.4 mm diameter.
- A.1.4 Weighing machine**
- A.1.5 Forceps**

A.2 Preparation of test specimens

Take three test specimens, each of mass at least 1 g and composed of a number of pinches of fibres taken from widely separated parts of the conditioned laboratory sample.

A.3 Procedure

- A.3.1** Compress the first test specimen to a volume of approximately 20 mL.
- A.3.2** By means of the forceps (see 3.2), place the test specimen lightly on the surface of the distilled water (see 3.3) and simultaneously start the stopwatch (see 3.4).
- A.3.2** Using the stop watch, measure the time it takes the basket and its contents to sink below the surface of water in seconds.
- A.3.3** Record the absorption period to the nearest 0.1 s.
- A.3.4** Repeat the test for at least three test specimens.

A.4 Calculation

Calculate, to the nearest second, the arithmetic mean of the three test results.

A.5 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) any deviation from this standard; and
- d) the mean absorbency rate, expressed in seconds, of the absorbent cotton wool.

Annex B
(Normative)
Method for determination of Length and width

B.1 Apparatus

B.1.1 Steel scale that is of a length exceeding the width of the fabric to be measured, and is graduated in centimeters and millimeters.

B.1.2 Marking Pen

B.2 Procedure

B.2.1 Procedure for Width

B.2.1.1 Lay the test sample flat and full width (without subjecting it to tension) on a plane surface and condition it in that state for at least 24 h in accordance with KS ISO 139:2005

B.2.1.3 Take, to the nearest 1 mm, five measurements across the overall width or between the innermost selvedge threads (as relevant) of the conditioned test sample at approximately equal intervals throughout its length.

B.2.1.4 Calculation

Calculate the arithmetic mean of the five measurements and record it as the width of the sample.

B.2.2 Procedure for Length

Take a laboratory sample as specified in the relevant product specification. Where no specification exists, take the laboratory sample as agreed upon between the test laboratory and the manufacturer to ensure a reasonable and acceptable reliability at a reasonable and acceptable confidence level.

B.2.2.1 Lay the laboratory sample flat and full width (without subjecting it to tension) on a plane surface and condition it in that state for at least 24 h in accordance with KS ISO 139:2005

B.2.2.2 From the conditioned laboratory sample cut a test specimen across the full width of the laboratory sample along a datum line drawn (see 3.1) at right angles to the selvages and as close as possible to the beginning and the end of the laboratory sample.

B.2.2.3 Take, to the nearest millimeter, five measurements (see B.1.2) of the length of the test specimen at approximately equal intervals across its width.

B.2.2.4 Calculation

Calculate the arithmetic mean of the five measurements and record it as the length, in metres (accurate to the nearest centimeter), of the laboratory sample.

Annex C
(normative)
Determination of moisture content

C.1 Principle

A specimen of specified mass of filler material of the non-woven disposable wet wipe is dried in an oven at specified temperature and the moisture content is determined.

C.2 Apparatus

C.2.1 Balance, with an accuracy of 0.05 % of the weighed mass

C.2.3 Sample container, Waterproof when sealed, will be used for transfer of analyzed material and during weighing.

C.2.4 Oven, well ventilated with a temperature of 102 °C to 105 °C

C.3 Sample preparation

C.3.1 Take a sufficient number of dry sample containers, number them and take their masses after they are held open for a short period of time so that they will have the same air pressure as the surrounding atmosphere. Then leave them open until you take the test piece.

C.3.2 Take 5 random pieces of the wet wipe . The test pieces shall weigh 5 g.

C.3.3 If the surrounding atmosphere is hot and humid, prevent water condensation on the internal and external surfaces of the container.

C.3.4 Handle the test pieces gently to prevent dirt or changes in water content. Don't touch the test pieces with your bare hands. Put the test pieces in a container just after taking them and close the container immediately.

C.4 Procedure

C.4.1 Dry the test pieces in an oven with a temperature of 102°C to 105°C. Open the containers lid and dry the specimen inside the container. Open the container for a moment, to balance the air pressure inside the container with the surrounding pressure, weigh the container that holds the specimen again and calculate the weight of the specimen.

C.4.2 First cycle of drying will last at least 30 minutes. Return the container with the test pieces to the oven, for at least half the first cycles drying time. Take the container out and take the mass with the test pieces inside. Repeat the drying and weighing cycles. When the drying time on every cycle is at least half of the total previous drying cycle times. Continue the process until the difference between two consecutive masses does not exceed 0.1 % of the original mass of the specimen.

C.5 Calculations

Calculate the moisture content using the following formula and round the results up to the nearest 0.1 %.

$$V = 100 \frac{a-b}{a}$$

where,

a is weight of the container with the specimen before drying (in grams);

b is weight of the container with the specimen after drying (in grams);

c is weight of the container (in grams); and

V is water content (in weight %).