Packaging — Flexible tubes—Test method for the air tightness of closures
TECHNICAL COMMITTEE REPRESENTATION

The following organizations were represented on the Technical Committee:

University of Nairobi – Chemistry Dept
Kenya Industrial Research and Development Institute
National Environment Management Authority
East African Packaging Industries Ltd
Kenya flower council
Export Promotion Council
Consumer Information Network
Government Chemist-Department
Sumaria Industries Ltd.
GS1 Kenya
Nakumatt Holdings Ltd
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Kenya Association of Manufacturers (KAM)
Ministry Of Industrialization
KEPSA/ICT Federation
Tetrapak
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Coca Cola East & Central Africa Ltd
Barcode Global Standards 1 (EA) Ltd
Institute of Packaging of Kenya
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.
KS 2406:2012

Foreword

Air tightness of closures for flexible tubes is very important in the maintaining the quality and integrity of the product. The tubes have to be airtight to prevent gases from entering. The presence of oxygen increases the microbial activity for aerobic microbes hence the deterioration of quality of the products. Some ingredients of the products also react with gases in the air resulting in the undesired characteristics and therefore leading to spoilage and shortening of the life span. This standard shall be useful to manufacturers of pharmaceutical, cosmetic, hygiene, food and other domestic and industrial products in checking quality of the flexible tubes.

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During the preparation of this Standard reference was made on;


Acknowledgment is hereby made for the assistance derived from this source.
Kenya Standard
Packaging — Flexible tubes—Test method for the air tightness of closures

1. Scope

This Kenya standard specifies a test method for air tightness of the closures for flexible tubes. It is applicable to flexible single-layer metal or plastics tubes, and multilayer or laminated tubes, used for packing pharmaceutical, cosmetic, hygiene, food and other domestic and industrial products.

2. Principle

The detection of air bubbles escaping from the cap, when the tube is held under water and subjected to an internal air pressure of 0.25 bar indicates that the cap is defective.

3. Apparatus

3.1 Air compressor, with an initial minimum pressure of 2 bar, equipped with an air regulator allowing a constant and stable pressure of (0.25 ± 0.01) bar.

3.2 Manometer, accurate to 0.01 bar.
33 Conical connector, adapted to the diameter of the tube, which allows the attachment of the open end of the tube to the compressed air source without leaks.

3.4 Transparent glass container, of a size such as to allow the head of the tube to be immersed in water.

4 Procedure

The test shall be carried out on the capped tube at an ambient temperature of between 10 °C and 25 °C. Attach the open end of the tube to the compressed air source with the conical connector (see Figure 1). Set the air regulator so as to maintain an air pressure of (0.25 ± 0.01) bar inside the tube. Immerse the head of the tube in the water, ensuring that the cap is totally immersed for at least 3 seconds. The tube is considered defective if a continuous stream of bubbles is seen throughout the test period.

5 Test report

The test report shall contain the following information:

a) the reference to this standard and description of the sampling procedure.

b) the complete identification of the batch and of the tubes tested;

c) the number of tubes tested;

d) the number of defects;

e) acceptance or refusal of the batch in accordance with specifications

f) all factors which could have affected the results, or all operating details not specified in this standard;

g) date of test;

h) name of the tester