



SLOVENSKI STANDARD
oSIST prEN 12377:2021

01-oktober-2021

Embalaža - Prožne tube - Metoda za preskušanje zračne tesnosti zapork

Packaging - Flexible tubes - Test method for the air tightness of closures

Packmittel - Tuben - Prüfverfahren zur Bestimmung der Luftdichtheit der Verschlüsse

Emballage - Tubes souples - Méthode d'essai de détermination de l'étanchéité à l'air des bouchons d'obturation

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Ta slovenski standard je istoveten z: prEN 12377

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ICS:

55.120

Pločevinke. Tube

Cans. Tins. Tubes

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en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 12377

October 2021

ICS 55.120

Will supersede EN 12377:2014

English Version

Packaging - Flexible tubes - Test method for the air tightness of closures

Emballage - Tubes souples - Méthode d'essai de détermination de l'étanchéité à l'air des bouchons d'obturation

Packmittel - Tuben - Prüfverfahren zur Bestimmung der Luftdichtheit der Verschlüsse

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 261.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 12377:2021) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 12377:2014.

In comparison with the previous edition, the following technical modifications have been made:

- the Scope has been extended generically to flexible tubes;
- definitions given in EN 12374 have been considered.

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prEN 12377:2021 (E)**1 Scope**

This document specifies a test method for airtightness of the closures for flexible tubes.

It is applicable to flexible tubes used for packing pharmaceutical, cosmetic, hygiene, food and other domestic and industrial products

It is not applicable to flexible tubes with external applicators added on to the tube by the consumer and pumps.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1**closure**

any type of closure system which is fixed on the tube as part of the production process

4 Principle

The detection of air bubbles escaping from the closure system, when the shoulder of the tube including closure system is held under water and subjected to an internal air pressure of 0,25 bar.

5 Apparatus

5.1 Air compressor with an initial minimum pressure of 2 bar, equipped with an air regulator allowing a constant and stable pressure of $0,25 \pm 0,01$ bar.

5.2 Manometer accurate to 0,01 bar.

5.3 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.

5.4 Transparent container of a size such as to allow the shoulder of the tube including closure system to be immersed in water.

6 Procedure

The test shall be carried out on the tube including closure system at a 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 $(0,25 \pm 0,01)$ bar inside the tube.

Immerse the shoulder of the tube in the water ensuring that the closure system is totally immersed for at least 3 s.

During the test period some bubbles might occur shortly after immersing the tube into the water due to air which is present under the closure before immersing the tube. After a test period of 3 s without bubbles, the tube closure is considered to be tight.

For some products air tightness of 0,25 bar does not guarantee no leakage of the product. The filler shall ensure that the tolerances laid down in this document are appropriate for the product.

7 Test report

The test report shall contain the following information:

- a) reference to this document and if necessary a specification for the method of sampling;
- b) acceptance of the batch;
- c) complete identification of the batch and of the tubes tested;
- d) number of tubes tested;
- e) number of defects;
- f) if applicable, acceptance or refusal of the batch in accordance with specifications (see a));
- g) all factors which could have affected the results, or all operating details not specified in this document;
- h) date of test;
- i) name of the tester.

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