



SLOVENSKI STANDARD
SIST-TS CEN/TS 15945:2011

01-julij-2011

Embalaza - Enostavnost odpiranja - Merila in preskusne metode za vrednotenje embalaže za potrošnike

Packaging - Ease of opening - Criteria and test method for evaluating consumer packaging

Verpackung - Leichtes Öffnen - Kriterien und Prüfverfahren für die Bewertung von Verbraucherverpackungen

Emballage - Facilité d'ouverture - Critères et méthode d'essai pour évaluer un emballage destiné aux consommateurs

STANDARD PREVIEW
(standards.iteh.ai)
<https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae5-41241cdeacaa/sist-ts-cen-ts-15945-2011>

Ta slovenski standard je istoveten z: CEN/TS 15945:2011

ICS:

55.020 Pakiranje in distribucija blaga Packaging and distribution of
na splošno goods in general

SIST-TS CEN/TS 15945:2011

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST-TS CEN/TS 15945:2011](#)

<https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae5-41241cdeaca/sist-ts-cen-ts-15945-2011>

TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CEN/TS 15945

March 2011

ICS 55.020

English Version

**Packaging - Ease of opening - Criteria and test methods for
evaluating consumer packaging**

Emballage - Facilité d'ouverture - Critères et méthodes
d'essai pour évaluer un emballage destiné aux
consommateurs

Verpackung - Leichtes Öffnen - Kriterien und Prüfverfahren
für die Bewertung von Verbraucherpackungen

This Technical Specification (CEN/TS) was approved by CEN on 17 January 2011 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

[SIST-TS CEN/TS 15945:2011](https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-aef5-41241cdeaaa/sist-ts-cen-ts-15945-2011)

<https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-aef5-41241cdeaaa/sist-ts-cen-ts-15945-2011>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Criteria for ease of opening of packaging.....	6
5 Test methods.....	7
Annex A (normative) Consumer panel test for ease of opening.....	9
A.1 Panel test method	9
A.1.1 General.....	9
A.1.2 Flow chart describing panel test.....	11
A.1.3 Test procedure	11
A.1.4 Evaluation of results	12
A.2 Results	13
A.2.1 Test report	13
A.2.2 Test protocol	15
Bibliography	16

[SIST-TS CEN/TS 15945:2011](https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae5-41241cdeaaa/sist-ts-cen-ts-15945-2011)
<https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae5-41241cdeaaa/sist-ts-cen-ts-15945-2011>

Foreword

This document (CEN/TS 15945:2011) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST-TS CEN/TS 15945:2011](https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae55-41241cdeaaa/sist-ts-cen-ts-15945-2011)

<https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-ae55-41241cdeaaa/sist-ts-cen-ts-15945-2011>

CEN/TS 15945:2011 (E)**Introduction**

Ease of opening is an important factor when designing consumer packaging, as it is important that consumers of all ages, and of both genders, should be able to access the contents of the package. Consumers may ultimately avoid the purchase of a particular type of packaging which has proved consistently to be difficult to open. It is recognised that there is a difference in strength on average between male and female consumers.

Knowing that strength in the hands reduces with age, a panel test method that focuses on elderly consumers, with less than the average hand strength, can help to gain a new perspective on the ease of opening of packaging. Packaging that is easy to open for elderly consumers will, in most cases, be easy for the average consumer to open. It is recognised that there will be consumers with extreme impairment that this specification cannot represent.

To present valid mechanical test methods for the wide range of packaging present on the market today is not possible in this specification at this time. A test protocol inspired by the principles described in the ISO 20282 series of standards is therefore used in Annex A. However, it should be noted that mechanical testing and sensory test by trained panel are useful tools when developing easy to open packaging or for quality control. We recommend the generation of mechanical data to allow the introduction of new methods, as a means of demonstrating compliance with this specification.

When appropriate; CEN-CENELEC Guide 6, "Guidelines for standards developers to address the needs of older persons and persons with disabilities" and the referenced documents were considered when drafting the specification.

This document specifies procedures for ease of opening. It should commensurate with the maintenance of:

- functionality throughout the supply and user chain;
- safety and hygiene for both product and user/consumer;
- acceptability of the packed product to the user/consumer.

The purpose of the test methods should be to evaluate whether a particular design of packaging can be considered easy to open by the large majority of consumers, including elderly consumers. The test methods may be used by, for example:

- a designer or manufacturer; to check whether ease of opening requirements have been met;
- a potential purchaser or consumers organisation to check whether a particular design of packaging meets their requirements regarding ease of opening;
- a manufacturer, potential purchaser or consumers organisation to compare alternative products.

The results can provide evidence of the ease of opening of a particular design of packaging to potential purchasers. A test may be carried out by the manufacturer or purchaser directly or by assigning the task to an appropriate test organisation.

Where the information derived from the test is used for any purpose other than for internal technical or product development, for example to make a public statement regarding packaging ease of opening in relation to this specification, testing should be carried out, or should be independently verified, by an accredited test organisation. The information should be provided in sufficient detail to allow replication of the data-scoring methods by another organization if the test is repeated.

1 Scope

This Technical Specification specifies the following for all adult consumers:

- criteria for ease of opening of packages;
- methods for evaluating the ease of opening of consumer packages.

The purpose of this Technical Specification is to specify test methods to evaluate the ease of opening of consumer packages, in order to improve easy access to the contents. For packages regulated for safety or similar reasons, e.g. packaging of dangerous goods and substances, medicinal products, and medical devices, those regulations take precedence.

This Technical Specification applies to all packaging that does not require an opening tool and to packaging that is purchased with an integrated opening tool.

NOTE 1 The method(s) described in this Technical Specification could also be applicable to other types of packages when measuring ease of opening.

NOTE 2 This Technical Specification can be used to test most consumer packages. There are, however certain packaging types that cannot easily be tested with the described methods, such as e.g. very large packaging used to protect refrigerators and washing machines.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 21067:2007, *Packaging — Vocabulary* [SIST-TS CEN/TS 15945:2011
https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-aef5-41241cdeacaa/sist-ts-cen-ts-15945-2011](https://standards.iteh.ai/catalog/standards/sist/1407d525-0680-447e-aef5-41241cdeacaa/sist-ts-cen-ts-15945-2011)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21067:2007 and the following apply.

3.1

consumer packaging

packaging constituting, with its content, a sales unit for the final user or consumer at the point of retail

[ISO 21067:2007]

3.2

ease of opening

openability of a consumer packaging when used by the intended users to achieve the main goal(s) supported by the packaging

NOTE Ease of opening is tested as effectiveness of opening, efficiency of opening and satisfaction with opening.

3.3

effectiveness of opening

accuracy and completeness with which users achieve specified goals; percentage of users who achieve the main goal(s)

CEN/TS 15945:2011 (E)

3.4 efficiency of opening
resources expended in relation to the accuracy and completeness with which users achieve goal; time taken to achieve the main goal(s)

3.5 satisfaction of opening
freedom of discomfort, and positive attitudes towards the ease of opening of the packaging

3.6 goal
intended outcome

3.7 panel testing
panel test is user based performance related measurements

NOTE In a panel test, a product is tested by a group of individuals trying out a product in a relative controlled or experimental setting, where they are given specified task(s) to perform.

3.8 mechanical testing
documented and reproducible mechanical test methods intended to measure the resistance of the relevant features of a package/packaging system by use of appropriate equipment

3.9 sensory test by trained panel
members of the panel are trained to qualify and quantify sensory properties of the ease of opening of consumer packaging

iTeh STANDARD PREVIEW
(standards.itih.ai)

[SIST-TS CEN/TS 15945:2011](https://standards.itih.ai/catalog/standards/sist/1407d525-0680-447e-aef5-41241cdeacaa/sist-ts-cen-ts-15945-2011)

4 Criteria for ease of opening of packaging

Ease of opening of packaging is defined as “the openability of a consumer packaging when used by the intended users to achieve the main goal(s) supported by the packaging”. Such main goals can where appropriate, include opening and closing, as well as accessing the intended quantity of the product.

The users shall be able to achieve their main goals:

- with a high success rate (effectiveness of operation);
- within an acceptable task time (efficiency of operation);
- with an acceptable level of satisfaction with operation.

Packaging will be considered to be easy to open if the large majority of adult consumers find it to be effective, efficient and satisfactory as set out above. The test results, from e.g. the panel test in Annex A, can be used to determine if a packaging meets following requirements:

- a) the packaging under study shall be easy to open;
- b) it shall be easy to take the intended quantity or portion from the packaging¹⁾;

1) It is crucial to the consumer’s satisfaction with the packaging opening system to be able to reach the content of a packaging in an easy and safe way, however, if unfilled packaging is tested, this question can be omitted. The reason for omitting the question is recorded in the test protocol.

c) a reclosable packaging shall be easy to close.

Not all questions apply to all packaging since the goals of the packaging will be different for different packaging designs e.g. reclosable and non-reclosable packaging. The relevant questions will therefore depend on the form and intended use of the packaging. The overall judgement of the packaging under study shall be favourable.

EXAMPLE For non-reclosable packaging only questions a), and b) will apply, while all questions are relevant for most reclosable packaging.

5 Test methods

Ease of opening can be evaluated in several different ways, by panel tests, mechanical tests, sensory panels etc. During the three year to six year lifespan of this Technical Specification new methods will be developed and a set of annexes produced to describe these methods. Figure 1 shows examples of different methods that may be added as annexes to this Technical Specification.

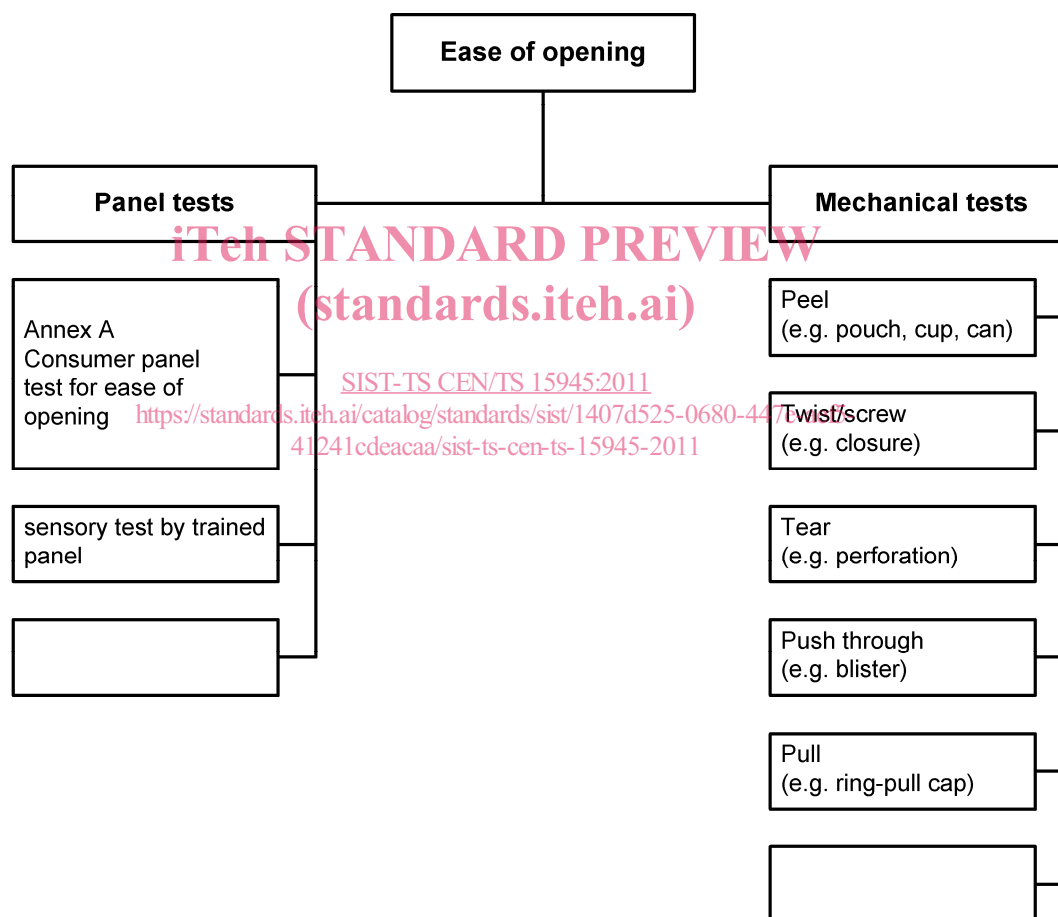


Figure 1 — Examples of methods that can be used gain information of the openability of packaging

Mechanical test methods can provide quantitative data with regards to certain attributes, such as removal torque, peel strength and ring-pull force. These data can inform on the performance of a packaging.

Panel tests enable the qualitative assessment of packaging designs and allow the development of an understanding of users approach to packaging openability and handling. Panel tests can be used in conjunction with other qualitative research methods such as questionnaires and structured or unstructured