

**Packaging - Complete, filled transport packages - Compression and stacking tests using a compression tester**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 12048:2001 sisaldab Euroopa standardi EN ISO 12048:2000 ingliskeelset teksti.

Käesolev dokument on jõustatud 18.05.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 12048:2001 consists of the English text of the European standard EN ISO 12048:2000.

This document is endorsed on 18.05.2001 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

### Käsitlusala:

This International standard specifies a method for testing the resistance to compression of complete filled transport packages and a method for carrying out a stacking test on complete, filled transport packages using the same apparatus.

### Scope:

This International standard specifies a method for testing the resistance to compression of complete filled transport packages and a method for carrying out a stacking test on complete, filled transport packages using the same apparatus.

**ICS 55.020**

**Võtmesõnad:** comp, compression testing, compression testing devices, inspection, loading, material testing machines, mechanical testing, packages, packaging, packaging tests, packing, pressure tests, protection, stacking tests, strength of materials, testing, transport packing

**English version**

Packaging

**Complete, filled transport packages**

Compression and stacking tests using a compression tester  
(ISO 12048 : 1994)

Emballages – Emballages  
d'expédition complets et pleins –  
Essais de compression et de gerbage  
à l'aide d'une machine d'essai de  
compression (ISO 12048 : 1994)

Verpackung – Versandfertige  
Packstücke – Kompressions- und  
Stapelprüfung unter Verwendung einer  
Kompressionsprüfmaschine  
(ISO 12048 : 1994)

This European Standard was approved by CEN on 2000-11-16.

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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

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## Foreword

International Standard

ISO 12048 : 1994 Packaging – Complete, filled transport packages – Compression and stacking tests using a compression tester,

which was prepared by ISO/TC 122 'Packaging' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 261 'Packaging', the Secretariat of which is held by AFNOR, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by June 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 12048 : 1994 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

## 1 Scope

This International Standard specifies a method for testing the resistance to compression of complete, filled transport packages and a method for carrying out a stacking test on complete, filled transport packages using the same apparatus.

The test may be used to assess the performance of a package in terms of its strength or the protection it offers to its contents when it is subjected to compressive forces. A test may be performed either as a single test to investigate the effects (deformation, collapse or failure) of compression or stacking, or as part of a sequence of tests designed to measure the ability of a package to withstand a distribution system that includes a compression or stacking hazard.

This test may also be used as a stacking test to investigate performance under particular conditions of loading, as, for example, when the bottom package in a stack rests on an open-decked pallet.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2206:1987, *Packaging — Complete, filled transport packages — Identification of parts when testing*.

ISO 2233:—<sup>1)</sup>, *Packaging — Complete, filled transport packages — Conditioning for testing*.

1) To be published. (Revision of ISO 2233:1986)

## 3 Principle

The test package is placed between the platens of a compression tester and either:

- in the case of a compression test, a load is applied until failure occurs or predetermined values for load or displacement are reached; or
- in the case of a stacking test, a predetermined load is applied for a predetermined time or until failure occurs.

## 4 Apparatus

**4.1 Compression tester**, motor-driven, platen-type, capable of applying load through uniform movement of one or both platens at a relative speed of 10 mm/min  $\pm$  3 mm/min.

### NOTES

1 The comparison between results obtained from apparatus operated at other speeds (for example 12,5 mm/min  $\pm$  2,5 mm/min) and results obtained at 10 mm/min  $\pm$  3 mm/min is not recommended.

2 For certain packagings, such as metal drums or wooden crates, lower speeds may be required to prevent load peaks in excess of the predetermined value.

### 4.1.1 Platens

Each platen shall be

- flat:
  - with a tolerance of 1 part in 1 000 for surface areas  $<1 \text{ m}^2$ ;
  - for surface areas  $>1 \text{ m}^2$ , such that when placed horizontally the difference in height between the lowest and highest points of the platen does not exceed 1 mm;
- dimensioned so as to extend over the whole area of that side of the test package or interposed devices with which it is in contact;