SLOVENSKI STANDARD

SIST EN 22244:1996

01-avgust-1996

Nadomešča:

SIST ISO 2244:1996

Embalaža - Celovita, napolnjena transportna embalaža - Preskus z vodoravnim udarcem na vodoravni ali nagnjeni ravnini - Preskus z nihalom (ISO 2244:1985)

Packaging - Complete, filled transport packages - Horizontal impact tests (horizontal or inclined plane test - Pendulum test) (ISO 2244:1985)

Verpackung - Versandfertige Packstücke - Horizontale Stoßprüfung (waagrechte oder schiefe Ebene - Pendel) (ISO 2244:1985)

Emballages - Emballages d'expédition complets et pleins - Essais de choc horizontal (essai sur plan horizontal ou incliné - Essai au pendule) (ISO 2244:1985)

Ta slovenski standard je istoveten z: **EN 22244:1992**

ICS:

55.180.40	Celovita, napolnjena transportna embalaža	Complete, filled transport packages

SIST EN 22244:1996 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 22244:1992

November 1992

UDC 621.798.1:620.165.7

Descriptors: Packing, complete- and filled packages, transport packing, impact tests, pendulum, inclined planes

English version

Packaging - Complete, filled transport packages - Horizontal impact tests (horizontal or inclined plane test - Pendulum test) (ISO 2244:1985)

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This European Standard was approved by CEN on 1992-10-30. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CEN

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

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

In 1991, ISO 2244:1985 "Packaging - Complete, filled transport packages - Horizontal impact tests (horizontal or inclined plane test; pendulum test)" was submitted to the CEN Primary Questionnaire procedure.

Following the positive result of the CEN/CS Proposal ISO 2244:1985 was submitted to the Formal Vote.

The result of the Formal Vote was positive.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 1993, and conflicting national standards shall be withdrawn at the latest by May 1993.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Endorsement notice

The text of the International Standard ISO 2244:1985 was approved by CEN as a European Standard without any modification.

International Standard 2244

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Packaging — Complete, filled transport packages — Horizontal impact tests (horizontal or inclined plane test; pendulum test)

Emballages — Emballages d'expédition complets et pleins — Essais de choc horizontal (essai sur plan horizontal ou incliné; essai au pendule)

Second edition — 1985-11-01

UDC 621.798.1 : 620.165.7 **Ref. No. ISO 2244-1985 (E)**

Descriptors : packing, transport packing, complete-and filled packages, tests, impact tests.

Price based on 3 pages

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2244 was prepared by Technical Committee ISO/TC 122, *Packaging*.

ISO 2244 was first published in 1972. This second edition cancels and replaces the first edition, which has been technically revised as follows:

- a horizontal plane test method has been specified;
- a new clause on "Package preparation" has been added.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Packaging — Complete, filled transport packages — Horizontal impact tests (horizontal or inclined plane test; pendulum test)

1 Scope and field of application

This International Standard specifies methods of horizontal impact testing (horizontal or inclined plane test and pendulum test) on a complete, filled transport package. The test may be performed either as a single test to investigate the effects of horizontal impact or as part of a sequence of tests designed to measure the ability of a package to withstand a distribution system that includes a horizontal impact hazard.

2 References

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

ISO 2233, *Packaging — Complete, filled transport packages — Conditioning for testing.*

3 Principle

Applying a horizontal velocity to the test package and bringing it to a halt by impact with a vertical impact surface. The atmospheric conditions, the horizontal velocity and the attitude of the package are predetermined. Particular conditions of impact may be simulated by placing appropriately profiled inserts between the impact surface and the impacting face or edge of the test package.

4 Apparatus

4.1 Impact surface, which should be either

a) a plane inclined to the vertical at 10 ± 1° (for the inclined plane test), or

b) a plane vertical to within 1° (for the horizontal or pendulum test).

The dimensions of the impact surface shall be greater than those of the impacting face, or selected part, of the test package.

The impact surface shall be sufficiently rigid not to deflect more than 0,25 mm when a load of 160 kg/cm^2 is applied anywhere on the surface.

In addition, the apparatus shall meet the requirements and tolerances specified in clause 7.

4.2 Optional interposed hazards, to be used when it is required to concentrate the impact in a particular area of the test package.

The dimensions, material and location of the interposed hazard shall be carefully specified.

Example: A steel beam with a length of 200 mm and a cross-section of 100 (± 1) mm × 100 (± 1) mm with rounded edges of radius 5 ± 0,1 mm, placed centrally in the impact surface (4.1).

4.3 Impact testing apparatus: Types of apparatus that may be used are described in 4.3.1, 4.3.2 and 4.3.3.

4.3.1 Inclined plane tester, consisting of the following items:

4.3.1.1 Two-rail steel track, inclined at 10° to the horizontal. The distance along the incline shall be graduated at intervals of 50 mm. (See figure 1.)

4.3.1.2 Rolling carriage or dolly: The surface friction between the rolling carriage/dolly and the test package shall be such that during movement from rest to impact the package will not move in relation to the carriage, but such that upon impact the package will move freely.

4.3.1.3 Impact surface (or bumper), meeting the specifications of 4.1, placed at the bottom of the track with its face perpendicular to the direction of movement of the carriage down the track.

NOTES

1 A suitable impact surface comprises a number of heavy timbers mounted horizontally across the face of the structure such that the optional interposed hazard (4.2) can be fitted easily when required.

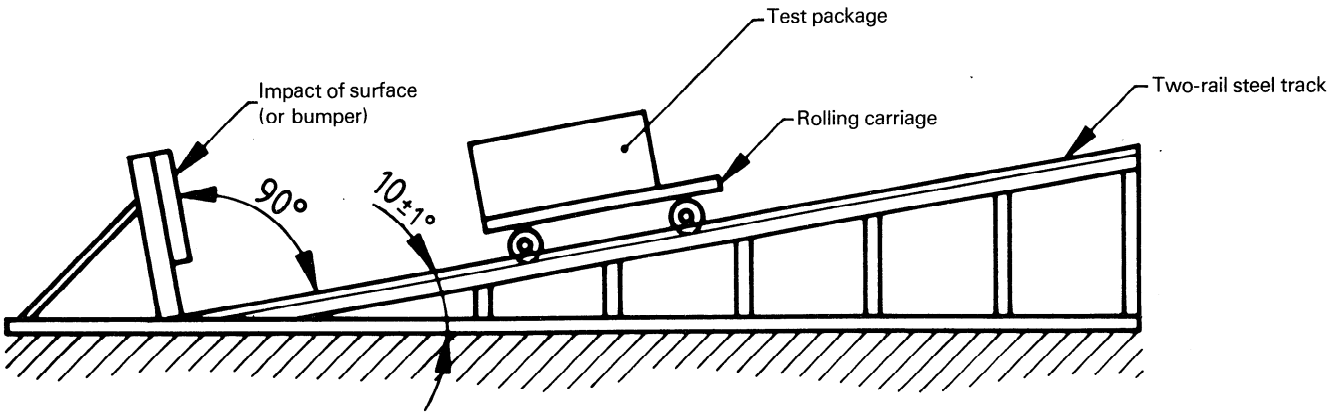

Figure 1 — Inclined plane tester

2 It is recommended that the bumper be made in such a way that the carriage can travel underneath it for about 100 mm so that the package impacts the bumper before the carriage stops.

3 The apparatus should preferably be equipped with a device to prevent the carriage from rebounding after the impact. Either a spring damper or an oil damper may be incorporated into such a device.

4 The track and the wheels shall be kept clean.

5 The wheel bearings shall be regularly lubricated. Roller bearings are recommended.

4.3.2 Horizontal plane tester, consisting of the following items:

4.3.2.1 Two-rail steel track fixed in the horizontal plane.

4.3.2.2 Rolling carriage or dolly which can be mechanically driven in such a manner that its velocity is known at the moment of impact. The surface friction between the rolling carriage/dolly and the package shall be such that during movement from rest to impact the test package will not move in relation to the carriage, but such that upon impact the package will move freely.

4.3.2.3 Impact surface (or bumper), meeting the specifications of 4.1, at one end of the track with its face perpendicular to within 1° to the direction of movement of the carriage along the track.

4.3.3 Pendulum apparatus, consisting of a rectangular platform suspended at each corner by steel rods or ropes so that in its rest position the front edge just touches the impact surface that meets the specifications of 4.1. The suspension system shall be such that it moves freely and its path is not obstructed when the test package is mounted on the platform. (See figure 2.)

For certain types of package, such as carboys, it may be sufficient to suspend the test package from a single rod or rope.

In both instances the suspension system shall not impart a rotary movement to the test package.

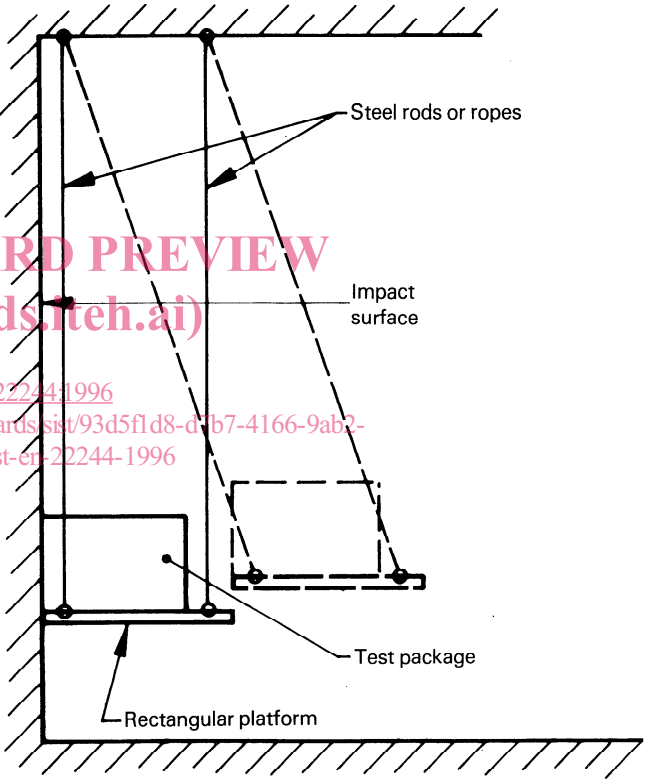

Figure 2 — Pendulum apparatus

4.4 Impact measuring apparatus, if required, on the carriage, allowing measuring and recording of the peak deceleration and impact velocity.

5 Package preparation

The test package shall normally be filled with its intended contents. However, simulated or dummy contents may be used, on condition that the dimensions and physical properties of such contents shall be as close as possible to those of the intended contents.