SLOVENSKI STANDARD
SIST EN 22874:1998

01-oktober-1998

Embalaža - Celovita, napolnjena transportna embalaža - Preskus skladanja z napravo za stiskanje (ISO 2874:1985)

Packaging - Complete, filled transport packages - Stacking test using compression tester (ISO 2874:1985)

Verpackung - Versandfertige Packstücke - Stapelprüfung mit Druckprüfmaschine (ISO 2874:1985)

Emballages - Emballages d'expédition complets et pleins - Essai de gerbage a l'aide d'une machine d'essai de compression (ISO 2874:1985)

Ta slovenski standard je istoveten z: EN 22874:1992

ICS:

55.180.40	Celovita, napolnjena transportna embalaža	Complete, filled transport packages

SIST EN 22874:1998 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 22874:1992

November 1992

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Descriptors: Packing, complete- and filled packages, transport packing, stacking tests, compression tests, test equipment

English version

Packaging - Complete, filled transport packages - Stacking test using compression tester (ISO 2874:1985)

Emballages - Emballages d'expédition complets et pleins - Essai de gerbage à l'aide d'une machine d'essai de compression (ISO 2874:1985)

Verpackung - Versandfertige Packstücke - Stapelprüfung mit Druckprüfmaschine (ISO 2874:1985)

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 2874:1985 "Packaging - Complete, filled transport packages - Stacking test using compression tester" was submitted to the CEN Primary Questionnaire procedure.

Following the positive result of the CEN/CS Proposal ISO 2874:1985 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 2874:1985 was approved by CEN as a European Standard without any modification.

International Standard ISO 2874

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

Packaging — Complete, filled transport packages — Stacking test using compression tester

Emballages — Emballages d'expédition complets et pleins — Essai de gerbage à l'aide d'une machine d'essai de compression

Second edition — 1985-12-15

UDC 621.798.1 : 620.165.7

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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 2874 was prepared by Technical Committee ISO/TC 122, *Packaging*.

This second edition cancels and replaces the first edition (ISO 2874-1973), which has been technically revised as follows:

— the specification of the compression tester has been modified slightly (clause 4 "Apparatus");

— 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 — Stacking test using compression tester

1 Scope and field of application

This International Standard specifies a method for carrying out a stacking test on complete, filled transport packages, using a compression tester. This test may be used to assess the performance of a package in terms of its strength or the protection that it offers to its contents when it is subjected to stacking. It may be performed either as a single test to investigate the effects (deformation, creep, collapse or failure) of 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 stacking hazard.

The test may also be used to investigate performance under particular conditions of loading, as, for example, when the bottom package in a stack rests on an open-decked pallet. When the compression load is not to be applied over the whole surface of the package which is being tested, appropriate devices should be suitably interposed between the package and platen of the press in order to simulate the conditions met in practice when applying these compression loads.

NOTE — A method for carrying out a stacking test on a complete, filled transport package, using one of three methods of applying a static load, is given in ISO 2234. A method for testing the compression resistance of a complete, filled transport package, using a compression tester, is given in ISO 2872.

2 References

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

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

ISO 2234, *Packaging — Complete, filled transport packages — Stacking tests using static load.*

ISO 2872, *Packaging — Complete, filled transport packages — Compression test.*

3 Principle

Placing of the test package on the lower platen of a compression tester and lowering of the upper platen to impose a load upon it. This load, the atmospheric conditions, duration of time under load and attitude of the packages are predetermined.

4 Apparatus

4.1 Compression tester, motor-driven, mechanical or hydraulic, platen-type, capable of applying load through uniform movement of one or both platens.

The platens shall be

— flat, so that when placed horizontally the difference in height between the lowest and highest points does not exceed 1 mm;

— dimensioned so as to extend over the whole area of the panels or interposed devices with which they are in contact;

— rigid, so as not to deform by more than 1 mm at any point when the tester applies a load of 75 % of its maximum rating, either to a centrally placed 100 mm × 100 mm × 100 mm block having sufficient strength to accept this load without failure, or to four similar blocks placed at the four corners, in the case of swivel-mounted platens.

One platen shall remain horizontal, within two parts per 1 000 at all times during the test.

The other platen shall be either rigidly mounted so as to remain horizontal within two parts per 1 000 at all times during the test, or be held by a universal joint at its centre and so be free to tilt in any direction.

The working surfaces of platens suitable for testing packages with a length or width or diameter greater than 1 000 mm may be locally recessed for fixing bolts, etc.

4.2 Recording device for loads, with a percentage of error not exceeding ± 2 % of the load.

4.3 Means of imposing a predetermined load, for a predetermined time, without fluctuation exceeding ± 4 % and with no more relative movement of the platens than is necessary to maintain this load during any vertical displacement of the upper platen.

4.4 Means of measuring deflection (if necessary), accurate to ± 1 mm and capable of indicating either an increase or a decrease in dimensions.

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.

Ensure that the test package is closed normally, as if ready for distribution. If simulated or dummy contents are used, ensure that the normal method of closure is still employed.

6 Conditioning

The package shall be conditioned in accordance with one of the conditions described in ISO 2233.

7 Procedure

Whenever possible the test shall be carried out in the same atmospheric conditions as used for conditioning where this is critical to the materials or application of the package. In other circumstances, the test shall be carried out in atmospheric conditions which are as near as practicable to those used for conditioning.

7.1 Place the test package centrally on the lower platen of the test machine (4.1), in the predetermined attitude.

7.2 Apply the load by relative movement of the platens until the predetermined load is reached.

The load shall be applied in such a way that peaks in excess of the predetermined load do not occur.

7.3 Maintain the predetermined load for the predetermined time or until premature collapse.

7.4 Remove the load by movement of the platens, examine the package and, if necessary, measure its dimensions.

NOTES

1 At any time during the test it may be necessary to measure dimensions.

2 Appropriate profiles representative of particular loading conditions may be inserted as required.

8 Test report

The test report shall include the following particulars :

a) reference to this International Standard;

b) number of replicate packages tested;

c) full description of the package, including dimensions, structural and material specifications of the package and its fittings, cushioning, blocking, closure or reinforcing arrangements;

d) description of contents — if simulated or dummy contents were used, full details shall be given;

e) gross mass of package and mass of contents, in kilograms;

f) relative humidity, temperature and time of conditioning; temperature and relative humidity of test area at time of test; whether these values comply with the requirements of ISO 2233;

g) the attitude in which the package was tested, using the method of identification given in ISO 2206;

h) type of apparatus used, including whether the tester was mechanically or hydraulically operated and whether both platens were rigidly mounted or not;

j) load imposed, in newtons, and the duration of time of the package under load;

k) design and dimensions of any profiles used;

m) location of deflection measurement points on packages and stage of test at which deflection measurements were made;

n) any deviations from the test method described in this International Standard;

p) a record of the result, with any observations which may assist in correct interpretation;

q) date of the test;

r) signature of tester.