SLOVENSKI STANDARD
SIST EN 14053:2003

01-oktober-2003

Embalaža – Embalaža iz valovitega kartona ali kartona – Vrste in konstrukcija

Packaging - Packagings manufactured from corrugated or solid fibreboard - Types and construction

Packmittel - Verpackungen aus Well- oder Vollpappe - Typ und Ausführungen von Schachteln

Emballage - Emballages fabriqués a partir de carton ondulé ou de carton compact - Modeles et construction

Ta slovenski standard je istoveten z: EN 14053:2003

ICS:

55.160	Zaboji. Škatle. Plastični zaboji	Cases. Boxes. Crates
85.080.30	Lepenka	Cardboard

SIST EN 14053:2003 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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English version

Packaging - Packagings manufactured from corrugated or solid fibreboard - Types and construction

Emballage - Emballages fabriqués à partir de carton ondulé ou de carton compact - Modèles et construction

Packmittel - Verpackungen aus Well- oder Vollpappe - Typ und Ausführungen von Schachteln

This European Standard was approved by CEN on 21 April 2003.

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.

This European Standard exists 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

Foreword

This document (EN 14053:2003) has been prepared by Technical Committee CEN /TC 261 "Packaging", the secretariat of which is held by AFNOR.

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 December 2003, and conflicting national standards shall be withdrawn at the latest by December 2003.

The standard is based on the already existing FEFCO-ASSCO International Fibreboard Case Code.

This code was originally developed and issued by the organizations FEFCO and ASSCO as a standardized system to substitute long and complicated verbal descriptions of fibreboard case and packaging constructions by simple symbols internationally understood by all, regardless of language and other differences.

An agreement has been made with the two organizations to use this market-related FEFCO-ASSCO code as a reference document for this European Standard.

Annexes A and B of this European Standard are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Efficient packaging is of great importance for the distribution and the protection of goods. Insufficient or inappropriate packaging can lead to damage or wastage of the contents of the pack.

The purpose of this European Standard is to describe construction elements for corrugated and solid fibreboard packagings by a simple code. Type, style and construction of a case or other packaging is described by a four figure code. It may be followed by extra digits, which will describe a manufacture's variation to a standard design. These extra digits may be specific to each manufacturer.

1 Scope

This European Standard describes basic types and constructions of corrugated or solid fibreboard packagings. Folding cartons are not covered by this European Standard.

2 Normative references

Not applicable.

3 Dimensions

NOTE 1 Dimensions of fibreboard may vary with variation in moisture content of the material. Accurate measurements of dimensions should therefore be performed under standard climatic conditions (Condition 50 % r.h./23 °C of EN ISO 2233).

NOTE 2 The external dimensions should be taken into consideration when using pallets or containers for distribution.

NOTE 3 The difference between the external and internal dimensions of the case depends on the thickness of the board and the number of plies present.

3.1 Case dimensions

Unless otherwise specified, the dimensions of the erected assembled case are expressed as internal dimensions in mm, and in the following order: L × B × H. The dimensions L, B and H are specified in each description of the case construction but refer normally to:

L (Length) = the longer dimension at the opening

B (Breadth) = the shorter dimension at the opening

H (Height) = the dimension from the top of the opening to the base

NOTE Dimensions should be measured on the flat blank from the centre of the creases taking into account the thickness of the material as appropriate.

3.2 Telescope type cases

For telescope-type cases the height (h) of the upper part (lid) should be given as a fourth measurement after an oblique stroke, e.g.

355 × 205 × 120/40 mm
(L) × (B) × (H)/ (h)

3.3 Cases with overlapping outer flaps

For cases with overlapping outer flaps the length of the overlap (o) should be given as a fourth measurement, e.g.

355 × 205 × 120/40 mm
(L) × (B) × (H)/ (o)

3.4 Sheet dimensions

NOTE Unless otherwise specified, the dimensions of a corrugated board sheet are expressed in mm.

3.4.1 Corrugated board sheet

1st dimension × 2nd dimension = (CD × MD) = (across the machine direction) × (along the machine direction).

1st dimension = along the glue lines which is parallel to the flutes (CD) 2nd dimension = across the glue lines which is perpendicular to the flutes (MD).

3.4.2 Solid board sheet

1st dimension × 2nd dimension = (CD × MD)

1st dimension = CD (cross direction)
2nd dimension = MD (machine direction).

3.5 Material thickness

3.5.1 General

The thickness of a fibreboard material is needed for calculations of the package dimensions.

Corrugated board and solid fibreboard are two types of fibreboard material.

3.5.2 Corrugated board

For corrugated board the material thickness is mainly determined by construction factors, i.e. single wall or multi-wall types and by the flute profile(s) used. The thickness of the paper components has only a limited influence on the thickness of the board. For corrugated board there are comparatively homogeneous types of constructions referred to as “flute profiles” or “flute types”.

3.5.3 Solid fibreboard

Solid fibreboard is available in many thicknesses. The strength properties for the same thickness can show wide differences due to many circumstances in the production, e.g. the pulp and fibre raw material used, the production machine and production methods. The grades are often referred to by basis weight and type of fibre material used. The board producer can give relevant strength properties related to their particular material.

4 Basic type groups

4.1 General

The design of corrugated and solid fibreboard cases can be as variable as the types of articles to be packed but there are certain recognized basic type groups. The purpose of this section is to describe a code which is used to identify the design of corrugated and solid fibreboard cases in order to simplify communication between manufacturers, specifiers, users and other parties involved.

4.2 Code composition

The code consists of four figures. The two first figures in the code are related to the basic type groups presented below and the second two figures are related to the actual version of the basic types. (See also clause 5)

4.3 Basic type groups

See also clause 8.

4.3.1 Commercial rolls and sheets (*01*)

4.3.2 Slotted-type cases (*02*)

Consist basically, of one piece with a glued, stitched or taped manufacturers´ joint and top and bottom flaps. They are shipped flat, ready to use and require closing using the flaps provided.

4.3.3 Telescope-type cases (*03*)

Consist of more than one piece and are characterized by a lid and/or bottom telescoping over the body of the case.

4.3.4 Folder-type cases and trays (*04*)

Usually consist of only one piece of board. The bottom of the case is hinged to form two or all side walls and the cover. Locking tabs, handles, displays panels, etc., can be incorporated in some designs.

4.3.5 Slide-type cases (*05*)

Consist of several pieces of liners and sleeves sliding in different directions into each other. This group also includes outside sleeves for other cases.

4.3.6 Rigid-type cases (*06*)

Consist of two separate end pieces and a body and require stitching or a similar operation before they can be used.

4.3.7 Ready-glued cases (*07*)

Consist basically, of one piece, are shipped flat and ready to use by simple erection.

4.3.8 Interior fitments (*09*)

May include inside liners, pads, partitions, dividers etc., whether linked to a Case Design or as single items.

4.4 Style versions

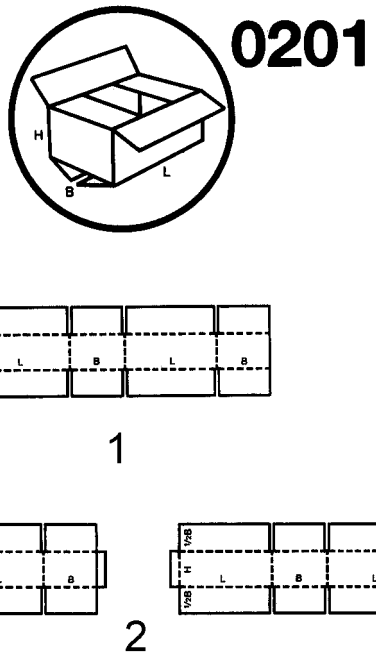
Several derivatives of the same style can be described by simply adding a suffix, separated by a hyphen, to the same basic style number (see clause 6), without having to create a new style.

NOTE A version may be unique to an individual manufacturer.

4.5 Styles and manufacturers' joint

The drawing style layouts as shown in this Code may need to be re-arranged depending on the manufacturers' joint chosen.

Some styles may have a manufacturer's joint which may be glued, stitched or taped. A glued or stitched joint may be an extension of either the short or the long panel. Figure 1 shows how these joints may be indicated.



Key
1 Taped joint
2 Glued or stitched joint

Figure 1 — Indication of manufacturer's joint (this example can be applied to all styles)

4.6 Closure of cases

4.6.1 Method of closure

Correct and effective closure of the packages is as important as the packaging construction itself. The following methods of closure are possible either singly or in combination:

— by gluing, cold or hot

— by taping

— by interlocking

— by stitching

4.6.2 Closing by taping

This can be achieved in many ways, examples are shown in Figure 2.

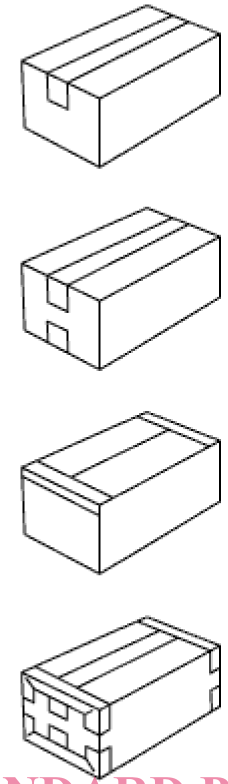


Figure 2 — Closing by taping

4.6.3 Closing by stitching

This can be achieved in many ways, examples are shown in Figure 3.

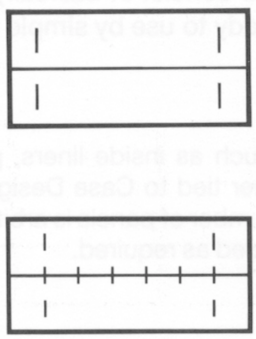


Figure 3 — Closing by stitching

5 Coding of the packaging style

The full code consists of two parts:

1) The four digit mandatory first part relates to the styles contained in this European Standard.

2) The second part may be used for coding personal variations derived from the basic styles.