



SLOVENSKI STANDARD SIST EN 12710:2001

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Fibreboard drums - Removable head (open head) drums with closing rings with a nominal capacity of 15 l to 250 l

Fibertrommeln - Deckelfässer mit Spannringen mit einem Nennvolumen von 15 l bis 250 l

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Futs en carton - Futs a ouverture totale d'une capacité nominale de 15 l a 250 l

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12710

December 1999

ICS 55.140

English version

Fibreboard drums - Removable head (open head) drums with closing rings with a nominal capacity of 15 l to 250 l

Fûts en carton - Fûts à ouverture totale d'une capacité nominale de 15 l à 250 l

Fibertrommeln - Deckelfässer mit Spannringen mit einem Nennvolumen von 15 l bis 250 l

This European Standard was approved by CEN on 16 October 1999.

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.

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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by June 2000, and conflicting national standards shall be withdrawn at the latest by June 2000.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

The work was carried out in close cooperation with the European Association of Fibreboard Drum Manufacturers (S.E.F.F.I.) which prepared the draft proposal.

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 package.

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The annexes A and B of this European Standard are normative, the annexes C and D are informative.

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Introduction

This standard is limited to the specification of constructional details and the establishment of a preferred range of diameters and capacities for fibreboard drums, in recognition of the fact that one of the important characteristics of fibreboard drums is that they can be produced in various ranges of diameters and heights with constructions to suit specific products and market needs and can be fitted with a variety of lids, ends and fasteners.

1. Scope

This European Standard specifies the construction requirements for cylindrical fibreboard drums with a nominal capacity of 15 l to 250 l and the preferred range of diameters and capacities.

2. Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this European Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this European Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the publication referred to applies.

EN ISO 2233:1999 Packaging - Complete, filled transport packages - Conditioning for testing (ISO 2233:1994)

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3. Terms and definitions

For the purposes of this standard, the following terms and definitions apply.

3.1

fibreboard drum

rigid, cylindrical container with a sidewall, made of multiple plies of virgin or recycled paper or board firmly bonded together, and an end, firmly connected to the sidewall and a bottom chimb, and a top, which can be removed as a lid and closed by means of the closing ring over the top chimb, the chimb being secured to the sidewall

3.2

nominal capacity (NC)

capacity in litres which, by convention, is used to represent a class of drums of similar brimful capacities

3.3

sidewall

cylindrical body of the drum

3.4

lid

removable top of the drum

3.5

chimb

top or bottom rim of the drum

3.6**internal lining**

fixed inner ply of material, other than that which is used for the general construction of the drum, used to give the drum specific properties

3.7**external lining**

fixed outer ply of material, other than that which is used for the general construction of the drum, used to give the drum specific properties

3.8**barrier**

multiple or single ply of material, other than that which is used for the general construction of the drum, incorporated into the sidewall and/or ends of the drum

3.9**liner**

separate bag or semi-rigid container, used inside the drum to give the drum specific properties

3.10**internal coating**

material applied to the inner surface of the drum, by spray, brush or other means to give the drum specific properties

3.11**external coating**

material applied to the outer surface of the drum, by spray, brush or other means to give the drum specific properties

3.12**closing ring**

band by which a lid can be held to the top of the drum and secured in position by means of a fastening device

3.13**end**

base of the drum

4. Dimensions**4.1 General**

The drum description shall include the dimensions listed in **4.2** and **4.3** and the nominal capacity as listed in **4.4**.

NOTE Drum dimensions are shown in annex A.

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4.2 Diameter

4.2.1 Nominal internal diameter

The nominal internal diameter is used only to provide a classification of drum diameters.

4.2.2 Internal diameter (d_1)

The internal diameter (d_1), in millimetres, is the internal measurement from the inner sidewall to the diametrically opposite inner sidewall.

4.2.3 Outside diameter (d_2)

The outside diameter (overall diameter) (d_2), in millimetres, is the measurement over the closing ring, but not over the fastening device.

4.3 Height and depth

4.3.1 Internal height (h_1)

The internal height (h_1), in millimetres, is the height from the inner surface of the drum base to the top surface of the top inner bead profile. This dimension indicates the maximum filling height.

4.3.2 External height (h_2)

The external height (h_2), in millimetres, is the height from the lowest point of the drum to the top edge of the closing ring.

4.3.3 Stacking height

The stacking height, in millimetres, of the drum is calculated by:

height of a stack of N drums = $(N - 1) \times h_2 + h_3$.

4.3.4 Overall height (h_3)

The overall height (h_3), in millimetres, is the height of a drum closed for despatch, measured from the lowest to the highest point of the drum.

NOTE Depending on lid design, overall height (h_3) and external height (h_2) may be the same.

In all designs the difference between h_3 and h_2 , ($h_3 - h_2$), shall not be greater than the chimb depth (h_4) to ensure stability of stacking.

4.3.5 Chimb depth (h_4)

The chimb depth (h_4), in millimetres, is the measurement from the lowest point of the chimb to the underside of the end

4.4 Capacity calculations

4.4.1 Nominal capacity (NC)

The nominal capacity is the internal volume, in litres, to the top internal bead of the drum as defined by the dimensions d_1 and h_1 .

4.4.2 Shipping cube

Dimensions d_2 and h_3 are used to calculate the shipping cube.

4.5 Tolerances

As drums are manufactured from materials which are subject to dimensional and weight variations according to changes in atmospheric conditions, all dimensions and tolerances are quoted on completed drums which have been conditioned for 24 h at $23\text{ °C} \pm 2\text{ °C}$ and $50\% \pm 2\%$ r.h., in accordance with EN ISO 2233:1999, Condition G.

NOTE Short term fluctuations and measurement limitations may cause individual measurements to vary up to $\pm 5\%$ relative humidity.

4.5.1 Mass tolerance

The mass tolerance is $\pm 5\%$ of the mass, in kilograms, of a complete drum.

4.5.2 Manufacturing tolerances

The manufacturing tolerances applicable to dimensions shall be:

- a) all diameters $\pm 2,0\text{ mm}$;
- b) all heights $\pm 5,0\text{ mm}$.

4.6 Capacity requirements

4.6.1 General

As fibreboard drums provide numerous variations in size, construction and design type, they can be adapted to suit the purchaser's packaging and capacity requirements.

4.6.2 Preferred range of nominal capacities

The preferred range of nominal capacities is 15 l, 20 l, 25 l, 30 l, 40 l, 50 l, 60 l, 80 l, 100 l, 120 l, 150 l, 200 l, 220 l and 250 l.

NOTE Annex B shows the preferred relationship between drum diameter and nominal capacity.

4.6.3 Other capacities

Other capacities are available by arrangement between the purchaser and the supplier.