



SLOVENSKI STANDARD
SIST EN 209:2000

01-april-2000

Kovinski sodi - Sodi z odstranljivim gornjim delom (široka odprtina) z najmanjšo skupno prostornino 210 l

Steel drums - Removable head (open head) drums with a minimum total capacity of 210 l

Stahlfässer - Deckelfässer mit einem Gesamtvolumen von mindestens 210 l

Futs en acier - Futs a ouverture totale d'une capacité totale de 210 l minimum

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Ta slovenski standard je istoveten z: EN 209:1999

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ICS:

55.140 Ú[åã[çã • \ á[åãÚ[\ ^ Barrels. Drums. Canisters

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en

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EUROPEAN STANDARD

EN 209

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 1999

ICS 55.140

Supersedes EN 209:1986

English version

Steel drums - Removable head (open head) drums with a minimum total capacity of 210 l

Fûts en acier - Fûts à ouverture totale d'une capacité totale de 210 l minimum

Stahlfässer - Deckelfässer mit einem Gesamtvolumen von mindestens 210 l

This European Standard was approved by CEN on 23 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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CONTENTS

Page

Foreword.....	3
1. Scope.....	4
2. Normative references.....	4
3. Terms and definitions.....	4
4. Dimensions.....	5
5. Material.....	5
6. Construction.....	5
7. Finish.....	6
8. Designation.....	6
Annex A (normative).....	8
Capacity measurement method for removable head (open head) steel drums.....	8
Bibliography.....	10
Figure 1 - Removable head (open head) drum with a minimum total capacity of 210 l.....	7

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[SIST EN 209:2000](https://standards.iteh.ai/catalog/standards/sist/db8fb74c-b744-409d-8477-c51a7806d5f2/sist-en-209-2000)

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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 replaces EN 209:1986.

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.

This standard is one of a series of standards on steel drums of 17 l to 230 l and closures.

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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1. Scope

This European Standard specifies the characteristics and dimensions of removable head (open head) drums, manufactured from steel sheet, having a minimum total capacity of 210 l.

2. Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 10111:1998	Continuously hot-rolled low carbon steel sheet and strip for cold forming - Technical delivery conditions.
EN 10130+A1:1998	Cold rolled low carbon steel flat products for cold forming - Technical delivery conditions.
EN 10131:1991	Cold rolled uncoated low carbon and high yield strength steel flat products for cold forming - Tolerances on dimensions and shape.
prEN 12928:1999	Inserted flange type closure systems for steel drums with a total capacity of 17 l to 230 l.
EN ISO 90-2:1999	Light gauge metal containers — Definitions and determination of dimensions and capacities — Part 2: General use containers (ISO 90-2:1997).
ISO 228-1:1994	Pipe threads where pressure-tight joints are not made on the threads - Part 1 : Dimensions, tolerances and designation.

3. Terms and definitions

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

3.1

removable head (open head) drum (OH)

cylindrical packaging made of steel, the bottom end of which is permanently fixed to the body, and the top end of which can be removed as a lid and closed by means of a closing ring

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

brimful capacity (BC)

volume of water in litres held by the drum when filled through the filling orifice to the point of overflowing

NOTE Annex A specifies the method for measuring brimful capacity.

3.4

total capacity (TC)

volume of water in litres held by the drum when filled completely, i.e. following the removal of any air trapped in the drum

NOTE Annex A specifies the method for measuring total capacity.

4. Dimensions

The dimensions of removable head (open head) drums with a minimum total capacity of 210 l shall be as shown in Figure 1.

In addition the steel thickness shall be between 0,6 mm and 1,5 mm, with tolerances as specified in EN 10131:1991 (normal tolerances).

5. Material

The body and ends of the drums shall be made of steel DC 01 in accordance with EN 10130+A1:1998, hot-rolled steel DD11 in accordance with EN 10111:1998, or steel of a higher strength. Closure flanges shall be manufactured from metal, and closure plugs from metal or plastics material as specified in prEN 12928:1999.

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6. Construction

SIST EN 209:2000

6.1 The longitudinal seam of the body shall be welded and the body and the bottom of the drum shall be combined by round or triple seaming or other joining methods (e.g. welding).

6.2 The removable top end shall be fitted with a gasket of suitable material e.g. elastomer.

6.3 When plugs and closures are used they shall be in accordance with prEN 12928:1999 and shall be positioned in the top end of the drum, diametrically opposed, as indicated in Figure 1. The nominal pitch diameter and the pitch of the closures shall be as defined in ISO 228-1:1994, for threads G3/4 and G2.

The insertion of the G2 closure shall be such that its centre line is as close as possible to the vertical. The metal or plastics plugs shall be fitted with washers made of suitable material compatible with the contents of the drum.

NOTE 1 In addition to the two rolling hoops (beads) as shown in Figure 1, the drum body may be reinforced with corrugations, leaving a minimum free body surface of at least 115 mm from the ends. The drum body may be reinforced with an additional third bead adjacent to the top curl.

NOTE 2 The drum may have a straight-sided body.

7. Finish

The nature of the internal and external finish shall be appropriate to the physical and chemical requirements of their intended use.

NOTE The nature of the internal and external finish should be agreed between the purchaser and the manufacturer.

8. Designation

A removable head (open head) drum (OH) manufactured in accordance with EN 209 with a minimum total capacity (TC) of 210 l shall be designated:

Steel drum OH EN 209 TC - 210 l.

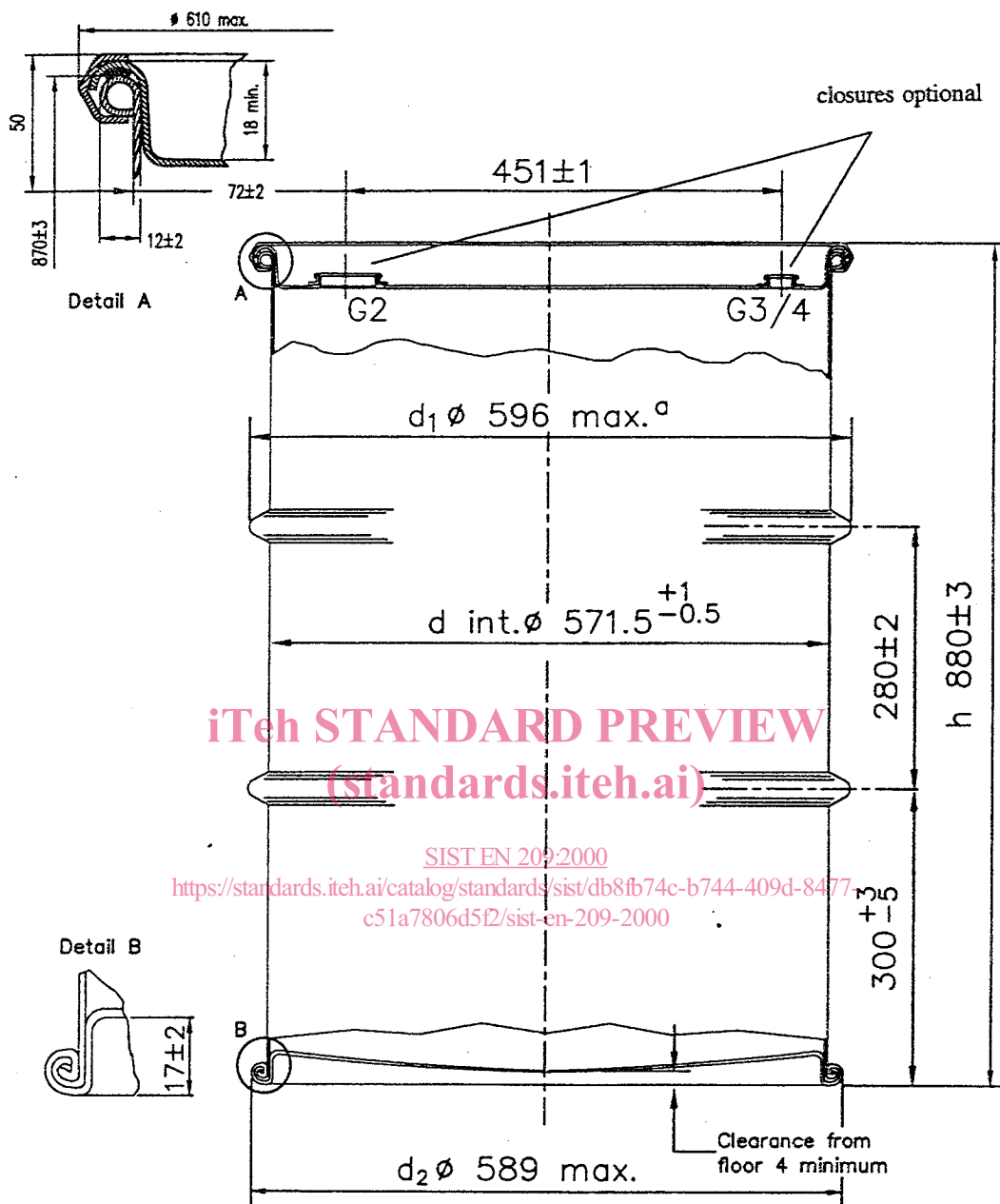
NOTE Where the drums are intended to be used for the transport of dangerous goods, attention is drawn to the regulatory requirements which govern the transport of those goods in the countries concerned. In Europe, depending upon the mode of transport, this means meeting the requirements of:

European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR);

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID);

Technical Instructions for the Safe Transport of Dangerous Goods by Air, Document 9284-AN/905 published by the Council of the International Civil Aviation Organization (ICAO);

The International Maritime Dangerous Goods Code (IMDG-CODE) published by the International Maritime Organization (IMO).



NOTE 1 The shape of the removable head, be it flat, convex or otherwise (e.g. reinforced by grooves) is left free for agreement between the purchaser and the manufacturer.

NOTE 2 The cross-section shape of the closing ring (as shown in Detail A) and the type of clamping device is left free for agreement between the purchaser and the manufacturer.

^{a)} Diameter d_1 (ext.) can be 585 ± 3 mm.

Figure 1 - Removable head (open head) drum with a minimum total capacity of 210 l