



DRAFT INTERNATIONAL STANDARD ISO/DIS 20848-1

ISO/TC 122

Secretariat: TSE

Voting begins on:
2004-04-16

Voting terminates on:
2004-09-16

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

Packaging — Plastics drums —

Part 1:

Removable head (open head) drums with a nominal capacity of 113,6 l to 220 l

Emballages — Fûts en matière plastique —

Partie 1: Fûts à ouverture totale d'une capacité nominale de 113,6 l à 220 l

ICS 55.140

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO/DIS 20848-1](#)

[https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-](https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1)

In accordance with the provisions of Council Resolution 15/1993 this document is circulated in the English language only.

Conformément aux dispositions de la Résolution du Conseil 15/1993, ce document est distribué en version anglaise seulement.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/DIS 20848-1](https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1)

<https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1>

Copyright notice

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

Contents

	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Requirements.....	2
5 Designation.....	4
Annex A (normative) Capacity measurement method for removable head (open head) plastics drums.....	5
Annex B (normative) International material code symbols.....	7

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/DIS 20848-1](https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1)

<https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1>

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 20848-1 was prepared by Technical Committee ISO/TC 122, *Packaging*.

ISO 20848 consists of the following parts, under the general title *Plastics drums*:

- *Part 1: Removable head (open head) drums with a nominal capacity of 113,6 l to 220 l*
- *Part 2: Non-removable head (tight head) drums with a nominal capacity of 208,2 l and 220 l*
- *Part 3: Plug/bung closure systems for plastics drums with a nominal capacity of 113,6 l to 220 l*

Annexes A and B form normative parts of this part of ISO 20848.

Introduction

Throughout the world a large number of plastics drums types with different dimensions and characteristics are being used. The differences of the minimum filling opening and outer dimensions result in differences in filling, handling and transportation.

This standard specifies the characteristics and dimensions of plastics drums which are of importance for the worldwide safe handling and transport of substances and for the continued reuse of the drums during their life cycle. Detailed performance requirements and the related test methods are not include as they depend upon the specific application.

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, including capseals/overseals fitted in accordance with the certificate. Depending upon the mode of transport, this means meeting the requirements of:

- **UN** (United Nations) – Recommendations on the transport of dangerous goods.
- **ICAO** (International Civil Aviation Organisation) – Technical Instructions for safe transport of dangerous goods by air.
- **IMO** (International Maritime Organisation) – International Maritime Dangerous Goods (IMDG) Code.

This involves the certification and marking of the drums according to the regulations.

[ISO/DIS 20848-1](https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1)

<https://standards.iteh.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1>

Packaging — Plastics drums —

Part 1:

Removable head (open head) drums with a nominal capacity of 113,6 l to 220 l

1 Scope

This International Standard specifies the characteristics and dimensions of removable head (open head) drums with a nominal capacity of 113,6 l to 220 l

2 Normative references

This International 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 International Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO/CD 20848-3, *Plastics drums - Part 3: Plug/bung closure systems for plastics drums with a nominal capacity of 113,6 l to 220 l*

3 Terms and definitions

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

3.1

removable head (open head) drum (OH)

flat-ended or convex-ended circular cross-section packaging, the top end of which can be removed as a lid and is closed by means of a closing ring or other device

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 (normative) specifies the method for measuring brimful capacity.

3.4

total capacity (TC)

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

NOTE Annex A (normative) specifies the method for measuring total capacity.

3.5 overall height (h_o)
height of the finished drum, including the lid with closing ring secured, from the base to the highest point (see figure 1)

3.6 overall diameter (d_o)
maximum diameter of the drum, where relevant (see figure 1)

3.7 minimum opening (d_m)
minimum drum body opening size (see figure 1)

3.8 drum mass
mass of the empty drum including all closures

4 Requirements

4.1 Dimensions

The dimensions and tolerances of the drum shall be as listed in table 1 and as shown in figure 1. The measurements shall be conducted at ambient conditions but shall not be made within 48 h of manufacture.

NOTE Apart from the dimensions specified, there are no restrictions on drum shape.

STANDARD PREVIEW
(standards.itech.ai)

Table 1 — Dimensions of removable (open head) drums with a nominal capacity of 113,6 l to 220 l (30 US gal to 58,1 US gal)

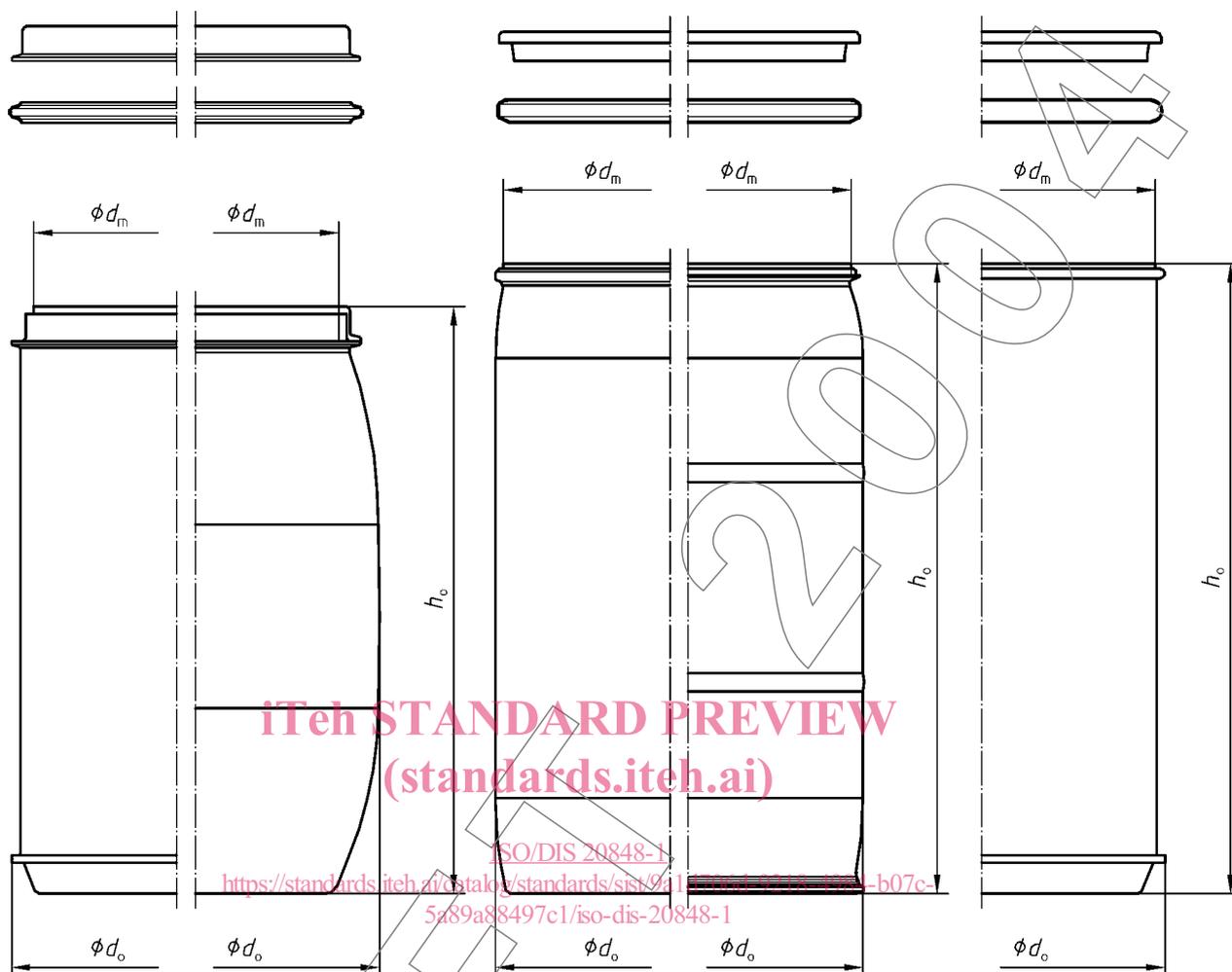
<https://standards.itech.ai/catalog/standards/sist/9a1d706d-9218-4984-b07c-5a89a88497c1/iso-dis-20848-1>

Nominal capacity (NC) l - US gal	Minimum total capacity (TC) l - US gal	Overall diameter (d_o) mm	Minimum opening (d_m) mm	Overall ^a height (h_o) mm
113,6 l (30 US gal)	118,1 l (31,2 US gal)	480 ± 10 ^a	450 ± 10 ^a	745 ± 10 ^a
120 l (31,7 US gal)	125 l (33 US gal)	495 ± 5	380	805 ± 10 ^a
132,5 l (35 US gal)	137,8 l (36,4 US gal)	480 ± 10 ^a	450 ± 10 ^a	850 ± 10 ^a
150 l (39,6 US gal)	155 l (41 US gal)	495 ± 5	380	965 ± 10 ^a
208,2 l (55 US gal)	216,5 l (57,2 US gal)	575 ± 10 ^a	545 ± 10 ^a	900 ± 10 ^a
220 l (58,1 US gal)	224 l (59,2 US gal)	581 ± 5	380	935 ± 10 ^a
220 l (58,1 US gal)	224 l (59,2 US gal)	595 ± 5	380	985 ± 10 ^a

NOTE 1 Dimensions d_o , d_m and h_o are applicable to empty drums.

NOTE 2 1 US gal = 3,785 l

^a It is intended that these tolerances may be reduced to ± 5 mm at the five year review period.



Key

- d_o overall diameter
- d_m minimum opening
- h_o overall height (with lid on and closing ring secured)

Figure 1 — Removable head (open head) drum

4.2 Drum mass

The mass tolerance of the drum shall be $\pm 3\%$.

NOTE The defined mass should be agreed between the purchaser and the supplier.

4.3 Material identification symbol

All the plastics components, excluding gaskets, shall be permanently marked with the relevant material identification symbol, i.e. the symbol identifying the material from which the component is made as shown in Annex B.

4.4 Closures

The closure system shall consist of a lid and a closing ring or other device.

NOTE For the purpose of transport and storage, the filled drum should be closed to the manufacturer's recommendations.

The closure system shall incorporate a facility for providing tamper evidence.

4.5 Materials

The drum shall be manufactured from high density polyethylene or another suitable plastics material or a combination thereof. Suitable non-plastics material may be used in conjunction with the plastics material.

NOTE Suitable additives may be included provided the specifications are identified.

4.6 Handling

Provision shall be made to enable the drum to be mechanically handled.

The means of handling shall be adequate for normal handling of the drum.

4.7 Stacking

The drum shall be capable of being stacked with or without pallets, according to the manufacturer's recommendations.

4.8 Finish

The external surface finish shall be suitable for the attachment of labels

NOTE 1 The nature of the internal and external finish should be agreed between the purchaser and the supplier.

NOTE 2 The preferred colour option for the drum body is blue. The use of any other colour and any durable marking should be agreed between the purchaser and the supplier.

5 Designation

A removable head (open head) drum (OH) manufactured in accordance with this Standard with a nominal capacity of 220 l shall be designated:

For example:

Plastics drum OH ISO 20848-1 NC - 220 l