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Second edition
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Packaging — Plastics drums —

Part 3: Plug bung closure systems for plastics drums with a nominal capacity of 113,6 l to 220 l

Emballages — Fûts en matière plastique —

Partie 3: Systèmes de fermeture à bondes pour fûts en matière plastique d'une capacité nominale de 113,6 l à 220 l

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Requirements **2**
4.1 Dimensions 2
4.2 Gaskets 2
4.3 Closure torque 2
4.4 Material identification symbol 2
4.5 Materials 2
4.6 Thread 3
4.7 Plug/bung 3
4.8 Vented plug/bung 3
4.9 Finish 3
Annex A (normative) **Plug/bung closure system BCS 70 × 6** **4**
Annex B (normative) **Plug/bung closure system BCS 56 × 4** **6**
Annex C (normative) **Plug/bung closure system BCS 38 × 6** **11**
Annex D (normative) **Plug/bung closure system BCS G2 × 5** **13**
Annex E (normative) **Plug/bung closure system BCS G2 × 11,5** **15**
Annex F (normative) **Plug/bung closure system BCS G3/4 × 14** **18**
Annex G (normative) **International material code symbols** **20**
Bibliography **22**

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

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This second edition cancels and replaces the first edition (ISO 20848-3:2006), which has been technically revised. The main changes compared to the previous edition are as follows:

— deletion of plug/bung closure system BCS 24 × 4;

— addition of a variation of capseals;

— deletion of figure for material type "Others";

— editorial changes.

A list of all parts in the ISO 20848 series can be found on the ISO website.

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Introduction

Throughout the world, a large number of plastics drum types with different dimensions and characteristics are being used. The differences in types of closures can result in differences in filling and handling.

This document specifies the characteristics and dimensions of closures for 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 included as they depend on 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 on the mode of transport, this means meeting the requirements of:

— **UN** (United Nations) — Recommendations on the Transport of Dangerous Goods;

— **ICAO** (International Civil Aviation Organization) — Technical Instructions for the Safe Transport of Dangerous Goods by Air; and

— **IMO** (International Maritime Organization) — International Maritime Dangerous Goods (IMDG) Code.

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

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Packaging — Plastics drums —

Part 3: Plug bung closure systems for plastics drums with a nominal capacity of 113,6 l to 220 l

1 Scope

This document specifies the characteristics and dimensions of plug/bung closure systems for internally threaded openings in plastics drums of nominal capacity 113,6 l to 220 l.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
plug/bung closure system
BCS
system of one or more components which enables an internally threaded container to be filled or emptied and then secured to provide a leakproof seal for subsequent transport or storage

Note 1 to entry: See Figures A.1 to F.2.

3.2
plug/bung
device, provided with an external thread, which closes an opening in a drum

3.3
plug/bung housing
neck
part of the container designed to receive the plug/bung

3.4
gasket
washer
component which, under compression, facilitates a leakproof seal between the *plug/bung* (3.2) and *plug/bung housing* (3.3)

3.5
gasket sealing faces
areas of the *plug/bung* (3.2) or *plug/bung housing* (3.3) designed to be in contact with the *gasket* (3.4) and make the seal

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3.6
capseal/overseal
cap or fitting attached to the *plug/bung housing* (3.3) which incorporates a facility for providing tamper evidence and provides protection against the ingress of foreign matter into the closure

4 Requirements

4.1 Dimensions

The dimensions and tolerances of the closure systems shall conform to the appropriate annex (between Annexes A to G), as given in Table 1.

Closing instructions shall be specified, including applicable torque values, to effectively assemble and close the packaging for the purpose of preventing leakage. Closing instructions for the selected plug, bung housing, gasket, gasket profile and gasket material combination shall provide for a consistent and repeatable means of closing that is sufficient to ensure the packaging is closed in the same manner as it was tested.

Measurements shall be conducted at ambient conditions but shall not be made within 48 h of manufacture.

For plug/bung housings, diameter measurements shall be the mean of at least two readings orientated at 90° to each other.

Table 1 — Annexes of this part of ISO 20848 specifying dimensions and tolerances for different plug/bung closure system (BCS) types

BCS type	Applicable annex
BCS 70 × 6	A
BCS 56 × 4	B
BCS 38 × 6	C
BCS G2 × 5	D
BCS G2 × 11,5	E
BCS G3/4 × 14	F

4.2 Gaskets

Gaskets shall be positioned correctly on the plug/bung.

4.3 Closure torque

A recommended closure torque, including tolerance, shall be specified. In addition, the appropriate tooling for closing shall be specified.

4.4 Material identification symbol

All the plastics components of the closure systems, 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 G.

4.5 Materials

The plug/bung and gasket, where used, shall be manufactured from materials appropriate to the physical and chemical requirements of their intended use.

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