BSI Standards Publication

Cryogenic vessels — Cleanliness for cryogenic service

bsi.

National foreword

This British Standard is the UK implementation of EN ISO 23208:2019+A1:2020. It is identical to ISO 23208:2017, incorporating amendment 1:2020. It supersedes BS EN ISO 23208:2019, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee PVE/18, Cryogenic vessels.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date	Text affected
30 April 2019	This corrigendum renumbers BS ISO 23208:2017 as BS EN ISO 23208:2019
31 August 2020	Implementation of ISO amendment 1:2020 with CEN endorsement A1:2020

EUROPEAN STANDARD EN ISO 23208:2019

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English Version

Cryogenic vessels - Cleanliness for cryogenic service (ISO 23208:2017)

Récipients cryogéniques - Propreté en service cryogénique (ISO 23208:2017)

Kryo-Behälter - Reinheit für den tiefkalten Betrieb (ISO 23208:2017)

This European Standard was approved by CEN on 11 February 2019.

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European foreword

The text of ISO 23208:2017 has been prepared by Technical Committee ISO/TC 220 "Cryogenic vessels" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23208:2019 by Technical Committee CEN/TC 268 "Cryogenic vessels and specific hydrogen technologies applications" 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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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This document supersedes EN 12300:1998.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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Endorsement notice

The text of ISO 23208:2017 has been approved by CEN as EN ISO 23208:2019 without any modification.

Foreword to amendment A1

This document (EN ISO 23208:2019/A1:2020) has been prepared by Technical Committee ISO/TC 220 "Cryogenic vessels" in collaboration with Technical Committee CEN/TC 268 "Cryogenic vessels and specific hydrogen technologies applications" 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 January 2021, and conflicting national standards shall be withdrawn at the latest by January 2021.

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Endorsement notice

The text of ISO 23208:2017/Amd 1:2020 has been approved by CEN as EN ISO 23208:2019/A1:2020 without any modification.

Contents

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 220, *Cryogenic vessels*.

This second edition cancels and replaces the first edition (ISO 23208:2005), which has been technically revised. The main changes are in 4.1.

Cryogenic vessels — Cleanliness for cryogenic service

1 Scope

This document specifies the minimum requirements for the cleanliness of all surfaces of cryogenic vessels and associated accessories that are in contact with the cryogenic fluid at any expected operating conditions.

This document defines the acceptable level of surface and particle contamination to minimize the risk of malfunction of equipment and ensure safety against ignition when in contact with oxygen or oxidizing fluids (see ISO 10156).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21010, *Cryogenic vessels — Gas/materials compatibility*

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:

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

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

3.1
cryogenic fluid
gas which is partially liquid because of its low temperature

Note 1 to entry: It includes totally evaporated liquids and supercritical fluids.

Note 2 to entry: In the context of this document, refrigerated but non-toxic gases and mixtures of them are referred to as cryogenic fluids.

Note 3 to entry: See also ISO 21029-1, ISO 20421-1 and/or ISO 21009-1.

3.2
oxidizing fluid
cryogenic fluid (3.1) with oxidizing properties

Note 1 to entry: This is in accordance with ISO 10156.

4 Requirements

4.1 General requirements

Foreign matter such as chips, oxide scale and weld spatter are not acceptable.