BS EN ISO 10088:2023

BSI Standards Publication

Small craft — Permanently installed fuel systems

National foreword

This British Standard is the UK implementation of EN ISO 10088:2023. It is identical to ISO 10088:2022. It supersedes BS EN ISO 10088:2013 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GME/33, Small craft.

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 10088

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English Version

Small craft - Permanently installed fuel systems (ISO 10088:2022)

Petits navires - Systèmes à carburant installés à demeure (ISO 10088:2022)

Kleine Wasserfahrzeuge - Dauerhaft installierte Kraftstoffsysteme (ISO 10088:2022)

This European Standard was approved by CEN on 18 January 2023.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. EN ISO 10088:2023 E

European foreword

This document (EN ISO 10088:2023) has been prepared by Technical Committee ISO/TC 188 "Small craft" in collaboration with Technical Committee CEN/TC 464 “Small Craft” the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by September 2023, and conflicting national standards shall be withdrawn at the latest by September 2023.

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

This document supersedes EN ISO 10088:2017.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For the relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 10088:2022 has been approved by CEN as EN ISO 10088:2023 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2013/53/EU aimed to be covered

This European Standard has been prepared under a Commission's standardization request M/542/C(2015) 8736 final to provide one voluntary means of conforming to essential requirements of Directive 2013/53/EU.

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex I and II of Directive 2013/53/EU

Essential Requirements of Directive 2013/53/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
Annex I, Part A, 5.2.1 - Fuel system, General	4, 5, Annex A	This document does not deal with storage of fuel.
Annex I, Part A, 5.6.1 - Fire protection, General	Clauses 4.1.9, 4.2.2. 5.1.2, 5.2.2, 5.2.10, 5.3.6, 5.3.7, 5.7, Annex C	In respect of fire testing of fuel system components, hoses and vent lines .
Annex I.A.5.8 Discharge prevention	Clause 4.1.7, 4.1.8, 4.2.3 , 5.2.8	In respect of preventing accidental discharge of fuel through spillage .

Table ZA.2 — Applicable Standards to confer presumption of conformity as described in this Annex ZA

Column 1 Reference in Clause 2	Column 2 International Standard Edition	Column 3 Title	Column 4 Corresponding European Standard Edition
ISO 1817:2015	ISO 1817:2015	Rubber, vulcanized or thermoplastic — Determination of the effect of liquids	For applicable standard edition see column 2
ISO 7840:2021	ISO 7840:2021	Small craft — Fire-resistant fuel hoses	EN ISO 7840:2021
ISO 8469:2021	ISO 8469:2021	Small craft — Non-fire-resistant fuel hoses	EN ISO 8469:2021
ISO 8846:1990	ISO 8846:1990	Small craft — Electrical devices — Protection against ignition of surrounding flammable gases	EN ISO 8846:2017
ISO 11105:2020	ISO 11105:2020	Small craft — Ventilation of petrol engine and/or petrol tank compartments	EN ISO 11105:2020
ISO 11192:2005	ISO 11192:2005	Small craft — Graphical symbols	EN ISO 11192:2018
ISO 13297:2020	ISO 13297:2020	Small craft — Electrical systems — Alternating and direct current installations	EN ISO 13297:2021
ISO 21487:2012/Amd 1:2014/Amd 2:2015	ISO 21487:2012/Amd 1:2014/Amd 2:2015	Small craft — Permanently installed petrol and diesel fuel tanks	EN ISO 21487:2018
IEC 60068-2-52:2017	IEC 60068-2-52:2017	Environmental testing — Part 2-52: Tests — Test Kb: Salt, cyclic (sodium chloride solution)	EN IEC 60068-2-52:2018

The documents listed in the Column 1 of Table ZA.2, in whole or in part, are normatively referenced in this document, i.e. are indispensable for its application. The achievement of the presumption of conformity is subject to the application of the edition of Standards as listed in Column 4 or, if no European Standard Edition exists, the International Standard Edition given in Column 2 of Table ZA.2.

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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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).

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 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 188, *Small craf*t, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 464, *Small Craft*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fifth edition cancels and replaces the fourth edition (ISO 10088:2013), which has been technically revised.

The main changes are as follows:

— pressure testing requirement updated in Annex A;

— permeation test limits and test procedures added as a new informative Annex B to serve as a reference for evaporative emissions.

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.

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Introduction

This document deals with the installed fuel system as a whole. Fire resistant hoses, non-fire resistant hoses and permanently installed petrol and diesel fuel tanks are dealt with by ISO 7840:2021, ISO 8469:2021 and ISO 21487:2022, respectively. These standards are applicable to these products supplied as components.

Some countries have environmental controls for evaporative emissions from petrol fuel systems, and this document includes an informative Annex B describing limits and test procedures for the control of evaporative emissions from permanently installed petrol fuel systems. The details in Annex B allow for future standardization and application of evaporative emissions on small craft.

As the international community further restricts fuel system emissions, it is anticipated that Annex B will have increased global acceptance.

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INTERNATIONAL STANDARD **ISO 10088:2022(E)**

Small craft — Permanently installed fuel systems

1 Scope

This document specifies the requirements for the design, materials, construction, installation and testing of permanently installed fuel systems as installed for internal combustion engines.

It applies to all parts of permanently installed diesel and petrol fuel systems as installed, from the fuel fill opening to the point of connection with the propulsion or auxiliary engine(s) on inboard- and outboard-powered small craft.

Requirements for the design and testing of petrol and diesel fuel tanks for internal combustion engines that are intended to be permanently installed in small craft are given in ISO 21487:2022.

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 1817:2022, *Rubber, vulcanized or thermoplastic — Determination of the effect of liquids*

ISO 7840:2021, *Small craft — Fire-resistant fuel hoses*

ISO 8469:2021, *Small craft — Non-fire-resistant fuel hoses*

ISO 8846:1990, *Small craft — Electrical devices — Protection against ignition of surrounding flammable gases*

ISO 11105:2020, *Small craft — Ventilation of petrol engine and/or petrol tank compartments*

ISO 11192:2005, *Small craft — Graphical symbols*

ISO 13297:2020, *Small craft — Electrical systems — Alternating and direct current installations*

ISO 13297:2020/Amd 1:2022, *Small craft — Electrical systems — Alternating and direct current installations — Amendment 1*

ISO 21487:2022, *Small craft — Permanently installed petrol and diesel fuel tanks*

IEC 60068-2-52:2017, *Environmental testing — Part 2-52: Tests — Test Kb: Salt, cyclic (sodium chloride solution)*

3 Terms and definitions

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

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

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

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

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