

Ships and marine technology — Potable water supply on ships and marine structures —

Part 1: Planning and design

The European Standard EN ISO 15748-1:2002 has the status of a British Standard

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National foreword

This British Standard is the official English language version of EN ISO 15748-1:2002. It is identical with ISO 15748-1:2002.

The UK participation in its preparation was entrusted by Technical Committee SME/32, Ships and marine technology, to Subcommittee SME/32/3, Piping and machinery, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to iv, pages 1 to 26, the Annex ZA page and a back cover.

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Foreword

This document (EN ISO 15748-1:2002) has been prepared by Technical Committee ISO/TC 8 "Ships and marine technology" in collaboration with Technical Committee CEN/TC 300 "Sea-going vessels and marine technology", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by November 2002, and conflicting national standards shall be withdrawn at the latest by November 2002.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 15748-1:2002 has been approved by CEN as a European Standard without any modifications.

NOTE Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL STANDARD

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Ships and marine technology — Potable water supply on ships and marine structures —

Part 1: Planning and design

*Navires et technologie maritime — Approvisionnement en eau potable sur
navires et structures maritimes —*

Partie 1: Planification et conception



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 part of ISO 15748 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15748-1 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

ISO 15748 consists of the following parts, under the general title *Ships and marine technology — Potable water supply on ships and marine structures*:

- *Part 1: Planning and design*
- *Part 2: Method of calculation*

Annexes A, B and C of this part of ISO 15748 are for information only.

Ships and marine technology — Potable water supply on ships and marine structures —

Part 1: Planning and design

1 Scope

This part of ISO 15748 applies to the planning, design and configuration of potable water supply systems on ships, stationary or floating marine structures and inland navigation vessels.

This part of ISO 15748 specifies the minimum requirements for potable water supply systems to be met in order to protect the potable water and to maintain its quality.

It also provides hints on components to be used and on laying of the pipelines.

NOTE The transfer of potable water and the regulations to be observed are not covered by this part of ISO 15748. The transfer of potable water is subject to special regulations.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15748. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15748 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7-1, *Pipe threads where pressure-tight joints are made on the thread — Part 1: Dimensions, tolerances and designation*

ISO 65, *Carbon steel tubes suitable for screwing in accordance with ISO 7-1*

ISO 161-1, *Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series*

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 274, *Copper tubes of circular section — Dimensions*

ISO 426-2, *Wrought copper-zinc alloys — Chemical composition and forms of wrought products — Part 2: Lead-copper-zinc alloys*

ISO 1127, *Stainless steel tubes — Dimensions, tolerances and conventional masses per unit length*

ISO 1635, *Wrought copper and copper alloys — Round tubes for general purposes — Mechanical properties*

ISO 4200, *Plain end steel tubes, welded and seamless — General tables of dimensions and masses per unit length*

ISO 5620-1, *Shipbuilding and marine structures — Filling connection for drinking water tanks — Part 1: General requirements*

ISO 14726-1, *Ships and marine technology — Identification colours for the contents of piping systems — Part 1: Main colours and media*

ISO 14726-2¹⁾, *Ships and marine technology — Identification colours for the contents of piping systems — Part 2: Additional colours for different media and/or functions*

ISO 15748-2, *Ships and marine technology — Potable water supply on ships and marine structures — Part 2: Method of calculation*

SOLAS 1974, *International Convention for the Safety of Life at Sea, 1974*

3 Terms and definitions

For the purposes of this part of ISO 15748, the following terms and definitions apply.

3.1

potable water supply system

system for the generation, treatment, transfer, conveyance, storage, transport and distribution of potable water

3.2

water treatment plant

equipment for treating potable water whilst maintaining potable water properties, e.g. using filters, dosage plants, ion exchangers, disinfecting plants

3.3

potable water heaters

appliances used to heat potable water without affecting its properties for consumption apart from a change in temperature, e.g. continuous-flow water heaters, storage heaters

3.4

apparatus

collective term for technical installations making use of and/or transforming potable water

EXAMPLE

- distillation and sterilization apparatus;
- large-scale cooking equipment, dosage plant;
- pressurized water reservoirs, water heaters;
- dishwashers, coffee machines, as well as devices of all kinds forming part of the potable water system or connected temporarily or permanently to it, except for supply and circulating pumps.

3.5

water

collective term for all types of water used for water supply

1) To be published

3.6**raw water**

untreated water

NOTE Raw water and sea water are considered equivalent.

3.7**freshwater**

water originally intended for human consumption and use on board as potable water but also used for certain technical purposes and for sanitary-hygienic needs

3.8**potable water**

water suitable for human consumption and use in compliance with the quality requirements laid down in the applicable statutory provisions, defined in this part of ISO 15748 as:

- a) water from a central public potable water supply;
- b) water converted from sea water by evaporation at temperatures exceeding 80 °C;
- c) water converted from sea water by evaporation at temperatures below 80 °C, and which has additionally been sterilized;
- d) water generated by reverse osmosis;
- e) hot potable water heated in suitable water heaters.

3.9**cold water**

cold potable water at temperatures between 5 °C and 25 °C

NOTE The upper temperature limit may be higher e.g. in the tropics.

3.10**hot water**

hot potable water at temperatures between 50 °C and 90 °C, usually up to 60 °C

3.11**mixed water**

hot and cold potable water mixed by means of a mixer tap

3.12**potable water line**

pipeline exclusively carrying potable water

3.13**supply line**

entire potable water pipeline system downstream of the discharge (supply) pump

3.14**water main**

section of piping between the discharge pump and the point where the cold water line branches off from the line leading to the central water heater

3.15**distribution line**

section of the supply line downstream of the watermain

3.16**ring line**

distribution line providing bidirectional water supply by way of loop-type installation