INTERNATIONAL STANDARD

ISO 15749-2

First edition
2004-05-01

Ships and marine technology — Drainage systems on ships and marine structures —

Part 2: Sanitary drainage, drain piping for gravity systems

Navires et technologie maritime — Installations de drainage sur navires et structures maritimes —

Partie 2: Drainage sanitaire, tuyaux de drainage pour système par gravité

Reference number
ISO 15749-2:2004(E)

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

Published in Switzerland

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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 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 15749-2 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 3, *Piping and machinery*.

ISO 15749 consists of the following parts, under the general title *Ships and marine technology — Drainage systems on ships and marine structures*:

— *Part 1: Sanitary drainage-system design*

— *Part 2: Sanitary drainage, drain piping for gravity systems*

— *Part 3: Sanitary drainage, drain piping for vacuum systems*

— *Part 4: Sanitary drainage, sewage disposal pipes*

— *Part 5: Drainage of decks, cargo spaces and swimming pools*

Ships and marine technology — Drainage systems on ships and marine structures —

Part 2: Sanitary drainage, drain piping for gravity systems

1 Scope

This part of ISO 15749 applies to the design of sanitary drain lines in gravity systems (gravity drainage) on ships and marine structures.

For planning and basic requirements, see ISO 15749-1.

2 Normative references

The following referenced documents are indispensable for the application 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.

IMO Resolution A.753 (18), *Guidelines for the application of plastic pipes on ships* [1)]

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

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

ISO 7268, *Pipe components — Definition of nominal pressure*

ISO 9329-1, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 1: Unalloyed steels with specific room temperature properties*

ISO 9330-1, *Welded steel tubes for pressure purposes — Technical delivery conditions — Part 1: Unalloyed steel tubes with specified room temperature properties*

ISO 15749-1, *Ships and marine technology — Drainage systems on ships and marine structures — Part 1: Sanitary drainage-system design*

ISO 15749-4, *Ships and marine technology — Drainage systems on ships and marine structures — Part 4: Sanitary drainage, sewage disposal pipes*

1) Published by International Maritime Organization, London.
Available from IMO Secretariat, Publications Section, 101-104 Piccadilly, London W1V, United Kingdom.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15749-1 apply.

4 Gravity systems

4.1 Description

4.1.1 Drain lines in gravity systems convey wastewater by gravity to a collector tank or sewage treatment plant.

4.1.2 Wastewater lines downstream of the sewage treatment plant are not part of the gravity system. For their configuration, ISO 15749-4 applies.

4.1.3 Figure 1 gives an example of a drainage system with drain lines in a gravity system.

4.2 Operating pressure

Pipes in sanitary systems (drain and vent lines) shall be designed such that the operating pressure [2)] (internal pressure) cannot exceed 0,5 bar.

5 Pipes

5.1 General

Depending on the location, the following pipes may be used for gravity drain lines and vent lines:

— steel pipes in accordance with 5.2;

— steel pipes and CuNiFe pipes with spigot and socket joints [3)] in accordance with 5.3;

— CuNiFe pipes in accordance with 5.4;

— PVC-U pipes in accordance with 5.5; plastic pipes shall be approved in accordance with IMO Resolution A.753 (18).

For nominal bores see Table 1.

Table 1 — Nominal bores for drain lines

Nominal bore, NB	32	40	50	65	70	80	100	125	150
Steel and CuNiFe pipes	X	X	X	X	—	X	X	X	X
Spigot and socket pipes	—	X	X	—	X	X	X	X	X
PVC-U pipes	X	X	X	X	—	X	X	X	X
X: NB possible for this type of pipe; —: NB not possible for this type of pipe.									

2) For definitions see ISO 7268.

3) Hereinafter referred to as spigot and socket pipes.