

Ships and marine technology - Drainage systems on ships and marine structures - Part 1: Sanitary drainage systems design (ISO 15749-1:2004, IDT)

mei 2004
ICS 47.020.30

Vervangt NEN-EN-ISO 15749-1:2001 Ontw.

Als Nederlandse norm is aanvaard:
- EN ISO 15749-1:2004, IDT
- ISO 15749-1:2004, IDT

Normcommissie 345 040 "Schepen en maritieme techniek"

Apart from exceptions provided by the law, nothing from this publication may be duplicated and/or published by means of photocopy, microfilm, storage in computer files or otherwise, which also applies to full or partial processing, without the written consent of the Netherlands Standardization Institute.

The Netherlands Standardization Institute shall, with the exclusion of any other beneficiary, collect payments owed by third parties for duplication and/or act in and out of law, where this authority is not transferred or falls by right to the Reproduction Rights Foundation.

Auteursrecht voorbehouden. Behoudens uitzondering door de wet gesteld mag zonder schriftelijke toestemming van het Nederlands Normalisatie-instituut niets uit deze uitgave worden veelevoudigd en/of openbaar gemaakt door middel van fotokopie, microfilm, opslag in computerbestanden of anderszins, hetgeen ook van toepassing is op gehele of gedeeltelijke bewerking.

Het Nederlands Normalisatie-instituut is met uitsluiting van ieder ander gerechtigd de door derden verschuldigde vergoedingen voor veelevoudiging te innen en/of daartoe in en buiten rechte op te treden, voor zover deze bevoegdheid niet is overgedragen c.q. rechtens toekomt aan de Stichting Reprorecht.

Although the utmost care has been taken with this publication, errors and omissions cannot be entirely excluded. The Netherlands Standardization Institute and/or the members of the committees therefore accept no liability, not even for direct or indirect damage, occurring due to or in relation with the application of publications issued by the Netherlands Standardization Institute.

Hoewel bij deze uitgave de uiterste zorg is nagestreefd, kunnen fouten en onvolledigheden niet geheel worden uitgesloten. Het Nederlands Normalisatie-instituut en/of de leden van de commissies aanvaarden derhalve geen enkele aansprakelijkheid, ook niet voor directe of indirecte schade, ontstaan door of verband houdend met toepassing van door het Nederlands Normalisatie-instituut gepubliceerde uitgaven.

Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
ISO/R 538	-	-
ISO 727-1	-	-
ISO 1964	NEN-ISO 1964	Scheepsbouw - Aanduiding van onderdelen op het algemeen plan van schepen (en,fr)
ISO 4067-1	NEN-ISO 4067-1	Technische tekeningen - Installaties - Deel 1: Grafische symbolen voor loodgieterswerk, verwarming, ventilatie en kanaalsystemen (nl)
ISO 4067-2	-	-
ISO 10628	NEN-EN-ISO 10628	Stroomschema's voor de procestechniek - Algemene regels (en)
ISO 14617-3	-	-
ISO 15749-2	NEN-EN-ISO 15749-2	Scheepsbouw en maritieme techniek - Rioleringsystemen op schepen en maritieme constructies - Deel 2: Sanitaire riolering, riolering onder vrij verval (en)
ISO 15749-3	NEN-EN-ISO 15749-3	Scheepsbouw en maritieme techniek - Rioleringsystemen op schepen en maritieme constructies - Deel 3: Sanitaire riolering, rioleringsbuizen voor vacuümsystemen (en)
ISO 15749-4	-	-
ISO 15749-5	NEN-EN-ISO 15749-5	Scheepsbouw en maritieme techniek - Rioleringsystemen op schepen en maritieme constructies - Deel 5: Riolering van scheepsdekken, laadruimtes en zwembaden (en)

ICS 47.020.30

English version

Ships and marine technology - Drainage systems on ships and
marine structures - Part 1: Sanitary drainage-system design
(ISO 15749-1:2004)

Navires et technologie maritime - Installations de drainage
sur navires et structures maritimes - Partie 1: Conception
des systèmes d'écoulement sanitaires (ISO 15749-1:2004)

Schiffe und Meerestechnik - Entwässerungsanlagen auf
Schiffen und Seebauwerken - Teil 1: Sanitär-
Entwässerung, Auslegung der Anlage (ISO 15749:2004)

This European Standard was approved by CEN on 16 April 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 15749-1:2004) 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 2004, and conflicting national standards shall be withdrawn at the latest by November 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 15749-1:2004 has been approved by CEN as EN ISO 15749-1:2004 without any modifications.

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

**Part 1:
Sanitary drainage-system design**

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

Partie 1: Conception des systèmes d'écoulement sanitaires

Preview



Reference number
ISO 15749-1:2004(E)

© ISO 2004

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Copyright
Preview

© ISO 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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

Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms and definitions.....	2
4 Planning.....	5
5 Hygienic and environmental requirements	6
6 Structure of a drainage system	7
7 Drain lines.....	8
8 Collector tank.....	13
9 Sewage treatment plant.....	14
10 Ventilation of sewage treatment plants	15
11 Sewage disposal pipes.....	15
12 Testing.....	15
13 Operation of pipework.....	16
14 Graphical symbols and simplified representations	16
Annex A (informative) Graphical symbols	17

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 15749-1 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 1: Sanitary drainage-system design

1 Scope

This part of ISO 15749 is valid, in conjunction with ISO 15749-2 to ISO 15749-4, for planning and designing drainage systems which evacuate wastewater from accommodation and commissary areas (sanitary drainage) on ships and marine structures.

Drainage of weather decks, cargo holds and swimming pools is covered by ISO 15749-5.

This series of standards takes into consideration the basic regulations and minimum requirements concerning hygienic requirements and the protection of the marine environment.

This part of ISO 15749 does not apply to pipe systems carrying oily, chemically contaminated wastewater capable of forming flammable gas/oxygen mixtures.

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 Publication MARPOL, *Protocol of 1978 relating to the international convention for the prevention of pollution from ships 1973, Annex IV/Regulations for the prevention of pollution by sewage from ships*¹⁾

IMO Publication MEPC.2 (VI), *Recommendation on international effluent standards and guidelines for performance tests for sewage treatment plants, January 1977*¹⁾

IMO Publication MSC/Circ. 648, *Annex Guidelines for the operation, inspection and maintenance of ship sewage systems*¹⁾

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

ISO/R 538, *Conventional signs to be used in the schemes for the installations of pipeline systems in ships*

ISO 727-1, *Fittings made from unplasticized poly(vinyl chloride) (PVC-U), chlorinated poly(vinyl chloride) (PVC-C) or acrylonitrile/butadiene/styrene (ABS) with plain sockets for pipes under pressure — Part 1: Metric series*

ISO 1461, *Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods*

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

Bestelformulier

NEN

Stuur naar:

NEN Standards Products & Services
t.a.v. afdeling Klantenservice
Antwoordnummer 10214
2600 WB Delft

NEN Standards Products & Services

Postbus 5059
2600 GB Delft

Vlinderweg 6
2623 AX Delft

T (015) 2 690 390
F (015) 2 690 271

www.nen.nl/normshop

Ja, ik bestel

__ ex. NEN-EN-ISO 15749-1:2004 en Schepen en maritieme techniek - € 98.05
Rioleringsystemen op schepen en maritieme constructies - Deel 1: Ontwerp
van sanitaire rioleringsystemen

**Wilt u deze norm in PDF-formaat? Deze bestelt u eenvoudig via
www.nen.nl/normshop**

Gratis e-mailnieuwsbrieven

Wilt u op de hoogte blijven van de laatste ontwikkelingen op het gebied van normen, normalisatie en regelgeving? Neem dan een gratis abonnement op een van onze e-mailnieuwsbrieven. www.nen.nl/nieuwsbrieven

Retourneren

Fax: (015) 2 690 271
E-mail: klantenservice@nen.nl
Post: NEN Standards Products & Services,
t.a.v. afdeling Klantenservice
Antwoordnummer 10214,
2600 WB Delft
(geen postzegel nodig).

Gegevens

Bedrijf / Instelling _____

T.a.v. _____ O M O V

E-mail _____

Klantnummer NEN _____

Uw ordernummer _____ BTW nummer _____

Postbus / Adres _____

Postcode _____ Plaats _____

Telefoon _____ Fax _____

Factuuradres (indien dit afwijkt van bovenstaand adres)

Postbus / Adres _____

Postcode _____ Plaats _____

Datum _____ Handtekening _____

Voorwaarden

- De prijzen zijn geldig tot 31 december 2016, tenzij anders aangegeven.
- Alle prijzen zijn excl. btw, verzend- en handelingskosten en onder voorbehoud bij o.m. ISO- en IEC-normen.
- Bestelt u via de normshop een pdf, dan betaalt u geen handeling en verzendkosten.
- Meer informatie: telefoon (015) 2 690 391, dagelijks van 8.30 tot 17.00 uur.
- Wijzigingen en typfouten in teksten en prijsinformatie voorbehouden.
- U kunt onze algemene voorwaarden terugvinden op: www.nen.nl/leveringsvoorwaarden.