

This is a preview of "ISO 16304:2018". [Click here to purchase the full version from the ANSI store.](#)

Second edition
2018-08

Ships and marine technology — Marine environment protection — Arrangement and management of port waste reception facilities

*Navires et technologie maritime — Protection de l'environnement
marin — Disposition et gestion des installations portuaires de collecte
des déchets*



Reference number
ISO 16304:2018(E)

© ISO 2018

This is a preview of "ISO 16304:2018". [Click here to purchase the full version from the ANSI store.](#)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of "ISO 16304:2018". [Click here to purchase the full version from the ANSI store.](#)

Contents

| | Page |
|---|-----------|
| Foreword | v |
| Introduction | vi |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions | 1 |
| 4 Waste management strategy elements | 3 |
| 4.1 General..... | 3 |
| 4.2 Administrative and legal matters..... | 3 |
| 4.3 Technology..... | 4 |
| 4.4 Infrastructure and support services..... | 4 |
| 5 Design and operation of PRFs | 4 |
| 5.1 General..... | 4 |
| 5.2 Port characteristics..... | 4 |
| 5.2.1 Spatial and siting requirements..... | 4 |
| 5.2.2 Types of cargo handled within the port or by the terminal..... | 5 |
| 5.2.3 PRF service providers..... | 5 |
| 5.2.4 External factors..... | 5 |
| 5.3 Types..... | 5 |
| 5.3.1 General..... | 5 |
| 5.3.2 Floating..... | 5 |
| 5.3.3 Mobile..... | 5 |
| 5.4 Waste characteristics..... | 6 |
| 5.4.1 General..... | 6 |
| 5.4.2 Other considerations..... | 6 |
| 5.5 Design capacity..... | 6 |
| 5.5.1 General..... | 6 |
| 5.5.2 Existing ports..... | 6 |
| 5.5.3 New ports or terminals..... | 6 |
| 5.6 Waste handling capabilities..... | 7 |
| 5.6.1 Adequacy..... | 7 |
| 5.6.2 Accessibility and suitability..... | 7 |
| 5.6.3 Waste handling equipment..... | 7 |
| 5.6.4 Storage..... | 7 |
| 5.7 Participation in segregation, recycling or disposal programs..... | 7 |
| 5.7.1 General..... | 7 |
| 5.7.2 Recycling capabilities..... | 7 |
| 5.7.3 Final disposal..... | 8 |
| 6 Port waste management plan (PWMP) | 8 |
| 6.1 General..... | 8 |
| 6.2 Legislation and regulatory considerations..... | 9 |
| 6.2.1 Applicable laws and regulations..... | 9 |
| 6.3 Port structure and administration..... | 10 |
| 6.4 Official responsibilities..... | 11 |
| 6.5 Waste management..... | 13 |
| 6.6 Cost recovery system — Financial considerations..... | 13 |
| 6.6.1 General..... | 13 |
| 6.6.2 Fee system for using a PRF..... | 13 |
| 6.6.3 Information for port users (ship masters, ship owners, ship agents and port/terminal operators)..... | 14 |
| 6.6.4 Cost advantages of reuse, recovery and recycling..... | 15 |
| 6.7 Data collection and monitoring..... | 15 |
| 6.7.1 Notification..... | 15 |

This is a preview of "ISO 16304:2018". [Click here to purchase the full version from the ANSI store.](#)

| | | |
|---------------------|--|-----------|
| 6.7.2 | Data management..... | 15 |
| 6.8 | Pre- and ongoing consultation | 15 |
| 6.9 | Additional documentation | 16 |
| 7 | Implementation..... | 16 |
| 7.1 | General..... | 16 |
| 7.2 | PWMP review..... | 16 |
| 7.3 | Periodic auditing..... | 16 |
| 7.3.1 | Conducting the audit..... | 17 |
| Annex A | (informative) Examples of waste streams originating from ships..... | 18 |
| Annex B | (informative) Waste conversion factors | 22 |
| Bibliography | | 23 |

This is a preview of "ISO 16304:2018". [Click here to purchase the full version from the ANSI store.](#)

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 8, *Ships and marine technology*, Subcommittee SC 2, *Marine environment protection*.

This second edition cancels and replaces the first edition (ISO 16304:2013), which has been technically revised.

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.

Introduction

The development of adequate port reception facilities (PRFs) for ship generated waste and cargo residues is a major factor in the management of each of the shipboard waste streams covered by the International Convention for the Prevention of Pollution from Ships (MARPOL) Annexes I to VI, as amended, excluding Annex III (packaged dangerous goods). MARPOL requires that Party States ensure the provision of adequate reception facilities in ports to receive these wastes. Parties to MARPOL should have developed implementing legislation to provide for PRFs. Regional and intergovernmental legislation has also been developed. However, due to operational, ownership, geographic, and legislative differences in ports, there is a large disparity in how operations are conducted. To overcome some of the major issues, the International Maritime Organization (IMO), through its implementation of IMO Instruments (III) Subcommittee (formerly the subcommittee on Flag State Implementation) developed an action programme to tackle the inadequacy of PRFs.

To obtain the most efficient management of waste and to reduce the time and resource burden in segregating and handling waste in the ports, the concept of waste minimisation has been integrated into this document by incorporating the following principles:

- For waste generated aboard a ship:

“Prevention before recycling before energy recovery before disposal”

- Once the waste is offloaded ashore:

“Avoidance before reduction, before reuse, before recycling, before incineration with energy recovery, before disposal”

Ship owners and operators, cargo owners, and port and terminal owners and operators, along with governments are aware of the importance of well-organised and managed waste collection, especially with respect to health and safety on board ships and at ports and terminals. It has been acknowledged at the IMO that standardized methodologies for waste management both on board ships and ashore at PRFs would harmonize practices and ensure a smooth delivery of ship generated waste and cargo residues to shore-side facilities. ISO 21070 provides a methodology for ships to segregate their garbage, thus, port reception facilities worldwide may expect a certain level of ship segregated waste and cargo residues. However, ISO 21070 cannot work alone and needs to be complemented by a parallel International Standard for the reception of ship generated waste. This document assists in the planning for the provision of adequate PRFs.

This document is also meant to complement ISO 14001 by adding a component that extends its principles to management of ships' waste in ports. It provides a specific methodology that any port, harbour, terminal, or marina can apply to the planning, development and operation of its PRF. The document can be incorporated easily into other plans for achieving ISO 14001 accreditation, as an extension that focuses on PRF. Conversely, the processes put in place during the preparations for ISO 14001 accreditation will assist in meeting the development of a holistic Port Waste Management Plan (PWMP) under this document.