

INTERNATIONAL
STANDARD

ISO
4827

First edition
2022-10

**Ships and marine technology —
Escorting and pull-back system for
tankers**

STANDARDSISO.COM : Click to view the full PDF of ISO 4827:2022



Reference number
ISO 4827:2022(E)

© ISO 2022

STANDARDSISO.COM : Click to view the full PDF of ISO 4827:2022



COPYRIGHT PROTECTED DOCUMENT

© ISO 2022

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
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Technical requirements	1
4.1 Design arrangement of escorting and pull-back system for tankers.....	1
4.2 Configuration and design manufacturing requirements for escorting and pull-back system for tankers.....	2
4.2.1 Chock.....	2
4.2.2 Strong point.....	3
5 Test method	5
5.1 Chock.....	5
5.1.1 Material test.....	5
5.1.2 Strength test.....	5
5.2 Strong point.....	6
5.2.1 Material test.....	6
5.2.2 Strength test.....	6
6 Markings	7

STANDARDSISO.COM : Click to view the full PDF of ISO 4827:2022

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 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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.

Ships and marine technology — Escorting and pull-back system for tankers

1 Scope

This document specifies the technical requirements and test methods for escorting and pull-back system for tankers.

This document is applicable to the escorting and pull-back system for tankers not less than 20 000 deadweight tonnes (DWT).

2 Normative references

There are no normative references in this document.

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/>

3.1

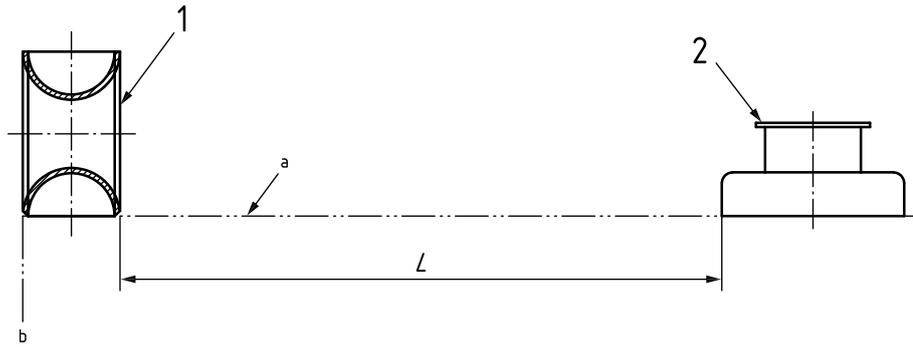
escorting and pull-back system

devices equipped on aft of tankers and used to escort and pull-back ships with tugs

4 Technical requirements

4.1 Design arrangement of escorting and pull-back system for tankers

The general design arrangement is given in [Figure 1](#).



Key

- L* distance from strong point to chock $\geq 4,0$ m
- 1 chock
- 2 strong point
- a* Deck.
- b* Stern.

- NOTE 1 If the distance from the strong point to chock is less than 4,0 meters, it is aimed at ensuring that the eye splice of towing line sits inboard of the chock.
- NOTE 2 This recommendation does not apply if the emergency towing arrangement is used as, in that case, the chafing gear will lie in the chock.

Figure 1 — General arrangement of escorting and pull-back system for tankers

4.2 Configuration and design manufacturing requirements for escorting and pull-back system for tankers

4.2.1 Chock

4.2.1.1 The configuration and load requirements are given in [Table 1](#). The safety factor on yield of chocks should be minimum of 2,0 safe working load (SWL).

Table 1 — Configuration and load requirements of chock

Ship size	Minimum SWL	
	kN	t
$20\ 000 \leq \text{DWT} < 50\ 000$	1 000	102
$\text{DWT} \geq 50\ 000$	2 000	204

4.2.1.2 The general type of chock is given in [Figure 2](#).

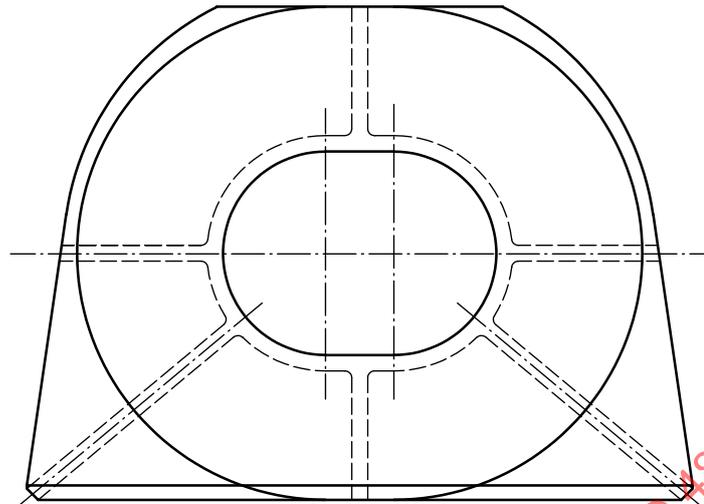


Figure 2 — Profile of chock

4.2.1.3 The chock shall be of closed type, with the opening dimensions of at least 600 mm in width and 300 mm in height.

4.2.1.4 The strength should be sufficient for all relevant angles of towline, that is, up to 90° from the ship's centreline to port and starboard and 30° vertical downwards.

4.2.1.5 Materials can be weldable cast steel, forged steel, or rolled steel, which conform to the corresponding manufacturing standard.

4.2.1.6 The product shall be free from defects that affect its use, such as cracks, sand holes, and pores.

4.2.2 Strong point

4.2.2.1 The configuration and load requirements shall be consistent with those of the matching chock.

4.2.2.2 The general type of strong point is given in [Figure 3](#) and [Figure 4](#).

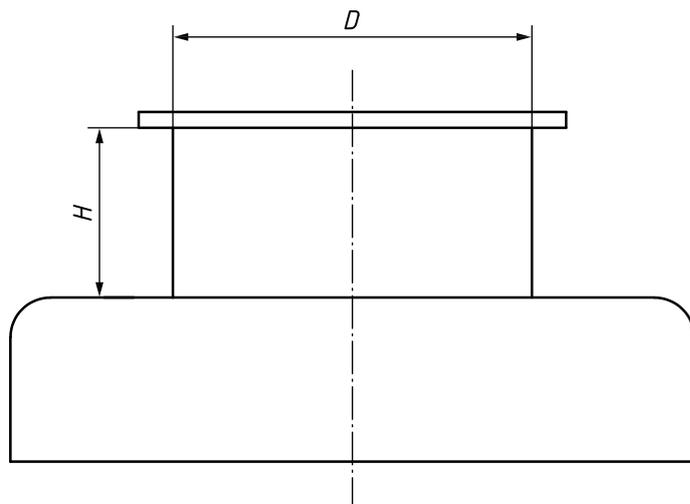
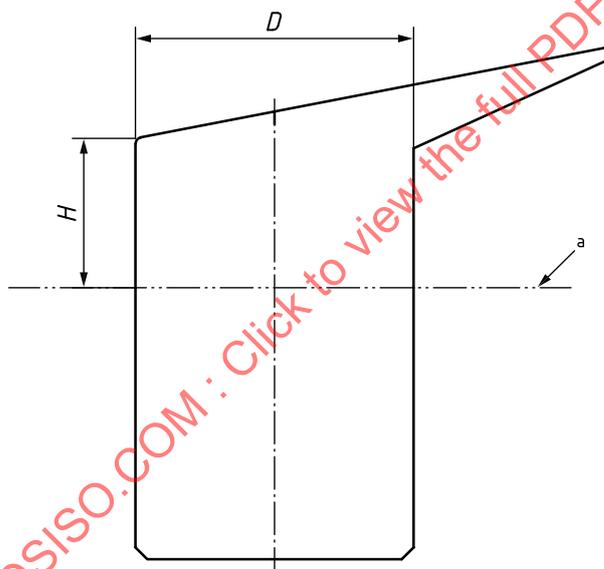


Figure 3 — Profile of strong point type A



Key

a Deck.

Figure 4 — Profile of strong point type B

4.2.2.3 The diameter, D , shall be not less than 600 mm with height, H , not less than 300 mm.

4.2.2.4 If the aft emergency towing arrangement is also used as escorting and pull-back system, the strong point may be designed as combined type which is given in [Figure 5](#).

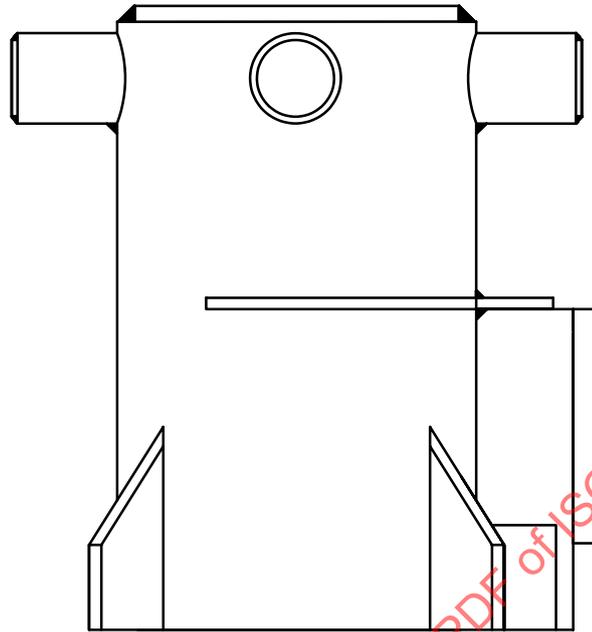


Figure 5 — Profile of strong point type C

4.2.2.5 Materials can be weldable cast steel, forged steel, or rolled steel, which conform to the corresponding manufacturing standard.

4.2.2.6 The product shall be free from defects that affect its use, such as cracks, sand holes, and pores.

5 Test method

5.1 Chock

5.1.1 Material test

If the material is cast steel, physical and chemical inspection shall be carried out for the material test rods and inspection results shall conform to the corresponding material standards. Magnetic particle inspection shall be carried out after surface polishing, and the product shall be free from defects that affect its use, such as cracks, sand holes, and pores.

For components made of forgings, physical and chemical inspection shall be carried out for the material test rods and inspection results shall conform to the corresponding material standards. Ultrasonic detection shall be made according to grade II forging requirements, and the component shall be free from cracks, folding, or other defects that affect its use.

The welds on the weldments shall be smooth and flat; ultrasonic detection shall be made for main welds, which shall be free from defects that affect the use, such as cracks, sand holes, pores, and weld flashes.

5.1.2 Strength test

The test load shall be applied for 1 min and magnetic particle inspection shall be carried out for the chock after unloading, to ensure its main welds or castings shall be free from defects that affect its use. The procedure is shown in [Figure 6](#).