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Ships and marine technology — Ship's mooring and towing fittings — Cruciform bollards

Navires et technologie maritime — Corps-morts et ferrures de remorquage de navires — Croisillons

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Contents

Page

Foreword

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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).

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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 Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

This second edition cancels and replaces the first edition (ISO 13797:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

— the definition of SWL (3.1) has been reworded;

— a construction requirement has been added in 7.2.

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 — Ship's mooring and towing fittings — Cruciform bollards

1 Scope

This document specifies the types, nominal sizes, dimensions and materials, as well as construction, manufacturing and marking requirements, for cruciform bollards suitable for installation on sea-going vessels to meet normal mooring and towing requirements.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 Circular MSC/Circ.1175, *Guidance on shipboard towing and mooring equipment*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
safe working load
SWL
safe load limit (maximum permissible load) of the fittings used for mooring and towing

4 Classification

4.1 Type

Depending on the manufacturing method, cruciform bollards shall be classified as belonging to one of the following two types:

a) Type A: manufactured by steel pipes;

b) Type B: manufactured by steel plates.

4.2 Nominal sizes

The nominal sizes, D_n, of cruciform bollards are denoted by reference to the outside diameter of the main post, in millimetres, in terms of the nearest number drawn from a basic series of preferred numbers.

The nominal sizes are: 150, 200, 250, 300, 350 and 400.

5 Dimensions

Cruciform bollards shall have dimensions and particulars in accordance with Table 1 and Figure 1.

6 Materials

The following materials shall be used for manufacturing the cruciform bollards:

a) Type B: weldable steel plates having a yield point of not less than 235 N/mm^2;

b) Type A: weldable steel pipes having a yield point of not less than 215 N/mm^2 or equivalent.

7 Construction

7.1 The posts of the cruciform bollards shall be constructed from steel pipes or formed from plate.

7.2 The deck on which the cruciform bollards are installed shall be reinforced by carling or stiffeners, as shown Figure 1.

8 Manufacturing and inspection

8.1 All surfaces of the cruciform bollards, including welded surfaces, shall be free from any visible flaws or imperfections.

8.2 All surfaces in contact with the ropes shall be free from surface roughness or irregularities likely to cause damage to the ropes by abrasion.

8.3 The cruciform bollards shall be coated externally with an anti-corrosion protective finish.

9 Marking

9.1 The safe working load (SWL) for the intended use of the cruciform bollards shall be noted in the towing and mooring plan available on board for the guidance of the shipmaster, as specified in IMO circular MSC/Circ.1175.

9.2 The actual SWL on board shall be determined considering the under deck reinforcement, and marked on the towing and mooring plan. The actual SWL shall not be over the SWL indicated in this document.

9.3 The cruciform bollard shall be clearly marked with its SWL by weld bead or equivalent. The SWL shall be expressed in tonnes (symbol 't') and be placed so that it is not obscured during operation of the fitting.

EXAMPLE SWL XX t