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Ships and marine technology — Stud-link anchor chains

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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.

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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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*.

This fourth edition cancels and replaces the third edition (ISO 1704:2008), which has been technically revised.

The main changes are as follows:

— grade 4 stud-link anchor chain with higher strength has been defined in Table 1 and mechanical properties have been specified in Clause 9;

— the terms and definitions of swivel shackles have been added in 3.8;

— tolerances on the nominal diameter of the links have been adjusted properly in Clause 5;

— the nominal dimensions of the enlarged link, end link, D type joining shackle and Kenter type joining shackle have been adjusted properly in Tables 3, 4, 5 and 6;

— the nominal diameters and shape of Type A and Type B swivel shackles have been added in 7.9 and 7.10;

— the sketch examples of connecting chain-shots with joining shackle and examples of connecting outboard chain-shot to anchor and chain end shot have been added in Figures 11 and 12;

— information on requirements for anchor chains, designation of size, material requirement, loading methods and marking has been added in Clauses 8, 9 10 and 11;

— incorrect dimensions in Table 3 of ISO 1704:2008 have been corrected.

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.

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Ships and marine technology — Stud-link anchor chains

1 Scope

This document specifies the shape, proportions, dimensions and tolerances of the component parts of stud-link anchor chains.

NOTE Statutory requirements, rules and regulations can be applicable to the individual ships concerned.

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.

ISO 2093:1986, *Electroplated coatings of tin — Specification and test methods*

ISO 2339, *Taper pins, unhardened*

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
chain-shots
component of an anchor chain consisting of *common links* (3.2) and *joining shackles* (3.5) with a given nominal length (e.g. 27,5 m or 25 m)

3.2
common link
basic link of which a *chain-shot* (3.1) consists

3.3
enlarged link
strengthened link connecting a *common link* (3.2) and an *end link* (3.4) in case of connecting chain-shots with a D type *joining shackle* (3.5), or connecting a common link and a swivel

3.4
end link
strengthened link attached to the ends of two *chain-shots* (3.1) in case of connecting chain-shots with a D type *joining shackle* (3.5), or connecting an outboard chain-shot with an end shackle

3.5
joining shackle
shackle used for connecting *chain-shots* (3.1)

Note 1 to entry: Joining shackles can be of D-type or Kenter type.

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3.6
end shackle
enlarged shackle used for connecting the outboard chain-shot to the anchor

3.7
swivel
movable component of the outboard chain-shot that prevents excessive twisting of the chain cable

3.8
swivel shackle
shackle fastened to the anchor shackle or anchor shank with the same function as a swivel

3.9
outboard chain-shot
additional short chain-shot fastened to the anchor shackle or anchor, including *common link* (3.2) *enlarged link* (3.3), *end shackle* (3.6) or *swivel shackle* (3.8)

3.10
chain end shot
chain-shot fastened to the cable clench, including *end link* (3.4), *enlarged link* (3.3) and *common link* (3.2)

3.11
nominal size
nominal diameter of the *common link* (3.2)

4 Shape and dimensions

4.1 Shape

The links, shackles and component parts should be of the shapes and proportions shown in Figures 2 to 9 referred to as the standard model.

4.2 Dimensions

4.2.1 General

4.2.1.1 The dimensions of links, shackles and component parts should be in accordance with the values given in Tables 1 to 9, referred to as the standard model.

4.2.1.2 The nominal diameter d is a design diameter measured at the crown of a common link as an average value out of two measurements perpendicular to each other. See Figure 2 and Table 1.

4.2.1.3 All dimensions, based on the nominal diameters d of the common links, shall be measured after the chain and shackles have been subjected to the statutory proof loads in 10.3.

4.2.2 Enlarged links

The proportions of the enlarged links are the same as those of the common links. The nominal diameter of the enlarged link is 10 % larger than the nominal diameter of the common link, $d_1 = 1{,}1d$, the calculated values shall be rounded to the nearest nominal diameter of the common link.

4.2.3 Common stud links and enlarged links

The inside diameter of common links and enlarged links should be sufficient to allow each link to bed properly and work freely. See Figures 2 and 3.

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