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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 on 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.

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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Ships and marine technology — Marine cranes — Technical requirements for rigging applications

1 Scope

Rigging used for marine cranes is mainly wire rope rigging. This document specifies the technical requirements of the selection and application of running rigging and standing rigging used for wire rope rigging of marine cranes.

This document specifies the minimum requirements of the allowable strength and performance level for wire ropes of marine cranes according to the design, application and maintenance requirements of cranes.

This document specifies the implementation criteria of installation, maintenance, inspection and discards for running rigging and standing rigging of marine cranes.

This document is applicable to the following types of marine crane:

— deck cranes mounted on ships for handling cargo or containers in harbour or sheltered water conditions;

— floating cranes or grab cranes mounted on barges or pontoons for operating in harbour conditions or sheltered water conditions;

— engine room cranes and provision cranes, etc. mounted on ships (including floating docks) for handling equipment and stores in harbour conditions.

This document does not apply to the following:

— loads from accidents or collisions;

— lifting operations below sea level;

— cranes which are supposed to be included in the class of the vessel and where the vessel receives a crane class notation; the contents of this document may be used however, as recommendation or guidance;

— other items where there is the danger that they might be considered in-scope are excluded from this document, such as

  — loose gear items, such as the hook block, and

  — ropes and fittings;

— cranes which are to be included in class by the class society;

— minimum ambient operating temperatures no less than –20 °C;

— maximum ambient operating temperatures above +45 °C;

— transport, assembly, dismantling and decommissioning of cranes;

— lifting accessories, i.e. any item between the crane and the load;

— lifting operations involving more than one crane;

— hand powered cranes;

— emergency rescue operations;

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— shore-side cargo handling cranes;

— portable cranes on board;

— lifting appliances for lifeboats, liferafts accommodation ladders and pilot ladders;

— launching appliances for survival craft and rescue boats;

— gangways, accommodation and pilot ladders and their handling appliances.

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 4309:2010, *Cranes — Wire ropes — Care and maintenance, inspection and discard*

ISO 2408, *Steel wire ropes for general purposes — Minimum requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3828, ISO 4306-1, ISO 17893 and the following apply.

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

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

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

3.1
stable status of wire rope
status when the elongation measurement of the wire rope stays stable during repeated loading and unloading of wire rope within two ranges of the specified force value

3.2
standing rigging
supporting and non-operating wire rope that maintains a constant distance between the points of attachment to the two components connected by the wire rope

3.3
running rigging
operating wire rope used to change the distance between the points of attachment to the two components connected by the wire rope under outside force

3.4
rigging termination
rigging end for being connected with wedge socket

4 Form of rigging

The running rigging and standing rigging chosen for marine cranes shall comply with the requirements in ISO 2408; the wire rope, running rigging and standing rigging not specified in ISO 2408 can also be chosen, but the manufacturer shall provide the customer with technical documents of rigging strength and performance level related to mechanism design, equipment operation and maintenance. Running rigging which functions as hoisting of the marine crane shall give preference to the rotation-resistant wire rope type in ISO 2408. Three strand form of rigging shall not be used.

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