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Foreword

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This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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Ships and marine technology — Marine cranes — Slewing bearings

1 Scope

This document provides requirements on the classification, designation, inspection, testing method, marking, packaging, transportation, storage, installation and maintenance of slewing bearings for marine cranes.

This document is applicable to the design, manufacture and acceptance of slewing bearings for marine cranes at an ambient temperature not lower than −40 °C.

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 54, *Cylindrical gears for general engineering and for heavy engineering — Modules*

ISO 683-2, *Heat-treatable steels, alloy steels and free-cutting steels — Part 2: Alloy steels for quenching and tempering*

ISO 683-17, *Heat-treatable steels, alloy steels and free-cutting steels — Part 17: Ball and roller bearing steels*

ISO 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs with specified property classes — Coarse thread and fine pitch thread*

ISO 898-2, *Fasteners — Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes*

ISO 1122-1, *Vocabulary of gear terms — Part 1: Definitions related to geometry*

ISO 1132-1, *Rolling bearings — Tolerances — Part 1: Terms and definitions*

ISO 1328-1, *Cylindrical gears — ISO system of flank tolerance classification — Part 1: Definitions and allowable values of deviations relevant to flanks of gear teeth*

ISO 1328-2, *Cylindrical gears — ISO system of flank tolerance classification — Part 2: Definitions and allowable values of double flank radial composite deviations*

ISO 3290-1, *Rolling bearings — Balls — Part 1: Steel balls*

ISO 3452-2, *Non-destructive testing — Penetrant testing — Part 2: Testing of penetrant materials*

ISO 5593, *Rolling bearings — Vocabulary*

ISO 6506-1, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 9712, *Non-destructive testing — Qualification and certification of NDT personnel*

ISO 9934 (all parts), *Non-destructive testing — Magnetic particle testing*

ISO/TR 10064-2:1996, *Code of inspection practice — Part 2: Inspection related to radial composite deviations, runout, tooth thickness and backlash*

ISO 14556, *Metallic materials — Charpy V-notch pendulum impact test — Instrumented test method*

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ISO 15241, *Rolling bearings — Symbols for physical quantities*

ISO 16396-1, *Plastics — Polyamide (PA) moulding and extrusion materials — Part 1: Designation system and basis for specifications*

ISO 16396-2:2022, *Plastics — Polyamide (PA) moulding and extrusion materials — Part 2: Preparation of test specimens and determination of properties*

ISO 16859-1, *Metallic materials — Leeb hardness test — Part 1: Test method*

ISO 18203, *Steel — Determination of the thickness of surface-hardened layers*

EN 10228-1, *Non-destructive testing of steel forgings — Part 1: Magnetic particle inspection*

EN 10228-2, *Non-destructive testing of steel forgings — Part 2: Penetrant testing*

EN 10228-3:2016, *Non-destructive testing of steel forgings — Part 3: Ultrasonic testing of testing of ferritic or martensitic steel forgings*

ISO 10474:2013, *Steel and steel products — Inspection documents*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 1132-1, ISO 5593 and ISO 15241 and the following 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
crane slewing bearing
structure connecting the crane and the base, provided with mounting holes inside and outside, which is a large rolling bearing capable of bearing combined loads (axial and radial loads and tilting moments) and transmitting large torques

4 Classification and designation

4.1 Composition and structure

A slewing bearing consists of bearing rings (inner rings, outer rings), a rolling element, a cage/separator, a sealing ring and an oil cup. There are three types of slewing bearings according to their structural forms:

a) Single-row four-point contact ball slewing bearing (see Figure 1)

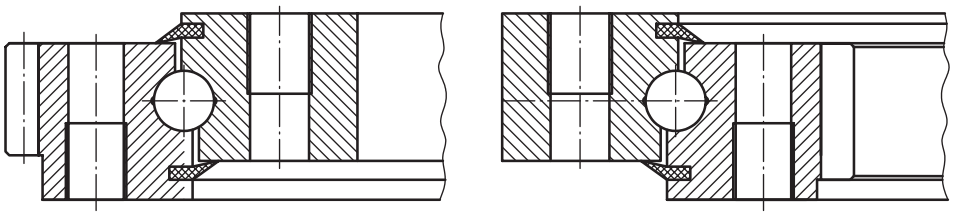


Figure 1 — Single-row four-point contact ball slewing bearing

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