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Cranes — Limiting and indicating devices —

Part 3: Tower cranes

Appareils de levage à charge suspendue — Limiteurs et indicateurs —

Partie 3: Grues à tour

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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 96, *Cranes*, Subcommittee SC 7, *Tower cranes*.

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.

This third edition cancels and replaces the second edition (ISO 10245-3:2008), which has been technically revised. The main changes compared to the previous edition are as follows:

— the requirements related to rated capacity indicators have been revised;

— requirements related to event recorder and data logger have been added (Clause 10 and Annex B);

— requirements related to limiting and indicating devices for climbing systems have been added (Clause 11).

A list of all parts in the ISO 10245 series can be found on the ISO website.

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Cranes — Limiting and indicating devices —

Part 3:
Tower cranes

1 Scope

This document gives requirements specific to tower cranes for limiting and indicating devices. It is applicable to tower cranes as defined in ISO 4306-3.

It is not applicable to end stops such as buffers used to stop trolleying, travelling or luffing movements, nor to erection, dismantling operations or the changing of a crane's configuration.

NOTE General requirements for the devices are given in ISO 10245-1.

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 10245-1:2008, *Cranes — Limiting and indicating devices — Part 1: General*

IEC 60204-32:2008, *Safety of machinery — Electrical equipment of machines — Part 32: Requirements for hoisting machines*

IEC 61310-1, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 10245-1 and the following 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
rated capacity
net load that a crane is designed to lift for a given operating condition such as the position of the load, and a given configuration such as the length of the jib

Note 1 to entry: The definition of net load is given in ISO 4306-1:2007, 6.1.3.

3.2
working space limiter
<zone restriction system> device, on cranes, to prevent the risk of moving loads and/or crane parts into a restricted space

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3.3
restricted space
space in which movement of the load and/or any crane part is restricted

Note 1 to entry: Depending on the situation when out of service, the jib and the counter-jib can move into the restricted space.

3.4
event recorder
device that records parameters that describe the condition of the crane together with control information when an event triggers the recording of the data

3.5
data logger
device that records at frequent time intervals, parameters that describe the condition of the crane together with control information

Note 1 to entry: The *event recorder* (3.4) and data logger are limited to the recording of the data and do not cover the access and the monitoring of data.

4 Rated capacity limiters and indicators — General requirements

Rated capacity limiters and indicators shall be provided on all cranes having a rated capacity of 1 000 kg or above, or an overturning moment of 40 000 N.m or above due to the load.

Features shall be incorporated to minimize the risk of accidental change of any manual setting device (e.g. by locking, double action).

In addition to the requirement of ISO 10245-1:2008, 4.2.4, rated capacity limiters and indicators can require adjustment after a change in the crane configuration out of normal operation, e.g. reassembly or adding of crane parts like jib extensions.

ISO 10245-1:2008, 4.2.6, is not applicable to tower cranes.

The design and installation of rated capacity indicators and rated capacity limiters shall take into account the need to test the indicator or limiter. Where it is necessary to disconnect parts of the devices during testing, facilities shall be provided to check and/or reset the devices after the test.

If interruption of the power occurs, the setting of limiters and indicators shall be retained.

5 Rated capacity limiters

5.1 Tower cranes shall be equipped with rated capacity limiters as described in ISO 10245-1:2008, 4.3.

5.2 The rated capacity of the tower crane is the static load defined at 100 %.

To cover dynamic effect, the rated capacity limiter shall activate at not more than 110 % of the rated capacity.

5.3 Provision for overriding the rated capacity limiter during normal operation shall not be provided.

Use of an alternative setting of the standard rated capacity limiter foreseen by the manufacturer is not considered as overriding if the crane is kept within its designed and stated capacity as given in the instruction handbook.

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