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INTERNATIONAL STANDARD

ISO
10245-1

Second edition
2008-01-15

Cranes — Limiting and indicating devices —

Part 1: General

Appareils de levage à charge suspendue — Limiteurs et indicateurs —

Partie 1: Généralités

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ISO 10245-1:2008(E)

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10245-1 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 8, *Jib cranes*.

This second edition cancels and replaces the first edition (ISO 10245-1:1994), which has been technically revised.

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ISO 10245 consists of the following parts, under the general title *Cranes — Limiting and indicating devices*:

- *Part 1: General*
- *Part 2: Mobile cranes*
- *Part 3: Tower cranes*
- *Part 4: Jib cranes*
- *Part 5: Overhead travelling and portal bridge cranes*

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Cranes — Limiting and indicating devices —

Part 1: General

1 Scope

This part of ISO 10245 specifies general requirements for limiting and indicating devices for cranes that are applicable to loads and motions, performance and environment. These devices restrict operation and/or provide the operator or other persons with operational information.

The specific requirements for the various types of crane are given in the other parts of ISO 10245.

It is emphasized that the safe and reliable operation of limiters and indicators depends upon regular inspection and maintenance.

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2 Normative references (standards.iteh.ai)

The following referenced documents are indispensable for the application 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 4306-1, *Cranes — Vocabulary — Part 1: General*

3 Terms and definitions

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

3.1

anti-collision device

device used to prevent cranes or parts of cranes from colliding with a fixed load-lifting attachment when they are manoeuvred simultaneously in the same space

NOTE A working space limiter may perform the function of an anti-collision device in certain applications.

3.2

configuration

combination and position of structural members, counterweights, support or outrigger position, hook block reeving and similar items assembled, positioned and erected in accordance with manufacturers' instructions and ready for operation

3.3

continuous warning

warning visually by means of either a flashing or uninterrupted light, or audibly by either a pulsing or uninterrupted sound, that persists throughout the time during which the condition being indicated exists

ISO 10245-1:2008(E)**3.4****control station position limiter**

device used on cranes having a control station that can be moved by powered movement to different positions, to prevent movement of the control station beyond specified limits

3.5**derricking limiter**

device used to prevent the raising or lowering of a jib, boom, fly jib, "A-frame" or mast beyond specified limits

3.6**hoisting limiter**

device used to prevent either the fixed load-lifting attachment from being raised such that it inadvertently strikes the crane structure or any other specified upper limitation of the load-lifting attachment from being exceeded

3.7**indicator**

device that provides warnings and/or data to facilitate the competent control of the crane within its design parameters

3.8**lowering limiter**

device used to ensure that the minimum engagement of the lifting medium, e.g. the minimum number of turns of rope on the hoist drum, is maintained at all times during operation

3.9**lowering limiter**

mechanical device designed to prevent the chain from running out of engagement with the driving mechanism

3.10**motion limiter**

device which restricts a crane motion or initiates the stopping of the motion

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NOTE See the examples given in 4.5.1.1.

3.11**performance limiter**

device that automatically prevents a design performance characteristic from being exceeded

NOTE See the examples given in 4.5.2.1.

3.12**rated capacity**

load that the crane is designed to lift for a given operating condition (e.g. the configuration or position of the load)

3.13**rated capacity indicator**

device which, within specified tolerance limits, gives a continuous indication that the rated capacity is exceeded

NOTE 1 On certain crane types, the rated capacity indicator will give another continuous indication when the rated capacity is approached.

NOTE 2 See 4.4.1.2 a).

3.14**rated capacity limiter**

device that automatically prevents the crane from handling loads in excess of its rated capacity, taking into account the dynamic effects during normal operational use

3.15**reference outreach or radius**

horizontal distance between a vertical line through the centre of gravity of a load and the corresponding tipping line

3.16**slack rope limiter**

device used to stop motion in the event of the rope becoming slack

3.17**slewing limiter**

device used to prevent slewing beyond specified limits

3.18**telescoping limiter**

device used to prevent the extension or retraction of a member beyond specified limits

3.19**travelling and traversing limiter**

device used to prevent all types of movement along rail tracks or runways beyond specified limits

3.20**working space limiter**

device used to prevent a fixed load-lifting attachment and/or parts of the crane from entering a prohibited space

NOTE

Working space limitation is often achieved by a combination of different limiters.

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4 Safety requirements and/or measures**4.1 Limiters and indicators**

4.1.1 The crane manufacturer shall select a device having a specification that is compatible with the designed use of the crane, taking the following into account:

- a) the operating environment, e.g. relative humidity, freezing, condensation;
- b) the rated capacity;
- c) crane characteristics;
- d) electromagnetic compatibility.

4.1.2 The installation of limiters and indicators shall be carried out in a manner that does not reduce the required strength of the crane.

4.1.3 The effects (e.g. forces, stopping distances) resulting from the operation of the limiter shall be within the design constraints of the crane.

4.1.4 Systems shall enable periodic functional checks to be carried out to verify that indicators are operating correctly.

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

4.1.6 Devices shall be capable of withstanding the shock loads and vibrations transmitted to them during normal usage, erection, rope changing, dismantling and maintenance of the crane.

4.1.7 Painting or other corrosion protection shall not affect the correct functioning of limiters and indicators.