
**Cranes — Limiting and indicating
devices —**

**Part 3:
Tower cranes**

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Appareils de levage à charge suspendue — Limiteurs et indicateurs —
(Partie 3: Grues à tour
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ISO 10245-3:1999

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

International Standard ISO 10245-3 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 7, *Tower cranes*.

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: Bridge and gantry cranes*

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Cranes — Limiting and indicating devices —

Part 3: Tower cranes

1 Scope

This part of ISO 10245 provides specific requirements for limiting and indicating devices for tower cranes. General requirements are given in ISO 10245-1.

It applies to tower cranes as defined in ISO 4306-3.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 10245. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 10245 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 4306-3:1991, *Cranes — Vocabulary — Part 3: Tower cranes*.

ISO 10245-1:1994, *Cranes — Limiting and indicating devices — Part 1: General*.

3 Terms and definitions

For the purposes of this part of ISO 10245, the terms and definitions given in ISO 10245-1 and the following definition apply.

3.1 rated capacity

net load that the crane is designed to lift for:

— a given operating condition, e.g. position of the load,

and

— a given configuration, e.g. length of jib

NOTE See ISO 4306-1:1990, 6.1.3, for definition of net load.

4 Rated capacity limiters

4.1 Tower cranes shall be equipped with rated capacity limiters as described in ISO 10245-1:1994, clause 4.

4.2 The rated capacity limiter shall activate at not less than 105 % and not more than 110 % of the rated capacity.

5 Rated capacity indicator

5.1 Tower cranes shall be fitted with rated capacity indicators as described in ISO 10245-1:1994, clause 5

5.2 As the crane approaches its rated capacity, the indicator shall give clear and continuous visual and audible warning to the driver. The warnings shall commence at not less than 90 % and not more than 95 % of the rated capacity. Any switch that permits the audible signal to be stopped whilst the indicator is giving warning shall automatically reset before the next approach to rated capacity.

5.3 The rated capacity indicator shall give a clear and continuous warning when the rated capacity is exceeded. The warning shall be visual at the driver's control station and audible to the crane driver and to those in the vicinity of the crane. The warnings shall commence at not less than 102,5 % and not more than 110 % of the rated capacity.

6 Motion- and performance-limiting devices

6.1 Motion limiters

Motion limiters shall be provided in accordance with subclause 6.1 of ISO 10245-1:1994. The slack rope limiter (see 6.1.7 of ISO 10245-1:1994) is not required, if slack rope cannot cause incorrect spooling on the drum.

6.2 Performance limiters

If a risk exists that the load speed can exceed the maximum authorized speed without automatic braking, the tower crane shall be fitted with the following performance-limiting devices to ensure that the speed of operation remains within the design limits:

- a) hoisting-speed limiter;
- b) lowering-speed limiter; <https://standards.iteh.ai/catalog/standards/sist/e9cd29a5-c86f-4ae6-9545-664b0e4fd05/iso-10245-3-1999>
- c) derricking-speed limiter, where derricking motion is provided.

7 Motion- and performance-indicating devices

7.1 A radius indicator shall be fitted on tower cranes to indicate the horizontal distance between the centreline of the slew bearing and the centreline of the suspended load.

The indicator shall present the information in such a way that the load ratio between two succeeding steps is not more than 1,5:1; in any case load position and the maximum radius to which the suspended load can be taken shall both be given.

7.2 Other indicating devices, as described in ISO 10245-1, are recommended. The indication of parameters shown in data sheets for the crane provides a valuable aid to the driver.

Bibliography

- [1] ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General*.
- [2] ISO 8686-1:1989, *Cranes — Design principles for loads and load combinations — Part 1: General*.

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