
Cranes — Information labels —

**Part 3:
Tower cranes**

*Appareils de levage à charge suspendue — Plaques descriptives —
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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 second edition cancels and replaces the first edition (ISO 9942-3:1999), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the information for manufacturer ([Clause 4](#)) has been revised;
- the information on operation of the crane by the crane operator ([Clause 5](#)) and information for persons within working range of the crane ([Clause 6](#)) have been updated;
- new [Annex A](#) about markings and signs has been added.

This document is intended to be used in conjunction with ISO 9942-1.

A list of all parts in the ISO 9942 series can be found on the ISO website.

Cranes — Information labels —

Part 3: Tower cranes

1 Scope

This document specifies the minimum requirements for labels for the identification (marking) and the operation of tower cranes.

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 3864 (all parts), *Graphical symbols — Safety colours and safety signs*

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*

ISO 7296-3, *Cranes — Graphical symbols — Part 3: Tower cranes*

ISO 9942-1:2015, *Cranes — Information labels — Part 1: General*

ISO 13200, *Cranes — Safety signs and hazard pictorials — General principles*

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

3 Terms and definitions

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Identification data

4.1 Manufacturer's data

Manufacturer's data for tower cranes shall be given as specified in ISO 9942-1:2015, 2.1. For tower cranes, the name of the supplier is an optional information.

The type plate shall be legible and durably affixed inside the cabin. If a crane cabin is not existing or not necessary for operating the crane, the type plate shall be affixed at the slewing table, at a place which is easily accessible when the crane is erected.

An example of a type plate is given in [Figure A.1](#).

4.2 Rated capacity data

A durable capacity rating chart with legible letters and figures shall be provided with each crane and attached in a location visible to the crane operator at each control station. Rating charts, capacity plates, and any other information displayed regarding capacities shall be in the predominant measure of units (i.e. metric, imperial, etc.) of the country the crane is operating in.

If the crane is operated with a remote control, without a dedicated control station, this information shall be on:

- a) the remote control;
- b) a separate plate attached to the remote control; or
- c) plates, e.g. on the jib, visible from the ground.

The content of these charts shall include, but is not limited to, the following:

- a) a full range of crane load ratings for all:
 - operating radii;
 - jib lengths;
 - hoist-line reevings;
 - operating modes;
 - where appropriate, for each available hoist-line velocity range; and
 - where necessary, the associated counterweight arrangement;
- b) precautionary or warning notes relating to limitations on equipment and/or operating procedures;
- c) maximum permissible in-service wind;
- d) lifting devices that are included or excluded in the rated capacity.

In addition, the capacities and the corresponding outreaches shall be displayed to the crane operator so that they can be easily read from the operating position. If the length and/or the angle of the jib can vary during operation, these parameters shall be displayed also.

If plates are fixed to the jib to show the rated capacities, they shall be arranged so that they are always legible and clearly visible to the crane operator. The ratio between two succeeding capacity plates shall not be greater than $3/2$ including the maximum capacity and the capacity at maximum radius. For cranes intended for various operating and set-up arrangements, the data and displays shall correspond to the actual arrangement.

Alternatively to plates on the jib, an electronic indicating device can be used showing the actual load, the actual radius and the maximum radius up to which the load is allowed to be moved.

If the crane has more than one hoist unit, the rated capacity for each hoist unit shall be indicated and additional information shall be provided showing any approved combined use.

5 Information on operation of the crane by the crane operator

5.1 Control installations and indicating devices

All control installations and indicating devices shall be labelled with symbols or words to indicate their function and, where appropriate, the direction of the intended motion. The information shall be easily legible and attached where it is clearly visible.

For tower cranes, the symbols according to ISO 7296-3 and IEC 60204-32 shall be used. The specification regarding the direction of motions is given in ISO 7752-3.

5.2 Emergency instructions

Emergency instructions and warning notices which are deemed necessary by the manufacturer shall be placed on labels positioned where they can be seen clearly by the crane operator.

5.3 Tasks of the crane operator

Information on the tasks of the tower crane operator shall be as specified in ISO 9942-1:2015, 3.2.

6 Information for persons within working range of the crane

Warnings of hazards that can affect persons working on or around the crane shall be given at suitable locations in the form of symbols, written labels and/or safety markings as appropriate.

For tower cranes, the symbols given in ISO 7010 or ISO 13200 shall be used. If specific safety signs shall be created, the design principles given in ISO 3864 (all parts) apply.

All signs used on the crane shall be described in the manuals with instructions for the persons this information is intended for.

Examples of applicable warning, prohibition and mandatory action signs for tower cranes are given in [Annex A](#).

Annex A (informative)

Markings and signs — Examples of layout

TURMDREHKRAN	Typ:	<input type="text"/>
TOWER CRANE	Type:	<input type="text"/>
GRUE À TOUR	Type:	<input type="text"/>
Werk-Nr:		<input type="text"/>
Serial-No.:		<input type="text"/>
N° de série:		<input type="text"/>
Baujahr:		<input type="text"/>
Year of construction:		<input type="text"/>
Année de construction:		<input type="text"/>
Name und Adresse des Herstellers Name and address of the manufacturer Nom et adresse du fabricant		

Figure A.1 — Example of identification plate

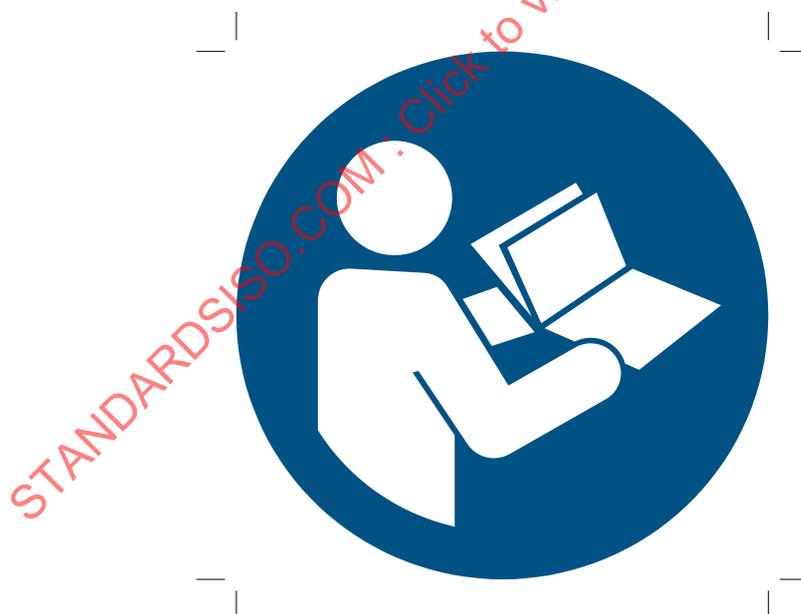


Figure A.2 — Example of mandatory action sign: refer to instruction manual/booklet
(ISO 7010 M002)



Figure A.3 — Example prohibition sign: no unauthorized access/ascent prohibited (DIN 4844 2-D-P006)



Figure A.4 — Example of warning sign: overhead load (ISO 7010 W015)



Figure A.5 — Example of warning sign: crushing hazard (ISO 7010 W019)



Figure A.6 — Example of warning sign: crushing of hands (ISO 7010 W024)

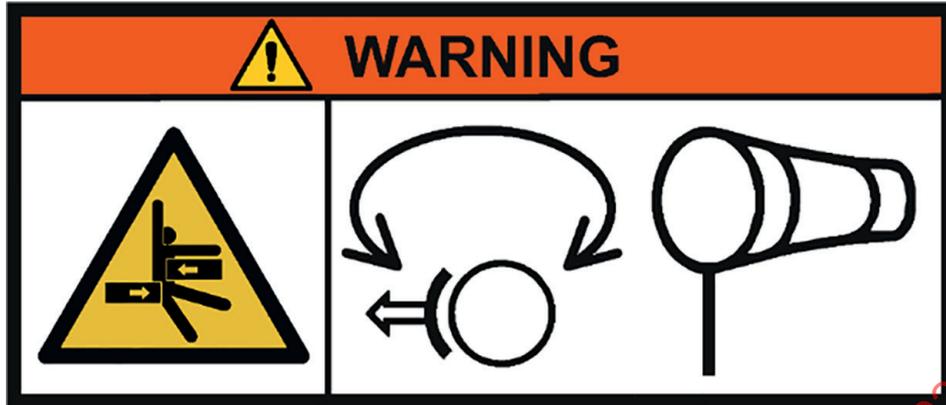


Figure A.7 — Example of a safety label: shearing hazard when slewing brake is unlocked to allow weathervaning



Figure A.8 — Example of a multiple safety label: prohibited access because of falling hazard; mandatory use of personal protective equipment