
**Cranes — Competency requirements for
crane drivers (operators), slingers,
signallers and assessors**

*Appareils de levage à charge suspendue — Compétences requises pour
les conducteurs (opérateurs), les élingueurs, les signaleurs et les
contrôleurs*

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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.

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.

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

International Standard ISO 15513 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 5, *Use, operation and maintenance*.

Annexes A, B and C of this International Standard are for information only.

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Introduction

The objective of this International Standard is to achieve uniform competency standards for work involving crane drivers (operator) slingers, signallers and their assessors.

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Cranes — Competency requirements for crane drivers (operators), slingers, signallers and assessors

1 Scope

This International Standard gives competency requirements applicable for the selection, training, assessment and verification of crane drivers (operators), slingers, signallers and their assessors.

This International Standard does not cover additional competency requirements needed for special operations, e.g. man-lifting, pile-driving or pile-pulling.

NOTE 1 Responsibilities for the performance of tasks are given in ISO 12480-1. However, personnel need to be aware of the responsibilities of others; inclusion in the training programme should not infer any changes in responsibilities.

NOTE 2 For training of drivers (operators), see ISO 9926.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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. <https://standards.iteh.ai/catalog/standards/iso/6234345b-8685-4769-a24d-e983a5885501/iso-15513-2000>

ISO 4306-1:1990, *Cranes — Vocabulary — Part 1: General*.

ISO 4306-2: 1994, *Cranes — Vocabulary — Part 2: Mobile cranes*.

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

ISO 9926 (all parts), *Cranes — Training of drivers*.

ISO 12480-1:1997, *Cranes — Safe use — Part 1: General*.

3 Terms and definitions

For the purposes of this International Standard, the definitions of crane types given in ISO 4306-1, ISO 4306-2, ISO 4306-3 and ISO 12480-1 apply, together with the following definitions. For definitions of crane personnel see also ISO 12480-1.

3.1

accreditation

process of granting official formal recognition to assessors and other successful candidates of competency assessments

NOTE Accreditation normally involves the provision of a statement of competency, an award or some other formal credit arrangement by a training authority, a vocational educational institution or an accreditation body.

3.2

accreditation body

organization which oversees the assessment of candidates to prescribed competency standards

3.3

assessment

process of judging competency against prescribed standards of performance

3.4

assessor

person who makes judgements of skills and knowledge of a crane driver (operator), slinger and/or signaller

NOTE The assessment process ensures that the outcome of the training and educational programmes presented to trainees provides the required standard of competency. The accreditation body manages the assessment system and ongoing accreditation.

3.5

competency

ability to perform the activities within an occupation or function to the standard expected in the task

NOTE Competent use and operation of industrial equipment is defined in terms of core knowledge and skills and applications required for particular types of work associated with the use and application of different classes of equipment. It covers demonstrated knowledge and skills in identifying hazards and eliminating or minimizing risks arising from hazards, safe and healthy work practices, and employer and employee responsibilities as defined in the general duties of care, occupational health and safety legislation.

3.5.1

competency standard

standard which reflects the specification of knowledge and skill, and the application of that knowledge and skill to the standard of performance required in the task

NOTE Competency standards are developed by the interested parties, based upon the organization of work, expressed in terms of workplace results, and should be regularly reviewed to ensure their continuing relevance to the workplace.

3.5.2

element of competency

basic building block of the unit of competency which describes an action or outcome which is demonstrable and assessable

3.5.3

unit of competency

discrete product comprising a title, a short description of purpose where appropriate, and the elements of competency, together with their associated performance criteria

NOTE Elements of competency describe the lowest logical, identifiable and discrete subgrouping of actions and knowledge which contribute to and build a unit of competency.

3.6

crane driver [operator]

person who operates the crane for the purpose of positioning loads or erecting the crane

NOTE 1 Adapted from ISO 12480-1.

NOTE 2 For mobile cranes, the term "operator" is often used instead of "driver", and the term "driver" is then used to refer to that person who operates only those controls which move the crane from place to place.

3.7

crane shut-down

preparation for leaving the crane unattended

3.8**performance criterion**

evaluative statement which specifies what is to be assessed and the required level of performance

NOTE The performance criteria specify the activities, skills, knowledge and understanding which are evidenced by competent performance.

3.9**signaller**

person responsible for relaying the signal from the slinger to the crane driver

NOTE The signaller may be given the responsibility for directing movements of the crane and load instead of the slinger, provided that only one person has the responsibility at any one time. For further information on signallers' duties, etc. see 5.5.1 and 5.5.2 in ISO 12480-1:1997.

3.10**slinger**

person responsible for attaching and detaching the load to and from the crane load-lifting attachment and for the use of the correct lifting gear and equipment in accordance with the operating plan for proper positioning of loads

NOTE According to 5.4.1 in ISO 12480-1:1997, the slinger is responsible for initiating the planned movement of the crane and load. If there is more than one slinger, only one of them should have this responsibility at any one time, depending on their positions relative to the crane. For further information on slingers' duties, etc. see 5.4.1 and 5.4.2 in ISO 12480-1:1997.

4 Assessment**4.1 General**

4.1.1 An assessment shall be made of the following persons:

- a) assessor;
- b) operator/driver;
- c) slinger;
- d) signaller.

4.1.2 The competencies which an assessor shall possess before being authorized as an assessor for the purposes of this International Standard are:

- a) technical knowledge relating to the operation and management of the particular type of crane or slinging techniques for which the person is to be authorized to assess applicants; and
- b) ability to judge competencies against prescribed standards.

4.1.3 The competencies which an operator/driver shall possess before being authorized to operate a crane or hoist are a technical knowledge and practical capability relating to the correct and safe operation of the particular type of crane (see 5.3.1 in ISO 12480-1:1997).

4.1.4 The competencies which a slinger shall possess before being authorized as a slinger are:

- a) the application of slinging techniques and
- b) the capability to direct the crane driver (operator).

4.1.5 The competency which a signaller shall possess before being authorized as a signaller is the application of signalling methods.

4.2 Written assessment

Where the assessment process includes a written assessment paper, the following criteria shall be observed.

- a) The written assessment should be constructed to not exceed a duration of 60 min.
- b) Sufficient time shall be given to a candidate to complete the test.

NOTE If the assessor becomes aware the candidate has a written-language deficiency, additional time may be permitted to complete the paper.

- c) Assistance may be given to the candidate with a written-language deficiency. Any person rendering such assistance shall not prompt the candidate nor help the candidate in any other way. If the candidate has limited literacy skills, the answers may be accepted orally. In this case the assessor shall record all answers. In some certificate classes, specific literacy skills are required to meet the competencies, i.e. estimation or calculation of loads or reading of a load chart. In these situations, oral assistance shall not be rendered.
- d) The candidate shall be suitably proficient in the language to be able to read the questions set in the assessment without assistance.
- e) The candidate shall express the technical requirements for the assessment in a manner in which they can be correctly interpreted. Incorrect spelling or grammar shall not prejudice the result of the assessment.
- f) If additional time or assistance has been permitted, this shall be clearly stated, with the reason, on the Assessment Report.

4.3 Oral assessment

Where the candidate has limited spoken ability of the language of the assessment, the assessor should provide additional explanation, without compromising the assessment, at a level appropriate to the work and equipment.

4.4 Results

In order to be considered "Competent", the candidates shall achieve sufficient marks in every area and section to demonstrate competence. A candidate who does not attain such a result shall be considered "Not Yet Competent" and marked accordingly.

4.5 Reassessment

Where an assessment indicates "Not Yet Competent" in an area or section of the paper, the candidate may be reassessed for that area or section only after additional training in that area or section.

5 Competency requirements

5.1 General

Subclauses 5.2, 5.3 and 5.4 detail the parameters for assessing the skills and knowledge of the crane driver (operator), slinger and signaller.

5.2 Competency requirements for the crane driver (operator)

5.2.1 General

The requirements are subdivided into the following competency units:

a) Competency unit 1 — Access and secure equipment and work area

- Plan work,
- conduct routine checks and inspections,
- test controls and safety devices,
- shut down the crane.

b) Competency unit 2 — Secure and transfer load

- Secure load,
- conduct trial lift,
- transfer load.

c) Competency unit 3 — Set-up, assembly and disassembly of cranes where such operations are carried out by the crane driver

- Plan assembly/disassembly,
- set up crane,
- disassemble crane.

d) Competency unit 4 — Carry out special operations

- Displace crane,
- carry out multiple-crane lift.

5.2.2 Competency unit 1 — Assess and secure equipment and work area**5.2.2.1 Element of competence — Plan work**

Performance criteria:

- a) a workplace operations plan is developed in consultation with the relevant authorized workplace personnel. The plan takes into account job requirements, priorities, workplace rules and procedures, identified hazards and hazard control measures;
- b) site hazards, such as those listed below, are identified and correct hazard control strategies developed in accordance with the appropriate standard:
 - overhead power lines;
 - trees;
 - overhead service lines such as steam, gas, water, telephone;
 - underground services;
 - uneven and/or unstable ground;
 - allowable floor loading as appropriate;
 - presence of other workers and persons;