
Cranes — Training of appointed persons

*Appareils de levage à charge suspendue — Formation pour les
personnes désignées*

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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.

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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 23813 was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 5, *Use, operation and maintenance*.

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Cranes — Training of appointed persons

1 Scope

This International Standard specifies the minimum training needed to impart the requisite knowledge for a person appointed to control and manage the lifting operations of cranes. It is not applicable to the additional training required for those persons controlling and managing lifting operations involving dangerous goods or hazardous areas.

NOTE 1 Responsibilities for the performance of tasks are given in ISO 12480-1.

NOTE 2 For the training of drivers and operators, slingers and signallers, see ISO 9926-1 and ISO 23853, respectively.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

[ISO 23813:2007](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=4414)

ISO 9926-1, *Cranes — Training of drivers and operators, Part 1: General*

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

ISO 15513, *Cranes — Competency requirements for crane drivers (operators), slingers, signallers and assessors*

ISO 23853, *Cranes — Training of slingers and signallers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4306-1 and ISO 12480-1, and the following, apply.

3.1

appointed person

competent person who has overall control of the crane operation and acts on behalf of the management of the organization requiring the load to be moved (the employing organization).

NOTE Adapted from ISO 12480-1:1997, definition 3.9.

4 Prerequisite aptitudes and knowledge

Persons to be trained as appointed persons shall be at least 20 years of age and have been involved in lifting operations in the capacity of crane driver, slinger or signaller for at least 2 years.

They shall be able to read, write and understand the language to be used in the training course and display common sense, coolness and the ability to manage others.

5 General

The appointed person shall at all times consider the safety of persons and property situated in the area of the lifting operation. He or she shall be a responsible person who is aware of the possibility of accidents and their causes and who has the authority to control the lifting operation.

6 Training objectives

The following objectives shall be met by the training in that they are attained by the appointed person:

- a) knowledge of the regulations applicable to cranes and the environment, and the ability to apply them;
- b) knowledge of slinging techniques and their application;
- c) technical knowledge of cranes, their characteristics, rated capacity, chart and specification information, mechanisms and safety equipment, such that the trained appointed person is able to
 - 1) prepare a safe system of work,
 - 2) select a suitable crane for the lifting operation,
 - 3) supervise the safe operation of any crane being used in the lifting operation,
 - 4) make full use of the various characteristics of the cranes in use,
 - 5) identify any defects in the lifting operation or crane and to report them,
 - 6) ensure that the cranes in use have a maintenance procedure in place and is being followed,
 - 7) ensure that all relevant reports and other documentation have been completed correctly, and
 - 8) ensure compliance with all statutory requirements and codes of practice during the lifting operation.

The duration and content of training should be sufficient to attain these objectives.

The training should also include assessments and assignments designed to check whether the objectives have been attained.

7 Content of training

7.1 General

The training shall include a thorough grounding in the legislation governing the use of craneage and lifting equipment, as well as in the relevant standards, codes of practice and guidance on crane use, of the country in which the lift is taking place.

The training shall also cover

- planning of lifting operations,
- the load, its characteristics and method of lifting,
- selection of a suitable crane,
- selection of suitable lifting gear,
- selection of personnel,
- positioning the crane and load, before, during and after the lifting operation,
- site of operation,
- proximity hazards including electrical power line,
- ground conditions, and
- erection/dismantling procedures for the crane.

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7.2 Environmental conditions

Environmental conditions that exist or that could occur at the site of operation, and which could necessitate stopping the operation when unsuitable, shall also be taken into account, in particular the following:

- mass of load, centre of gravity, lifting points and dimensions before and after the load is moved;
- radii;
- selection of a suitable crane using rated capacity charts and specification sheets;
- site environmental conditions;
- access to and from the operational area;
- suitability of crane standing and support surface (underground services, voids, etc.);
- overhead electrical power lines;
- obstructions;
- electromagnetic interference (radio frequency effects).

7.3 Duties and responsibilities

The duties of the appointed person shall be as specified in ISO 12480-1.

The responsibilities of the appointed person shall be

- a) to assess the lifting operation,
- b) to plan a safe system of work covering the complete lifting operation,
- c) to ensure that a method statement has been completed for the lifting operation,
- d) to ensure that the safe system of work has been communicated to all those concerned,
- e) to ensure that only trained and competent personnel have been selected,
- f) to ensure that all bodies involved in lifting operation have been consulted,
- g) to ensure that the safety of persons in the vicinity not involved in the lifting operation is appropriately arranged,
- h) to ensure that communication systems are appropriate during the lifting operation,
- i) to ensure that there is only authorised movement of the crane or load, and
- j) to ensure that all permits have been obtained.

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7.4 Selection of personnel

All personnel involved in lifting operations shall be trained and competent in their duties.

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The competency of crane drivers (operators), slingers and signallers shall be in accordance with ISO 15513.

The minimum requirements and duties for crane drivers (operators), slingers, signallers, crane erectors and maintenance personnel shall be as specified in ISO 12480-1.

Crane drivers (operators) shall have been trained in accordance with ISO 9926-1, and slingers and signallers shall have been trained in accordance with ISO 23853.

7.5 Selection of cranes

The following shall be considered:

- a) mass of the load;
- b) dimensions of the load;
- c) characteristics of the load;
- d) operational speeds;
- e) operational range of radii throughout the load cycle;
- f) heights of lifts;
- g) number and frequency of the load cycle;
- h) duration of the time a crane will be required;

- i) ground conditions;
- j) environmental conditions;
- k) clearances to overhead electrical power lines;
- l) clearances to structures;
- m) access to and egress from crane;
- n) any special operational conditions or limitations;
- o) the physical condition of the crane.

7.6 Selection of lifting equipment

Lifting equipment appropriate to the lifting operation shall be selected.

7.7 Safety considerations

The following shall be considered:

- a) identification of persons directing crane movements;
- b) personal protective equipment;
- c) access and emergency escape routes;
- d) fire hazards;
- e) ground conditions;
- f) establish safe working area;
- g) proximity of other cranes, vehicles or equipment;
- h) handling of loads near persons.

7.8 Positioning of cranes

The following shall be considered:

- a) crane standing and support conditions;
- b) proximity hazards;
- c) effects of wind on crane and load;
- d) access to and egress from area;
- e) electrical obstructions, e.g. electricity authority or other specialists may need to be consulted;
- f) lighting.

7.9 Rated capacity charts and crane specifications

The following shall be considered:

- a) rated capacity charts including associated notes;
- b) crane configurations, i.e. counterweights, attachments, etc.;
- c) lifting operation range;
- d) crane support system requirements and limitation, i.e. outriggers, tyres, crawlers, rails, etc.;
- e) hook block capacities and their mass;
- f) load configurations.

7.10 Relevant statutory requirements and other requirements

The following shall be considered:

- a) statutory legislation;
- b) codes of practice and guidance notes;
- c) manufacturer's crane specification documentation;
- d) crane records.

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7.11 Appointed person's checklist

[ISO 23813:2007](https://standards.iteh.ai/catalog/standards/sist/ba04ace7-6928-40f5-ac2b-a85bc7b3e99d/iso-23813-2007)

Guidance is given in Annex A. <https://standards.iteh.ai/catalog/standards/sist/ba04ace7-6928-40f5-ac2b-a85bc7b3e99d/iso-23813-2007>

7.12 Appointed person's course programme

See Annex B.

Annex A (informative)

Appointed person's checklist

This checklist is designed to assist the appointed person and to highlight some of the important points that should be the basis for planning any lifting operation using cranes of all types, in compliance with ISO 12480-1. Because of the many variations found in crane configuration, and the variety of types and different characteristics of the machines available, all requirements of operation will have to be considered for the most suitable selection to be made for a particular application.

a) Personnel

Are all personnel who will be involved in the lifting operation adequately trained, experienced and approved?

b) Load

- 1) Verify the nature of the load to be lifted.
- 2) Confirm the mass (including the mass of lifting gear).
- 3) Check the dimensions.
- 4) Determine the centre of gravity.
- 5) Check that lifting points and attachments on the load (where provided) are capable of supporting the total mass, these should be used whenever possible.
- 6) Is a lifting beam required or special care needed for the attachment of shackles, slings or chains?
- 7) Are current test certificates and examination reports available for the lifting equipment to be used?

c) Height of lift and load movement distances

- 1) Check where the load is to be lifted from.
- 2) Check where the load is to be lifted to.
- 3) Bearing in mind 1) and 2) of this list, where is the most suitable position to locate the crane?
- 4) With the crane in this position, what is the maximum radius at which the crane will operate when carrying out this lift?
- 5) Taking into account the length of slings, etc. and the necessary allowance between the load and the crane jib, what is the maximum height to which the crane jib head must be raised to carry out the lift?
- 6) Taking into account the weight of lifting gear, etc. and the crane hook block, what is the maximum load that will be placed on the machine during the lift?
- 7) Bearing in mind the checks of 4), 5) and 6), what crane can suitably be used to carry out the lift?
- 8) How will the crane be rigged (jib length, counter weight, etc.)?
- 9) Does the crane have any slew limitations at the rigged condition and, if so, have they been taken into account?