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**Cranes — Access, guards and  
restraints —**

**Part 2:  
Mobile cranes**

*Appareils de levage à charge suspendue — Moyens d'accès, dispositifs  
de protection et de retenue —*

*Partie 2: Grues mobiles*

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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](http://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](http://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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 96, *Cranes*, Subcommittee SC 6, *Mobile cranes*.

This second edition cancels and replaces the first edition (ISO 11660-2:1994), which has been technically revised.

ISO 11660 consists of the following parts, under the general title *Cranes — Access, guards and restraints*:

- *Part 1: General*
- *Part 2: Mobile cranes*
- *Part 3: Tower cranes*
- *Part 4: Jib cranes*
- *Part 5: Bridge and gantry cranes*

# Cranes — Access, guards and restraints —

## Part 2: Mobile cranes

### 1 Scope

This part of ISO 11660 establishes the particular requirements relating to access, guards and restraints for mobile cranes as defined in ISO 4306-1.

ISO 11660-1 establishes the general requirements for access to control stations and other areas of cranes as defined in ISO 4306-1, during normal operations, maintenance, inspection, erection and dismantling. It also deals with guards and restraints in general, concerning the protection of persons on or near the crane with regard to moving parts, falling objects or live parts.

### 2 Normative references

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 11660-1:2008, *Cranes — Access, guards and restraints — Part 1: General*

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

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11660-1 apply.

### 4 Access

#### 4.1 General

All control stations shall be accessible from the ground or by means of walkway(s), stairs, ladders and/or landings.

Other parts of the crane that require frequent access (i.e. weekly) for operation or maintenance shall be provided with an access system.

Crane track shoe and track pad surfaces can be used as access steps if three-point support is provided.

#### 4.2 Requirements

##### 4.2.1 General design requirements for access

For the purpose of determining the dimension for access the following applies:

- a) machine on level ground;
- b) machine parked per manufacturer's instructions.

**4.2.2 Compliance with ISO 11660-1**

The design requirements for access shall comply with the clauses of ISO 11660-1:2008, completed by the corresponding subclauses of this part of ISO 11660, as specified in [Table 1](#).

**Table 1 — Design requirements for access**

Hazard/access means	Applicable clause of ISO 11660-1:2008	Applicable subclause of this part of ISO 11660
Stairs	6	<a href="#">4.2.2.1</a>
Stepped ladders	6	<a href="#">4.2.2.2</a>
Rung ladders	7	<a href="#">4.2.2.3</a>
Walkways, inclined walkways, platforms	9	<a href="#">4.2.2.4</a>
Hand holds, handrails, intermediate guard-rails and side protection	10	<a href="#">4.2.2.5</a>

**4.2.2.1 Stairs**

For type 1 access in accordance with ISO 11660-1, the minimum step width shall be 0,4 m.

**4.2.2.2 Stepped ladders**

For type 1 access in accordance with ISO 11660-1, the minimum step width shall be 0,32 m as type 2.

**4.2.2.3 Rung ladders**

The maximum rung pitch shall be 0,4 m.

The step width for one foot may be reduced to a minimum of 0,16 m.

**4.2.2.4 Walkways, inclined walkways, platforms**

Handholds or handrails shall be provided for walkways, inclined walkways, rest platforms and platforms above 2 m.

For jib walkways and other similar areas that are used only for inspection or maintenance, the standing or stepping surface openings may be increased to twice the values specified in ISO 11660-1:2008, 5.5.

**4.2.2.5 Hand holds, handrails, intermediate guard-rails and side protection**

The distance between floor/stair and handrail/guard-rail shall be a minimum of 0,9 m and a maximum of 1,1 m.

Due to the nature of mobile cranes, the distance between chassis and slewing platform is limited. In this area, the clearance from handle to wall may be a minimum of 0,04 m.

Side protection may not be provided for walkways on carriers of wheel cranes.

The vertical distance between the higher part of the handrail/handhold and the floor of the platform/rest platform situated at the top of the ladder/stair should be 0,9 m and a maximum of 1,1 m. This dimension may be reduced when it is not possible to achieve specified dimension due to the nature of the mobile cranes.