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**Earth-moving machinery — Access  
systems**

*Engins de terrassement — Moyens d'accès*



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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 2.

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 2867 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety requirements and human factors*.

This sixth edition cancels and replaces the fifth edition (ISO 2867:1994), which has been technically revised.

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## Introduction

The structure of safety standards in the field of machinery is as follows.

- a) Type-A standards (basis standards) give basic concepts, principle for design and general aspects that can be applied to machinery.
- b) Type-B standards (generic safety standards) dealing with one or more safety aspect(s) or one or more type(s) of safeguards that can be used across a wide range of machinery:
  - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise);
  - type-B2 standards on safeguards (e.g. two-hands controls, interlocking devices, pressure sensitive devices, guards).
- c) Type-C standards (machinery safety standards) dealing with detailed safety requirements for a particular machine or group of machines.

This International Standard is a type-C standard, as stated in ISO 12100-1.

When provisions of this type-C standard are different from those which are stated in type-A or type-B standards, the provisions of this type-C standard take precedence over the provisions of the other standards for machines that have been designed and built according to the provisions of this type-C standard.

NOTE ISO 14122 is a series of type-B standards that provides general requirements for access to stationary and mobile machines and that can be used as a general reference for the design of access systems for earth-moving machines.

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# Earth-moving machinery — Access systems

## 1 Scope

This International Standard specifies criteria for access systems (steps, ladders, walkways, platforms, grab rails/handrails, grab handles, guardrails and enclosure entrance and exit openings) as they relate to aiding the operator, maintenance personnel and service personnel in performing their functions on earth-moving machinery. It is applicable to systems giving access to the operator platform and to routine maintenance points on earth-moving machinery, as defined in ISO 6165, parked in accordance with the manufacturer's instructions.

NOTE This document is based on the 5th to 95th percentile operator dimensions, as defined in ISO 3411.

This International Standard deals with the following significant hazards, hazardous situations and events: slip, trip and fall of persons, and unhealthy postures or excessive effort.

## 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 3411:1995, *Earth-moving machinery — Human physical dimensions of operators and minimum operator space envelope*

ISO 6165:2001, *Earth-moving machinery — Basic types — Vocabulary*

ISO 12508:1994, *Earth-moving machinery — Operator station and maintenance areas — Bluntness of edges*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **access system**

system provided on a machine for entrance to and exit from an operator, inspection or routine maintenance platform from and to the ground

#### 3.1.1

##### **primary access system**

access system normally used for ingress and egress

#### 3.1.2

##### **alternative exit path**

access route from the operator platform used during anticipated emergency situations, when the primary access system cannot be used