Earth-moving machinery—Access systems (ISO 2867:2011, MOD)

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The following are represented on Committee ME-063:

- Australian Industry Group
- Construction and Mining Equipment Industry Group
- Department of Natural Resources, Mines and Energy (Qld)
- Institute of Instrumentation, Control and Automation Australia
- Minerals Council of Australia
- Mining Electrical and Mining Mechanical Engineering Society
- NSW Department of Planning and Environment
- SafeWork NSW
- University of Queensland

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Australian Standard®

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment, to supersede AS 3868—1991, *Earth-moving machinery—Design guide for access systems*.

The objective of this Standard is to specify criteria for systems that provide access to the operator station and to routine maintenance points on earth-moving machinery as defined in ISO 6165. It is applicable to the access systems (e.g. enclosure openings, platforms, guardrails, handrails and handholds, stairways and steps, ladders) on such machines parked in accordance with the manufacturer's instructions. Its criteria are based on the 5th to 95th percentile operator dimensions as defined in ISO 3411. It deals with the following significant hazards, hazardous situations and events: slip, trip and fall of persons, unhealthy postures and excessive effort.

This Standard is an adoption with national modifications, and has been reproduced from, ISO 2867:2011, *Earth-moving machinery — Access systems*. The modifications set out in Appendix ZZ are additional requirements, which have been added at the end of the source text.

Appendix ZZ lists the variations to ISO 2867:2011 for the application of this Standard in Australia.

The major changes in this edition are as follows:

(a) Additions to general requirements for access systems (see Clause 4.1).

(b) Guidance on 400 mm first step height and the design philosophy hierarchy where this is not practicable (see Clause 4.1 and Table 6).

(c) Clarity on the hierarchy for choice of types of access systems (see Clause 4.1).

(d) Additional clarity for alternative exit paths (see Clause 4.3).

(e) Recommending against the use of chains and cables, and guidance on hinged gates and foot barriers (see Clause 6.2).

(f) Amendments to guidance on provision of guardrails at certain heights from the ground (see Clause 6.2).

(g) Guidance on design of steps, step nosing and transitions between ladders to platforms (see Clause 8.2).

As this document has been reproduced from an International Standard, the following applies:

(i) In the source text “this International Standard” should read “this Australian Standard”.

(ii) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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NATIONAL FOREWORD

This Standard is the primary source of guidance for designers, manufacturers, importers, suppliers, end-users and maintainers in relation to the design of earthmoving machinery access systems in Australia. This Standard was prepared to address the preceding issue of multiple, conflicting guidance relating to the design of access systems for earth-moving machinery.

A modified text adoption, rather than a direct text adoption of ISO 2867:2011, has been chosen to provide further clarity and guidance on specific aspects of earthmoving machinery access systems. This is to account for Australian incident history, current practice, as well as Australia's relatively high level of earthmoving machinery health and safety expectations. It is the intention of the Standards Australia Committee ME-063 that as ISO 2867 comes up for further revision, the ME-063 committee would prefer to influence its direction, rather than continuing with a modified text adoption, i.e. it is envisaged that this modified adoption will be withdrawn subject to the next revision of ISO 2867.

In addition, this Standard is intended to be the primary reference in relation to the design of access systems on earthmoving machinery. Formerly AS 3868—1991, AS 1657 and ISO 14122 were used for access systems on earthmoving machinery.

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, ergonomics and general requirements*.

This seventh edition cancels and replaces the sixth edition (ISO 2867:2006), which has been technically revised.

INTRODUCTION

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

a) Type-A standards (basic standards) give basic concepts, principles for design and general aspects that can be applied to machinery.

b) Type-B standards (generic safety standards) deal with one safety aspect or one type of safeguard 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-hand 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 document is a type-C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

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