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Earth-moving machinery and rough-terrain variable-reach trucks — Design requirements for machines intended to be driven on road (ISO 17253:2014, MOD)

AS 17253:2021

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Australian Industry Group
Better Regulation Division — SafeWork NSW
Construction and Mining Equipment Industry Group
Department of Natural Resources, Mines and Energy, Qld
Department of Regional NSW
Engineers Australia / Mining Electrical and Mining Mechanical Engineering Society
Institute of Instrumentation, Control & Automation Australia
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Preface

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment.

The objective of this document is to specify the requirements for seated-operator, ride-on, earth-moving machinery, as defined in ISO 6165, and rough-terrain variable-reach trucks, as defined in AS ISO 10896.1, intended to be driven on public roads.

It specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations, and hazardous events when these machines are driven on-road.

It is not applicable to the following:

(a) Machines on legs, e.g. walking excavators.

(b) Hazards related to standing-operator (ride-on or non-riding) or remote-control earth-moving machines/rough-terrain variable-reach trucks.

(c) User requirements including training, operator licensing and machine taxation.

(d) Local use restrictions such as road/bridge capacities.

(e) Environmental requirements such as engine emissions, noise, refrigerants or recyclability.

This document is an adoption with national modifications, and has been reproduced from, ISO 17253:2014, *Earth-moving machinery and rough-terrain variable-reach trucks — Design requirements for machines intended to be driven on road*. The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to ISO 17253:2014 for the application of this document in Australia.

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

(a) In the source text "this International Standard" should read "this document".

(b) 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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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).

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).

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 127, *Earth-moving machinery*, Subcommittee SC 1, *Test methods relating to safety and machine performance*.

Introduction

This International Standard 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 International Standard.

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

Earth-moving machinery and rough-terrain variable reach trucks are occasionally driven on the road to and from, and around the confines of marked jobsites and share the road with other road vehicle users. Design and verification for safety on the jobsite are subject to ISO 20474 and ISO 10262, but requirements for use on the road are undefined or covered in regional and local legislation, rules, or codes of practice. Such a situation presents lacking and differing requirements, despite a common objective: the safety of the machine when used on the road.

The purpose of this International Standard is to provide design and verification requirements to ensure a consistent level of safety when earth-moving machinery and rough-terrain variable-reach trucks are used on the road.

Australian Standard®

Earth-moving machinery and rough-terrain variable-reach trucks — Design requirements for machines intended to be driven on road (ISO 17253:2014, MOD)

1 Scope

This International Standard specifies the requirements for seated-operator, ride-on, earth-moving machinery, as defined in ISO 6165, and rough-terrain variable-reach trucks, as defined in ISO 10896-1, intended to be driven on public roads.

It specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations, and hazardous events when these machines are driven on road.

It is not applicable to the following:

— machines on legs, e.g. walking excavators;

— hazards related to standing-operator (ride-on or non-riding) or remote-control earth-moving machines/rough-terrain variable-reach trucks;

— user requirements, including training, operator licensing, and machine taxation;

— local use restrictions, such as road/bridge capacities;

— environmental requirements, such as engine emissions, noise, refrigerants, or recyclability.

NOTE National or other regulations, which could be more stringent, can apply.

2 Normative references

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

ISO 3450:2011, *Earth-moving machinery — Wheeled or high-speed rubber-tracked machines — Performance requirements and test procedures for brake systems*

ISO 3287, *Powered industrial trucks — Symbols for operator controls and other displays*

ISO 3457, *Earth-moving machinery — Guards — Definitions and requirements*

ISO 5006, *Earth-moving machinery — Operator's field of view — Test method and performance criteria*

ISO 5010, *Earth-moving machinery — Rubber-tyred machines — Steering requirements*

ISO 5676:1983, *Tractors and machinery for agriculture and forestry — Hydraulic coupling — Braking circuit*

ISO 7000:2011, *Earth-moving machinery — Visual display of machine operation*

ISO 7000:2014, *Earth-moving machinery — Determination of ground speed*

ISO 6016, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 6165, *Earth-moving machinery — Basic types — Identification and terms and definitions*

ISO 6405-1, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*