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Australian STANDARD®

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Earth-moving machinery and machinery for forestry — Operator protective structures — Material performance requirements



AS ISO 7021:2025

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- Australasian Institute of Mining & Metallurgy
- Australian Industry Group
- Construction and Mining Equipment Industry Group
- Department of Primary Industries and Regional Development
- Engineers Australia
- Institute of Instrumentation, Control & Automation Australia
- Minerals Council of Australia
- Mining Electrical and Mining Mechanical Engineering Society
- Resources Safety & Health Queensland
- SafeWork NSW
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How to read this Standard

This page explains the meaning of the language and structure of this Standard.

Refer to Standards Australia's Standardisation Guide 006 for more details about drafting rules.

Australian and Australian/New Zealand Standards are voluntary unless they are referenced in legislation or called up in contracts.

Requirements

To conform to a Standard, all requirements in the Standard need to be met.

A requirement is any statement in the Standard which uses the word "shall".

Recommendations, permissions and possibilities

The following words are commonly used in Standards, but statements using them do not have to be followed to conform to the Standard:

(a) "should" means that something is recommended.

(b) "may" means that something is permitted.

(c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

(i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.

(ii) The Scope states what the Standard is about, what it covers and what it does not cover.

(iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.

(iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

A Standard may also include other parts, such as the following:

(1) A normative appendix sets additional requirements that need to be conformed to.

(2) An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will explain when those requirements apply.

(3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

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

The objective of this document is to specify the material performance requirements for structural members and fasteners used in operator protective structures for self-propelled earth-moving machinery and self-propelled machinery for forestry. Earth-moving machinery is defined in AS ISO 6165:2023 and machinery for forestry is defined in ISO 6814.

This document is identical to, and has been reproduced from, ISO 7021:2023, *Earth-moving machinery and machinery for forestry — Operator protective structures — Material performance requirements.*

As this document has been reproduced from an international document, a comma is to be read as a full point 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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety, ergonomics and general requirements*.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document provides consistent material performance requirements that can be used with all ISO/TC 127/SC 2 and ISO/TC 23/SC 15 operator protective structure standards, for example ISO 3449, ISO 3471, ISO 10262, ISO 12117, ISO 12117-2, ISO 8082-1, ISO 8082-2, ISO 8083, and ISO 8084. These operator protective structure standards were originally developed with the intent of having the same material performance requirements. Over the course of revising the different operator protective structure standards and creating new operator protective structure standards, modifications to the material performance requirements have resulted in some inconsistencies between the material performance requirements in these standards.

While the first edition of this document only covers material performance requirements for steel structural members, moving the material performance requirements to a separate standard can facilitate the development of performance for other materials such as plastic or aluminium to be included in future revisions.

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