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Steel wire ropes — Product specification



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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-007, Steel Wire Ropes, to supersede AS 3569—2010.

The objective of this document is to provide a common specification, vocabulary, designation and classification system for steel wire ropes so that steel wire ropes may be selected and applied appropriately.

Australia has a standard for spiral ropes (AS 2841, *Galvanized steel wire strand*), which does not conflict with this document.

This document is based on the following ISO Standards:

(a) ISO 2408:2017, *Steel wire ropes — Requirements*.

(b) ISO 17893:2004, *Steel wire ropes — Vocabulary, designation and classification*.

Variations in this document from the above ISO Standards include the following:

(i) Alignment with ISO 2408 on wire grades.

(ii) Clarification on calculated breaking force methods.

The differences between AS 3569 and ISO 2408 are as follows:

(A) ISO 2408 does not contain any terms or definitions. They are all listed in ISO 17893, whereas AS 3569 contains sufficient terms and definitions for a person to be able to select and specify a wire rope.

(B) ISO 2408 is prescriptive on the properties of the individual wires in the rope, whereas AS 3569 refers to AS 1394 for individual wire properties.

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Steel wire ropes — Product specification

Section 1 Scope and general

1.1 Scope

This document specifies minimum requirements for the manufacture and testing of stranded steel wire ropes for general purposes, including lifting equipment such as cranes and hoists. Ropes for slings are also dealt with, and tables giving minimum breaking forces for the more common sizes, grades and constructions of stranded rope presented. This document is applicable to single-layer, rotation-resistant and parallel-closed ropes made from wires of uncoated (bright), zinc-coated and zinc-alloy coated finish.

Additional requirements may apply for specific applications, including the following:

(a) Mining purposes.

(b) Aircraft control.

(c) The petroleum and natural gas industries.

(d) Aerial ropeways and funiculars.

(e) Lifts.

NOTE 1 For rope grade equivalents, see Appendix F.

NOTE 2 Standards relevant for the application of steel wire ropes are listed in the Bibliography.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1391, *Metallic materials — Tensile testing — Method of test at room temperature*

AS 1394, *Round steel wire for ropes*

AS 2505.5, *Metallic materials, Method 5: Wire — Simple torsion test*

AS/NZS 4534, *Zinc and zinc/aluminium-alloy coatings on steel wire*

ISO 2232, *Round non-alloy steel wires for general purpose wire ropes, large diameter wire ropes and mine hoisting wire ropes —Specifications*

ISO 2408, *Steel wire ropes — Requirements*

ISO 3108, *Steel wire ropes — Test method — Determination of measured breaking force*

ISO 4345, *Steel wire ropes — Fibre main cores — Specifications*

ISO 4346, *Steel wire ropes for general purposes — Lubricants — Basic requirements*

ISO 6892-1, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature*

ISO 17893, *Steel wire ropes — Vocabulary, designation and classification*

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