

Australian/New Zealand Standard™

Underground mining—Shaft equipment

Part 4: Conveyances for vertical shafts

AS/NZS 3785.4:2002

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee ME-018, Mining Equipment. It was approved on behalf of the Council of Standards Australia on 21 June 2002 and on behalf of the Council of Standards New Zealand on 20 June 2002. It was published on 18 July 2002.

The following are represented on Committee ME-018:

Australian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Coal Association
Department of Infrastructure, Energy and Resources (Tasmania)
Department of Labour, New Zealand
Department of Mineral Resources, New South Wales
Department of Mineral and Petroleum Resources, Western Australia
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Australian/New Zealand Standard™

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Part 4: Conveyances for vertical shafts

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME-018, Mining Equipment, to supersede AS 3785.4—1992.

The objective of this Standard is to provide requirements for the safe design and manufacture of conveyances for vertical mine shafts.

This Standard is Part 4 in a series of Standards on shaft equipment for underground mines as follows:

AS

- 3785 Underground mining—Shaft equipment
- 3785.1 Part 1: Drum winding overwind safety catch systems
- 3785.2 Part 2: Friction winding arresting systems
- 3785.3 Part 3: Drum winding gripper systems
- 3785.5 Part 5: Headframes
- 3785.6 Part 6: Guides and rubbing ropes for conveyances
- 3785.7 Part 7: Sheaves
- 3785.8 Part 8: Personnel conveyances in other than vertical shafts

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- 3785.4 Part 4: Conveyances for vertical shafts (this Standard)

This edition includes the following technical changes from the previous edition:

- (a) In Clause 3.2, the definition for ‘attachments’ has been amended.
- (b) The definitions for ‘design rope break load’ and ‘rope break force’ have been deleted.
- (c) The formula in Item 6.2.1(a) has been amended, and references to design rope break load have been deleted.
- (d) Clause 6.3 has been amended.
- (e) Item 7.1(k) has been included.
- (f) Clause 10.4 has been amended and redrafted.
- (g) Clause 11(a) has been modified.
- (h) Items 11(b)(iii), 12(f) and 12(g) have been included.
- (i) Item (f) of Appendix A has been included.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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Australian/New Zealand Standard
Underground mining—Shaft equipment**Part 4: Conveyances for vertical shafts****1 SCOPE**

This Standard specifies requirements for conveyances used in vertical-shaft mine-winding installations, including fixtures on the conveyance, but not suspension pins for connecting head rope, tail rope attachments or gripper assemblies.

NOTE: Information that should be provided by the purchaser and supplier are given in Appendices A and B respectively.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- 1654 ISO system of limits and fits
- 1654.2 Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts
- 1657 Fixed platforms, walkways, stairways and ladders—Design, construction and installation
- 1710 Non-destructive testing—Ultrasonic testing of carbon and low alloy steel plate—Test methods and quality classification
- 3637 Underground mining—Winding suspension equipment
 - 3637.1 Part 1: General requirements
 - 3637.2 Part 2: Detaching hooks
 - 3637.3 Part 3: Rope cappings
 - 3637.4 Part 4: Drawbars and connecting links
 - 3637.5 Part 5: Rope swivels and swivel hooks
 - 3637.6 Part 6: Shackles and chains
- 3670 Non-destructive testing—Ultrasonic testing of universal beams and columns
- 3785 Underground mining—Shaft equipment
 - 3785.6 Part 6: Guides and rubbing ropes for conveyances
 - 3785.7 Part 7: Sheaves
- 3990 Mechanical equipment—Steelwork
- 4100 Steel structures

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- 1554 Structural steel welding
 - 1554.1 Part 1: Welding of steel structures
 - 1554.4 Part 4: Welding of high strength quenched and tempered steels
 - 1554.5 Part 5: Welding of steel structures subject to high levels of fatigue loading
- 3678 Structural steel—Hot-rolled plates, floorplates and slabs
- 3679 Structural steel
 - 3679.1 Part 1: Hot-rolled bars and sections

BS

- PD 5304 Safe use of machinery