

AS 3785.4:2024



STANDARDS
Australia



Underground mining — Shaft equipment

Part 4: Conveyances for vertical shafts



AS 3785.4:2024

This Australian Standard ® was prepared by ME-018, Mining Equipment. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 12 March 2024.

This Standard was published on 28 March 2024.

The following are represented on Committee ME-018:

- Australasian Institute of Mining & Metallurgy
- Australian Industry Group
- Chamber of Minerals and Energy of Western Australia
- Construction and Mining Equipment Industry Group
- Department of Mines, Industry Regulation and Safety WA
- Department of Regional NSW
- Engineers Australia
- Engineers Australia/Mining Electrical and Mining Mechanical Engineering Society
- Minerals Council of Australia
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This Standard was issued in draft form for comment as DR AS 3785.4:2023.

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ISBN 978 1 76139 569 7

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Originated as AS 3785.4—1992.
Jointly revised and designated as AS/NZS 3785.4:2002.
Revised and redesignated as 3785.4:2024.

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Preface

This document was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee ME-018, Mining Equipment, to supersede AS/NZS 3785.4:2002. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

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

This document forms part of the AS/NZS 3785 series on shaft equipment for underground mines. A list of all parts in this series can be found in the Standards Australia online catalogue.

The major change in this edition is the inclusion of load determination calculations by reference to ISO 19426-4.

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

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NOTES

Australian Standard®

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Part 4: Conveyances for vertical shafts

1 Scope

This document 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 is given in [Appendix A](#) and [B](#).

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 1654.2, *ISO system of limits and fits, Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*

AS 1710, *Non-destructive testing—Ultrasonic testing of carbon and low alloy steel plate and universal sections—Test methods and quality classification*

AS 3637, *Underground mining — Winding suspension equipment*

AS 3670, *Non-destructive testing—Ultrasonic testing of universal beams and columns*

AS/NZS 3678, *Structural steel—Hot-rolled plates, floorplates and slabs*

AS 3785.7, *Underground mining—Shaft equipment, Part 7: Sheaves*

AS 3990, *Mechanical equipment—Steelwork*

AS 4100, *Steel structures*

AS/NZS 1554.1, *Structural steel welding, Part 1: Welding of steel structures*

AS/NZS 1554.4, *Structural steel welding, Part 4: Welding of high strength quenched and tempered steels*

AS/NZS 1554.5, *Structural steel welding, Part 5: Welding of steel structures subject to high levels of fatigue loading*

AS/NZS 4024.1601, *Safety of machinery, Part 1601: Design of controls, interlocks and guarding—Guards—General requirements for the design and construction of fixed and movable guards*

ISO 19426-3, *Structures for mine shafts — Part 3: Sinking stages*

ISO 19426-4, *Structures for mine shafts — Part 4: Conveyances*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

attachments

assembly of components used to connect the ends of winding ropes or balance ropes to permanent main loadbearing components of the conveyance