Australian Standard™

Underground mining – Shaft equipment

Part 5: Headframes

This Australian Standard was prepared by Committee ME/18, Mining Equipment. It was approved on behalf of the Council of Standards Australia on 10 July 1998 and published on 5 October 1998.

The following interests are represented on Committee ME/18:

Australasian Institute of Mining and Metallurgy

Australian Chamber of Commerce and Industry

Australian Coal Association

Bureau of Steel Manufacturers of Australia

Chamber of Minerals and Energy of Western Australia

Department of Mineral Resources, New South Wales

Department of Minerals and Energy, Western Australia

Department of Mines and Energy, Queensland

Department of Natural Resources and Environment, Victoria

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Institution of Mining Engineers

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Underground mining—
Shaft equipment

Part 5: Headframes

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PREFACE

This Standard was prepared by the Standard Australia Committee ME/18, Mining Equipment, to supersede AS 3785.5—1991.

The Standard is one of the following series, which deals with mine shaft equipment and promotes the safety of shaft equipment in underground mines:

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
3785.4 Part 4: Conveyances for vertical shafts
3785.5 Part 5: Headframes (this Standard)
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

Significant changes from the previous edition include the deletion of the definition for 'special load' and amendments to the following Clauses:

1.2 Referenced documents
2.2.1 Self-weight loads
2.3.7 Bin and chute loads
2.4.2 Operating rope loads
2.6 Wind loads
2.7 Earthquake loads
3.1 Structural design
3.2 Partial load factors
3.3 Load combinations
3.4 Stiffness
3.6 Stability.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies design requirements for headframes and skyshafts, for use on mine winding installations.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1170 Minimum design loads on structures (known as the SAA Loading Code)
1170.1 Part 1: Dead and live loads and load combinations
1170.2 Part 2: Wind loads
1170.4 Part 4: Earthquake loads

1418 Cranes (including hoists and winches)
1418.1 Part 1: General requirements

1657 Fixed platforms, walkways, stairways and ladders—Design, construction and installation

1720 Timber structures
1720.1 Part 1: Design methods

2670 Evaluation of human exposure to whole-body vibration
2670.1 Part 1: General requirements
2670.2 Part 2: Continuous and shock-induced vibration in buildings (1 to 80 Hz)
2670.3 Part 3: Evaluation of exposure to whole-body Z-axis vertical vibration in the frequency range 0.1 to 0.63 Hz

3600 Concrete structures

3785 Underground mining—Shaft equipment
3785.6 Part 6: Guides and rubbing ropes for conveyances

3990 Mechanical equipment—Steelwork

4100 Steel structures

AS/NZS
1664 Aluminium Structures
1664.1 Limit state design
1664.2 Allowable stress design

1.3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

1.3.1 Arresting distance—the distance between the point of entry and the point of impact.

1.3.2 Arrestor anchor—the anchor that fixes an arrestor to a headframe or skyshaft.