Australian Standard®

Underground mining—Shaft equipment

Part 7: Sheaves

This Australian Standard was prepared by Committee ME/18, Mining Equipment. It was approved on behalf of the Council of Standards Australia on 2 December 1992 and published on 13 April 1993.

The following interests are represented on Committee ME/18:

Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Coal Association
Australian Mining Industry Council
Broken Hill Mining Managers Association
Bureau of Steel Manufacturers of Australia
Chamber of Mines of Western Australia
Department of Industry and Economic Planning, Vic.
Department of Minerals and Energy, N.S.W.
Department of Resource Industries, Qld
Department of Mines and Energy, Tas.
Department of Mines, W.A.
Institution of Engineers, Australia
Institution of Mining Electrical and Mining Mechanical Engineers
New South Wales Coal Association
Queensland Chamber of Mines
Queensland Coal Association
Queensland Coal Board
South Australian Chamber of Mines
University of New South Wales

Additional interests participating in preparation of Standard:

Mining companies
Mining consultants
Mining equipment manufacturers and suppliers

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PREFACE

This Standard was prepared by the Standards Australia Committee on Mining Equipment.

It is one of a series of Standards on shaft equipment for underground mining. The other Standards in the series are as follows:

AS 3785.1 *Underground mining—Shaft equipment*, Part 1: *Drum winding overwind safety catch systems*

AS 3785.2 *Underground mining—Shaft equipment*, Part 2: *Friction winding arresting systems*

AS 3785.3 *Underground mining—Shaft equipment*, Part 3: *Drum winding gripper systems*

AS 3785.4 *Underground mining—Shaft equipment*, Part 4: *Conveyances for vertical shafts*

AS 3785.5 *Underground mining—Shaft equipment*, Part 5: *Headframes*

AS 3785.6 *Underground mining—Shaft equipment*, Part 6: *Guides and rubbing ropes for conveyances*

Reference was made to DIN 22410, *Winding rope sheaves for round ropes*, in the preparation of this Standard.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Underground mining—Shaft equipment

Part 7: Sheaves

1 SCOPE This Standard specifies requirements for sheaves used in mine winding systems. This Standard does not apply to drive pulleys used in friction winder installations.

NOTE: Information to be provided by the purchaser and supplier are given in Appendices E and F respectively.

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

AS
1065 Non-destructive testing—Ultrasonic testing of carbon and low alloy steel forgings

1171 Methods for magnetic particle testing of ferromagnetic products and components

1403 Design of rotating steel shafts

1554 SAA Structural Steel Welding Code
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

1988 Welding of steel castings

2536 Surface texture

2574 Non-destructive testing—Ultrasonic testing of steel castings and classification of quality

2729 Rolling bearings—Dynamic load ratings and rating life—Calculation method

3507 Non-destructive testing—Radiography of steel castings and classification of quality

4100 Steel structures

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

3.1 Approved and approval—approved or by approval of the statutory authority.

3.2 Conveyance—any car, carriage, cage, skip, kibble, or stage, in which persons, minerals or materials are wound through a shaft or any counterweight.

3.3 Conveyance rated load—the maximum load the conveyance is designed to carry.

3.4 Dead load—the load due to the weight of the rim, spokes or web, hub and shaft where appropriate.

3.5 Design rope break load—1.2 times the rope break load.