

Australian Standard[®]

**LIFTING TACKLE—
WEDGE-TYPE SOCKETS**

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WEDGE-TYPE SOCKETS**

First published 1984

PREFACE

This standard was prepared by the Association's Committee on Lifting Tackle.

It is one of a series of standards for components which are used in lifting systems. Standards for other components are as follows:

AS 1138	Thimbles for Use with Wire Rope or Fibre (Natural or Synthetic) Rope
AS 1353	Synthetic-webbing Flat Slings
AS 1380	Fibre-rope Slings (of Natural or Synthetic Rope)
AS 1426	Steel Wire Ropes for Winding and Haulage Purposes in Mines
AS 1438	Wire-coil Flat Slings
AS 1504	Fibre Rope — Three-strand, Hawser Laid
AS 1656	Steel Wire Ropes (Other Than for Mining Purposes)
AS 1666	Wire-rope Slings
AS 1752	Fibre Rope — Eight-strand Plaited
AS 2076	Wire Rope Grips
AS 2089	Sheave Blocks (Including Ships' Cargo Blocks) of Maximum Lift 60 t
AS 2317	Lifting Tackle — Collared Eyebolts
AS 2318	Swivels
AS 2319	Lifting Tackle — Rigging Screws and Turnbuckles
AS 2321	Short-link Chain for Lifting Purposes (Non-calibrated)
AS 2741	Lifting Tackle — Shackles
AS 2759	Steel Wire Rope — Application Guide
AS B291	Lifting Rings and Links

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

LIFTING TACKLE—WEDGE-TYPE SOCKETS

FOREWORD

Wedge-type sockets are used in lifting, pulling, tensioning and staying systems as a simple mechanical connection to steel wire ropes, especially where steel wire ropes may require shortening. One end of the wedge-type socket is able to clamp to a rope with a wedging action and the other end is able to connect to another fitting, e.g. a clevis connection.

In any lifting, tensioning or staying system, the safe working load of each component shall take account of the conditions (such as the classification of load application as specified by AS 1418, Part 1) and shall be compatible with any loads inherent in and applied to the system, and each component should readily connect with each adjacent component. Therefore, it is important that components of lifting, tensioning or staying systems be quickly and positively identified in service for size, lifting capacity and quality grade.

Only one quality grade of fitting is included in this standard. It is suitable for use with ropes of breaking strength up to and including Grade 1770 WRC six-strand wire ropes.

SPECIFICATION

1 SCOPE. This standard specifies dimensions, materials, manufacture, marking and testing of general purpose wedge-type sockets. It does not cover wedge-type sockets—

- (a) of welded construction;
- (b) for special purpose applications; or
- (c) where installed in lift installations.

Guidance on information to be supplied with enquiries and orders and on care and use is given in Appendices A and B respectively.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

- AS 1065 Methods for Ultrasonic Testing of Ferritic Steel Forgings
- AS 1171 Methods for Magnetic Particle Testing of Ferromagnetic Products and Components
- AS 1418 SAA Crane Code
Part 1—General Requirements
- AS 1442 Carbon Steels and Carbon-manganese Steels—Hot-rolled Bars and Semi-finished Products
- AS 1448 Carbon Steels and Carbon-manganese Steels—Forgings (Ruling Section 300 mm Maximum)
- AS 1627 Code of Practice for Preparation and Pretreatment of Metal Surfaces Prior to Protective Coating
Part 6—Phosphate Treatment of Iron and Steel Surfaces
- AS 1650 Galvanized Coatings
- AS 1721 General Purpose Metric Screw Threads
- AS 1789 Electroplated Coatings of Zinc on Iron and Steel
- AS 1790 Electroplated Coatings of Cadmium on Iron and Steel
- AS 1816 Method for Brinell Hardness Test
Part 1—Testing of Metals
- AS 1830 Grey Iron Castings
- AS 2074 Steel Castings

3 DEFINITIONS. For the purpose of this standard, the following definitions apply:

3.1 Finished condition—the condition after completion of processing and proof loading.

3.2 Processing—any treatment subsequent to forging, including heat treatment and application of surface finish coatings, but excluding proof loading and application of temporary protective coatings for storage purposes.

3.3 Production batch (of wedge-type sockets)—wedge-type sockets of the same size which have been produced at the same time from the same materials by the same manufacturing and heat treatment processes.

3.4 Proof load—the production proof test force applied after processing, as specified by Clause 9.5.

3.5 Self-coloured—a surface colour of closely adhering brown/blue oxides resulting from heat treatment and subsequent handling during manufacture.

3.6 Shall and should—‘shall’ is taken to be mandatory; ‘should’ is taken to be advisory.

3.7 Statutory authority—an authority with statutory powers to control the use of wedge-type sockets.

3.8 Wedge-type socket—an assembly to enable a rope to be attached to another fitting, incorporating a clamping action of a wedge in a tapered hole. It comprises a socket body, a socket wedge and a means to enable attachment to another fitting.

3.8.1 Socket body—a component with a tapered hole to clamp rope at one end and a means to enable attachment to another fitting at the other end. Acceptable types of socket bodies are illustrated in Fig. 1.

3.8.2 Socket wedge—a wedge to hold a rope in the tapered hole of a socket body.

3.8.3 Socket pin—a pin to fit a clevis or a tongue of a socket body.

3.8.4 Socket pin lock—a device to positively retain a socket pin in a socket body.

3.9 Working load.

3.9.1 Working load limit (WLL)—the maximum load which may be applied to the wedge-type socket under general conditions of use. The WLL values apply only where a steel wire rope is correctly fitted to the wedge-type socket (see Paragraph B2 of Appendix B).

3.9.2 Safe working load (SWL)—the maximum load which may be applied to the wedge-type socket under the particular conditions of use. It is the rating for the particular application which is to be complied with by the user.

NOTES:

1. The SWL never exceeds the WLL.
2. For Class 3 load applications as specified by AS 1418, Part 1 under recommended conditions of loading, the SWL is equal to the WLL.
3. For Classes 4 and 5 load applications as specified by AS 1418, Part 1 under recommended conditions of loading, the SWL is equal to 0.8 times the WLL.
4. For especially arduous conditions or other than normal conditions of loading, a lower SWL is used.

4 CLASSIFICATION.

4.1 Types. Acceptable types of wedge-type sockets are shown in Fig. 1.

4.2 Nominal size. The nominal size of wedge-type sockets shall be the nominal diameter of wire rope which the wedge-type socket is intended to clamp.

5 DIMENSIONS. Wedge-type sockets shall conform to the dimensions specified in Table 1 as shown by Fig. 2.

Any threaded connections shall comply with AS 1721. Any threads of galvanized wedge-type sockets shall be formed after the galvanizing.

The wedge dimensions shall be such that the wedge is not able to pass through the socket body with the wedge-type socket assembled without rope or a retaining pin.