

Australian Standard[®]

Shackles



This Australian Standard® was prepared by Committee ME-025, Lifting Tackle. It was approved on behalf of the Council of Standards Australia on 29 March 2002. This Standard was published on 2 May 2002.

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- Australian Chamber of Commerce and Industry
 - Australian Forging Group
 - Australian Industry Group
 - Australian Maritime Safety Authority
 - Crane Industry Council of Australia
 - Department of Defence
 - Department of Infrastructure, Energy and Resources (Tasmania)
 - Institute of Quarrying Australia
 - Institution of Engineers, Australia
 - National Association of Testing Authorities Australia
 - Victorian WorkCover Authority
 - WorkCover New South Wales
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Shackles

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-025, Lifting Tackle, to supersede AS 2741—1992.

This Standard incorporates Amendment No. 1 (July 2002) and Amendment No. 2 (November 2008). The changes required by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The purpose of this Standard is to promote the safety of shackles.

This edition includes the following technical changes:

- (a) In Clause 2, the list of referenced documents has been brought up to date.
- (b) In Clause 3, the definitions for 'production batch' and 'safe working load' have been deleted, and definitions for 'competent person' and 'nominal size' have been added. The term 'safe working load (SWL)' is not used, to align with international practice.
- (c) In Clause 4, Quality Grades L, P and T have been deleted.
- (d) In Clauses 6, 8 and 9, the requirements for mechanical properties and proof testing are set out in a new format, including the deletion of production destructive tests.
- (e) Requirements for quality control have been included in Clause 9.
- (f) The note in Clause 9.4 recommends that the original test certificate be retained for 10 years.
- (g) In Appendix D, the dimension 'E' was changed from lower case to upper case.
- (h) Previous Figures 7 to 10 for pins for Quality Grade P shackles have been deleted.
- (i) Appendix F specifies conditions for application of test forces.

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FOREWORD

Shackles are used in lifting, tensioning and staying systems as removable links to interconnect other components.

In any lifting, tensioning or staying system, the working load of each component has to take account of the conditions (such as the classification of load application as specified by AS 1418.1) and be compatible with any loads inherent in and applied to the system, and each component has to 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.

The same quality grading system is used by other Australian Standards covering components in lifting, tensioning and staying systems. It allows for positive identification and easy selection and matching, and relates to the mechanical properties of the finished product and not simply to the strength of the material.

STANDARDS AUSTRALIA

Australian Standard
Shackles

1 SCOPE

This Standard specifies requirements for forged shackles of Quality Grades M or 4 and S or 6.

NOTES:

- 1 Guidance on information that should be supplied with inquiries and orders is given in Appendix A.
- 2 Guidance on the care and use of shackles is given in Appendix B.
- 3 Standards for components used in lifting systems are listed in Appendix C.

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 | Non-destructive testing—Magnetic particle testing of ferromagnetic products, components and structures |
| 1199 | Sampling procedures and tables for inspection by attributes |
| 1399 | Guide to AS 1199—Sampling procedures and tables for inspection by attributes |
| 1418 | Cranes, hoists and winches |
| 1418.1 | Part 1: General requirements |
| 1442 | Carbon steels and carbon-manganese steels—Hot-rolled bars and semifinished products |
| 1444 | Wrought alloy steels—Standard, hardenability (H) series and hardened and tempered to designated mechanical properties |
| 1627 | Metal finishing—Preparation and pretreatment of surfaces |
| 1627.6 | Part 6: Chemical conversion treatment of metals |
| 1721 | General purpose metric screw threads |
| 1789 | Electroplated coatings—Zinc on iron or steel |
| 1816 | Metallic materials—Brinell hardness test |
| 2002 | Non-destructive testing—Penetrant testing of products and components |
| 2193 | Methods for calibration and grading of force-measuring systems of testing machines |
| 2202 | ‘Not applicable’ |
| ISO/IEC | |
| 17025 | General requirements for the competence of testing and calibration laboratories |
| AS/NZS | |
| 4680 | Hot-dip galvanized (zinc) coatings on fabricated ferrous articles |