AS 2741—2002
(Incorporating Amendment Nos 1 and 2)

AS 2741—2002

Australian Standard®

Shackles

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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

2062 Non-destructive testing—Penetrant testing of products and components

2193 Methods for calibration and grading of force-measuring systems of testing machines

A2 **'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