



Lifting points

Part 1: Collared eyebolts and collared eyenuts—Grade 4



AS 2317.1:2018

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- Australian Diecasting Association
- Australian Industry Group
- Chamber of Commerce and Industry Queensland
- Crane Industry Council of Australia
- Department of Defence (Australian Government)
- Engineers Australia
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- National Association of Testing Authorities Australia
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Preface

This Standard was prepared by the Standards Australia Committee ME-025, Lifting Tackle, to supersede AS 2317—1998, *Collared eyebolts*.

This Standard is intended to promote the safety of collared eyebolts and collared eyenuts.

This edition includes the following technical changes from the superseded edition:

- (a) The inclusion of collared eyenuts.
- (b) A definition for a competent person has been included.
- (c) The definitions for working load have been amended.
- (d) The permitted types of screw threads have been extended to include a wider range of threads.
- (e) The range of nominal sizes for eyebolts has been extended. The working load limit (WLL) values and testing regimes have been altered to align more closely with ISO.
- (f) The requirements for testing of mechanical properties have been revised.
- (g) WLL marking requirements have been included.
- (h) The marked WLL is the transverse (or trunnion) loading.

This Standard is Part 1 of the AS 2317, *Lifting points*, series. When complete the series will include other parts that provide requirements for high tensile lifting points.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

The terms “normative” and “informative” have been used in this Standard to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Introduction

Eyebolts are used in lifting, tensioning and staying systems to connect the systems to a tapped hole or through a hole into a nut. Eyenuts are used in lifting, tensioning and staying systems to connect to a threaded stud.

In any lifting, tensioning or staying system, the working load of each component needs 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 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 grade of fitting is detailed in this Standard because the materials into which the eyebolts are fitted may have low mechanical strength properties. The material specified in this Standard is equivalent to the quality Grade 4 (previously referred to as Grade M) materials used for the manufacture of other types of lifting components. Eyebolts and eyenuts of a quality grade material greater than 4 are not excluded from use, provided they are interfaced with compatible materials and meet the required performance criteria.

Australian Standard®

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Section 1 Scope and general

1.1 Scope and application

1.1.1 Scope

This Standard specifies requirements for Grade 4 forged collared eyebolts and collared eyenuts used for lifting.

1.1.2 Application

[Section 2](#) specifies design and manufacturing requirements.

[Section 3](#) provides test methods for verification of product conformity.

[Section 4](#) provides requirements and guidance on the safe use and inspection of eyebolts and eyenuts.

[Appendix H](#) covers other aspects of product conformity.

NOTE 1 Guidance on information that should be supplied with enquiries and orders is given in [Appendix B](#).

NOTE 2 A list of hazards associated with eyebolts and their use is provided in [Appendix C](#).

NOTE 3 Guidance on the lifting capacity of eyebolts is given in [Appendix D](#).

NOTE 4 Standards for components that are used in lifting systems are listed in [Appendix E](#).

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents for informative purposes are listed in the Bibliography.

AS 1112.1, *ISO metric hexagon nuts, Part 1: Style 1 — Product grades A and B*

AS 1171, *Non-destructive testing — Magnetic particle testing of ferromagnetic products, components and structures*

AS 1275, *Metric screw threads for fasteners*

AS 1391, *Metallic materials — Tensile testing at ambient temperature*

AS 1418.1, *Cranes, hoists and winches, Part 1: General requirements*

AS 1442, *Carbon steels and carbon-manganese steels — Hot rolled bars and semi-finished products*

AS 1444, *Wrought alloy steels — Standard hardenability (H) series and hardened and tempered to designated mechanical properties*

AS 1721, *General purpose metric screw threads*

AS 2062, *Non-destructive testing — Penetrant testing of products and components*

AS 2193, *Calibration and classification of force-measuring systems*