Australian Standard™

Collared eyebolts

This Australian Standard was prepared by Committee ME/25, Lifting Tackle. It was approved on behalf of the Council of Standards Australia on 10 July 1998 and published on 5 October 1998.

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Australian Chamber of Commerce and Industry

Australian Chamber of Manufactures

Australian Forging Group

Australian Maritime Safety Authority

Crane Industry Council of Australia

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Australian Standard™

Collared eyebolts

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PREFACE

This Standard was prepared by the Standards Australia Committee ME/25, Lifting Tackle, to supersede AS 2317—1984.

This Standard is intended to promote the safety of eyebolts.

This edition includes the following technical changes from the superseded edition:

(a) A definition for a competent person has been included (Clause 3.1).

(b) The definitions for working load have been amended (Clauses 3.6.1 and 3.6.2).

(c) The permitted types of screw threads have been extended to include overseas Standards (Clause 5.4).

(d) The requirement that steels be heat treated has been deleted, to allow for the use of microalloyed grades that do not require heat treatment (Clause 5.5).

(e) The range of nominal sizes for eyebolts has been extended to also include M10, M22, M33, M39 and M76 (Table 2).

(f) The WLL values have been increased to align more closely with British Standards (Table 2).

(g) The nominal size must be marked on each eyebolt (Clause 7.3).

(h) The requirements for testing of mechanical properties have been revised (Clause 8).

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.

CONTENTS

FOREWORD

Eyebolts are used in lifting, tensioning and staying systems to connect the systems to a tapped hole.

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 1418.1) 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 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 M materials used for the manufacture of other types of lifting components. If an eyebolt is able to carry a higher load by being manufactured from a stronger material, it should be designed to have a dominant design variance from the standard eyebolt range.

Eyebolts of a quality grade material of greater than M are not excluded from use, provided they are interfaced with compatible materials and meet the required performance criteria.

STANDARDS AUSTRALIA

Australian Standard

Collared eyebolts

1 SCOPE This Standard specifies requirements for forged collared eyebolts for lifting purposes.

NOTES:

1 Guidance on information that should be supplied with enquiries and orders is given in Appendix A.

2 Guidance on the care and use of collared eyebolts is given in Appendix B.

3 Guidance on the lifting capacity of eyebolts is given in Appendix C.

4 Standards for components that are used in lifting systems are listed in Appendix D.

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 (including 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

1650 Hot-dipped galvanized coatings on ferrous articles

1721 General purposed metric screw threads

1789 Electroplated coatings—Zinc on iron or steel

1790 Electroplated coatings—Cadmium on iron or steel

1816 Metallic materials—Brinell hardness test

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

AS/NZS

ISO 9000 Quality management and quality assurance standards

ISO 9000.1 Part 1: Guidelines for selection and use