

Australian Standard™

**ISO metric hexagon bolts and screws—  
Product grades A and B**

**Part 1: Bolts**

[ISO title: Hexagon head bolts—Product grades A and B]



Standards Australia

This Australian Standard was prepared by Committee ME/29, Fasteners. It was approved on behalf of the Council of Standards Australia on 21 April 2000 and published on 23 June 2000.

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- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Bureau of Steel Manufacturers of Australia
- Electricity Supply Association of Australia
- Federal Chamber of Automotive Industries
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**ISO metric hexagon bolts and screws—  
Product grades A and B**

**Part 1: Bolts**

Originally issued as AS 1110—1972.  
Previous edition AS/NZS 1110:1995.  
Revised and redesignated, in part, as AS 1110.1—2000.

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Published by Standards Australia International Ltd  
PO Box 1055, Strathfield, NSW 2135, Australia

ISBN 0 7337 3399 9

## PREFACE

This Standard was prepared by the Standards Australia Committee ME/29, Fasteners to supersede AS/NZS 1110:1995, *ISO metric precision hexagon bolts and screws*, in part.

The objective of this Standard is to provide manufacturers, suppliers and users with the dimensions, tolerances and material requirements for hexagon head bolts ISO product grades A and B with ISO metric coarse threads.

This Standard is Part 1 of a two-part series on ISO metric hexagon bolts and screws. Part 2 gives the dimensions for screws.

This edition has been technically revised and introduces the designations of product grade A and product grade B in place of the term 'precision' which has been used in previous editions.

NOTE: The product grades refer to the quality of the product and to the size of the tolerances where grade A is the most precise and grade C is the least precise.

This Standard is identical with and has been reproduced from, ISO 4014:1999, *Hexagon head bolts—Product grades A and B*.

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

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- Its number does not appear on each page of text and its identity is shown only on the cover and title page.
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<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
225	Fasteners—Bolts, screws, studs and nuts—Symbols and designations of dimensions	—	
724	ISO general-purpose metric screw threads—Basic dimensions	—	
888	Bolts, screws and studs—Nominal lengths, and thread lengths for general purpose bolts	—	
898	Mechanical properties of fasteners made of carbon steel and alloy steel	4291	Mechanical properties of fasteners made of carbon, steel and alloy steel
898-1	Part 1: Bolts, screws and studs	4291.1	Part 1: Bolts, screws and studs
965	ISO general purpose metric screw threads—Tolerances	—	
965-1	Part 1: Principles and basic data	—	
3209	Fasteners—Acceptable inspection	—	
3506	Mechanical properties of corrosion-resistant stainless-steel fasteners	—	
3506-1	Part 1: Bolts, screws and studs	—	
4017	Hexagon head screws—Product grades A and B	1110	ISO metric hexagon head bolts and screws—Product grades A and B
		1110.2	Part 2: Screws

ISO		AS
4042	Fasteners—electroplated coatings	—
4753	Fasteners—Ends of parts with external metric ISO thread	—
4759	Tolerances for fasteners	—
4759-1	Part 1: Bolts, screws, studs and nuts—Product grades A, B and C	—
6157	Fasteners—Surface discontinuities	—
8839	Mechanical properties of fasteners—Bolts, screws, studs and nuts made of non-ferrous metals	—
8992	Fasteners—General requirements for bolts, screws, studs and nuts	—
10683	Fasteners—Non-electrolytically applied zinc flake coatings	—

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## CONTENTS

	<i>Page</i>
Introduction.....	v
1 Scope.....	1
2 Normative references .....	1
3 Dimensions.....	2
4 Specifications and reference standards .....	2
5 Designation .....	10
Bibliography .....	11

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## INTRODUCTION

This International Standard is part of the complete ISO product standard series on external hexagon drive fasteners. The series comprises:

- a) hexagon head bolts (ISO 4014 to ISO 4016 and ISO 8765);
- b) hexagon head screws (ISO 4017, ISO 4018 and ISO 8676);
- c) hexagon nuts (ISO 4032 to ISO 4036, ISO 8673 to ISO 8675);
- d) hexagon bolts with flange (ISO 4162 and ISO 15071);
- e) hexagon nuts with flange (ISO 4161 and ISO 10663);
- f) structural bolts and nuts (ISO 4775, ISO 7411 to ISO 7414 and ISO 7417).

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## AUSTRALIAN STANDARD

**ISO metric hexagon bolts and screws—Product grades A and B**Part 1:  
Bolts**1 Scope**

This International Standard specifies the characteristics of hexagon head bolts with threads from M1,6 up to and including M64, of product grade A for threads M1,6 to M24 and nominal lengths up to and including  $10d$  or 150 mm, whichever is shorter and product grade B for threads over M24 or nominal lengths over  $10d$  or 150 mm, whichever is shorter.

If, in special cases, specifications other than those listed in this International Standard are required, they should be selected from existing International Standards, for example ISO 724, ISO 888, ISO 898-1, ISO 965-1, ISO 3506-1, ISO 4753 and ISO 4759-1.

**2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 225:1983, *Fasteners — Bolts, screws, studs and nuts — Symbols and designations of dimensions.*

ISO 724:1993, *ISO general-purpose metric screw threads — Basic dimensions.*

ISO 888:1976, *Bolts, screws and studs — Nominal lengths, and thread lengths for general purpose bolts.*

ISO 898-1:1999, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs.*

ISO 965-1:1998, *ISO general purpose metric screw threads — Tolerances — Part 1: Principles and basic data.*

ISO 3269:—<sup>1)</sup>, *Fasteners — Acceptance inspection.*

ISO 3506-1:1997, *Mechanical properties of corrosion-resistant stainless-steel fasteners — Part 1: Bolts, screws and studs.*

ISO 4017:1999, *Hexagon head screws — Product grades A and B.*

ISO 4042:1999, *Fasteners — Electroplated coatings.*

ISO 4753:—<sup>2)</sup>, *Fasteners — Ends of parts with external metric ISO thread.*

<sup>1)</sup> To be published. (Revision of ISO 3269:1988)

<sup>2)</sup> To be published. (Revision of ISO 4753:1983)