AS 1881—1986
Reconfirmed 2018

Australian Standard®

# ZINC ALLOYS—CASTING INGOTS AND CASTINGS—QUALITY REQUIREMENTS

This Australian Standard was prepared by Committee MT/4, Zinc and Zinc Alloys. It was approved on behalf of the Council of the Standards Association of Australia on 31 October 1985 and published on 6 January 1986.

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The following interests are represented on Committee MT/4:

Australian Zinc Development Association

Confederation of Australian Industry

Department of Defence

Diecasting Institute of Australia

Electricity Supply Association of Australia

Federal Chamber of Automotive Industries

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*This standard was issued in draft form for comment as DR 82180.*

STANDARDS AUSTRALIA

# RECONFIRMATION

# OF
# AS 1881–1986
# Zinc alloys–Casting ingots and castings–
# Quality requirements

## RECONFIRMATION NOTICE

Major stakeholders of this publication have reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 29 August 2018.

NOTES

Australian Standard®

# ZINC ALLOYS—CASTING INGOTS AND CASTINGS—QUALITY REQUIREMENTS

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# PREFACE

This edition of this standard was prepared by the Association's Committee on Zinc and Zinc Alloys. It provides for the supply of zinc alloys in ingot form for gravity castings and pressure diecastings and for castings made from them.

The scope of this standard was expanded to provide for gravity castings and zinc alloy ingots for their manufacture. The alloy designation adopted in the standard is that used in international standards, but the chemical composition of the diecasting alloys differs slightly from ISO 301, Zinc Alloy Ingots Intended for Casting, to reflect Australian practice; the expression of thallium and indium as a sum total, and the aluminium content of Zn Al 11 Cu 1, in particular, are different.

Appendix A sets out purchasing guidelines, including contractual requirements, and directs attention to matters requiring consideration at the time of enquiry and/or order. Information on mechanical properties to be expected after certain periods of ageing is contained in Appendices B, C and D.

The Committee considered preparation of an Australian standard for the design and manufacture of zinc alloy pressure and gravity diecastings. It recommended that this should proceed, particularly in the light of the discontinuation of the Certizinc scheme of the Diecasting Institute of Australia, and technical developments both locally and overseas. The Association accepted this recommendation and a standard shall be prepared.

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STANDARDS ASSOCIATION OF AUSTRALIA

# Australian Standard
# for
# ZINC ALLOYS—CASTING INGOTS AND CASTINGS—QUALITY REQUIREMENTS

## SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This standard specifies quality requirements and conditions of supply for zinc alloys in ingot form for pressure diecasting and gravity casting and for castings made from them.

NOTES:

1. Properties of alloys are given in Appendices B, C and D.
2. Guidelines to purchasers on requirements that must be specified by the purchaser and those that must be agreed upon at the time of enquiry and/or order are given in Appendix A.

**1.2 APPLICATION.** Zinc alloy ingots shall comply with the relevant requirements of Section 1 and with the requirements of Section 2 for the designated alloy.

Castings shall comply with the relevant requirements of Section 1; requirements of Section 3 will apply for castings made from the designated alloy.

**1.3 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

AS 1242 Zinc Ingot

AS 1329 Methods for the Analysis of Zinc and Zinc Alloys

AS 1874 Aluminium Ingots and Aluminium Alloy Ingots and Castings

AS 2347 Method for the Sampling of Zinc Metal and Zinc Alloys for Chemical Analysis

AS 2706 Numerical Values—Rounding and Interpretation of Limiting Values

BS 1004 Zinc Alloys for Die Casting and Zinc Alloy Die Casting

**1.4 DESIGNATION.**

**1.4.1 General.** Zinc alloy designation shall include the following:

(a) The number of this Australian Standard, i.e. AS 1881.

(b) Chemical symbols and figures indicating the alloying elements and their approximate mean levels.

**1.4.2 Dimensionally stabilized castings.** When dimensionally stabilized castings are required, the letter 'S' in brackets shall be added to the alloy designation.

*Examples of designation:* AS 1881/Zn Al 4 Cu 1, AS 1881/Zn Al 4 (S).

**1.5 INTERPRETATION OF SPECIFIED LIMITING VALUES.** For the purpose of assessing compliance with this standard, the specified limiting values herein shall be interpreted in accordance with the 'rounding method' described in AS 2706, i.e. the observed or calculated value shall be rounded to the same number of figures as in the specified limiting value and then compared with the specified limiting value. For example, for specified limiting values of 2.5, 2.50, and 2.500, the observed or calculated value would be rounded respectively to the nearest 0.1, 0.01, or 0.001.

For examples of interpretation of specified values in accordance with the rounding method, see AS 2706, Appendix B.