AS 1874—2000
Reconfirmed 2018

Australian Standard™

Aluminium and aluminium alloys—Ingots and castings

Standards Australia

This Australian Standard was prepared by Committee MT/3, Aluminium and Aluminium Alloys. It was approved on behalf of the Council of Standards Australia on 15 February 2000 and published on 12 May 2000.

The following interests are represented on Committee MT/3:

Australasian Railway Association

Australian Aluminium Council

Australian Automobile Association

Australian Chamber of Commerce and Industry

Australian Window Association

New Zealand Manufacturers Federation

Society of Automotive Engineers—Australasia

Australian Automobile Association

Additional interests participating in the preparation of this Standard:

Non-ferrous foundries

Light metal consultants

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This Standard was issued in draft form for comment as DR 99001.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 1874–2000
Aluminium and aluminium alloys–Ingots and castings

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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NOTES

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Aluminium and aluminium alloys—Ingots and castings

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee MT/3, Aluminium and Aluminium Alloys, to supersede AS 1874—1988.

The objective of this revision is to upgrade the requirements for aluminium and aluminium alloy ingots and castings.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

During the preparation of this Standard cognizance was taken of the publication, *Aluminium Standards and Data—Ingots and Castings*, published in 1997 by the Australian Aluminium Council. Cognizance was also taken of the following International, National and European Standards:

ISO 3522:1984	Cast aluminium alloys—Chemical composition and mechanical properties
BS 1490:1988	Aluminium and aluminium alloy ingots and castings for general engineering purposes
EN 1706:1998	Aluminium and aluminium alloys—Castings—Chemical composition and mechanical properties

Whereas the alloys contained in the above three Standards are similar to those listed in this Standard, Australian industry favours the use of designations of American origin rather than adopting the ISO and European designations which comprise chemical symbols and numbers.

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

STANDARDS AUSTRALIA

Australian Standard

Aluminium and aluminium alloys—Ingots and castings

1 SCOPE This Standard specifies requirements for aluminium ingots and aluminium alloy ingots and castings.

NOTE: Advice and recommendations on information to be supplied by the purchaser at the time of enquiry or order are contained in Appendix A.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1391 Methods for tensile testing of metals

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

2612 Aluminium and aluminium alloys—Sampling for chemical and spectrochemical analysis

2706 Numerical values—Rounding and interpretation of limiting values

3719 Aluminium and aluminium alloys
3719.1 Part 1: Determination of iron—Spectrophotometric method
3719.2 Part 2: Determination of silicon—Gravimetric method

BS
1728 Methods for the analysis of aluminium and aluminium alloys (all parts)

ASTM
E 34 Test methods for chemical analysis of aluminium and aluminium-base alloys

E 227 Test method for optical emission spectrometric analysis of aluminium and aluminium alloys by the point-to-plane technique

3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

3.1 Annealing—thermal treatment to soften metal by the removal of strain hardening resulting from cold working, by recrystallization and/or by coalescing precipitates from the solid solution.

3.2 Artificial ageing—a thermal treatment of an alloy carried out above room temperature to produce strengthening by precipitation of soluble constituents from a super-saturated solid solution. Also know as ‘precipitation heat treatment’.

3.3 Batch (ingot)—a series of ingots cast from a single uniform melt.

3.4 Cast (non-continuous melting)—the product of either one furnace melt, or a number of furnace melts where such are aggregated and mixed prior to sampling or pouring.

3.5 Cast (continuous melting)—the product of continuous melting when the contents of a melting/holding furnace are supplemented from time to time by the addition of metal to maintain an adequate bulk of liquid metal. A cast comprises up to 500 kg of metal poured.

3.6 Dressing (fettling)—the cleaning up of a casting by removing flashes and runners.

3.7 Ingot—a cast metal product prepared in a suitable form for remelting.

