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Amendment 1 - July

Superseded by AS 1834.01-1991

AS 1834.1—1986  
UDC 621.791.35.04

# Australian Standard<sup>®</sup> 1834.1—1986

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## MATERIAL FOR SOLDERING Part 1—SOLDER ALLOYS



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*



This Australian standard was prepared by Committee MT/5, Lead and Lead Alloys. It was approved on behalf of the Council of the Standards Association of Australia on 14 January 1986 and published on 5 May 1986.

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The following interests are represented on Committee MT/5:

Australian Atomic Energy Commission  
Confederation of Australian Industry  
Federated Master Plumbers of Australia  
Housing Industry Association of Australia  
Metropolitan Water, Sewerage and Drainage Board, NSW  
Royal Australian Institute of Architects

Representatives of the following interests also participated in the drafting of this standard:

Australian Lead Development Association  
Australian Tin Information Centre  
Department of Defence  
Telecom Australia

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*This standard was issued in draft form for comment as DR 84237.*

Dup

STANDARDS ASSOCIATION OF AUSTRALIA  
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AMENDMENT No 1  
to  
AS 1834.1—1986  
MATERIAL FOR SOLDERING  
PART 1—SOLDER ALLOYS



REVISED TEXT

The 1986 edition of AS 1834.1 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to the Preface, Table 1 and Appendix B.

Published on 15 July 1988.

AMDT No 1 JULY 1988 **Page 2. Preface**

Add at the end of the fourth paragraph:

One tin-copper alloy has been added for general use for plumbing applications, particularly for capillary fittings for joining copper tube in potable water systems.

AMDT No 1 JULY 1988 **Page 4. Table 1.**

Add the following:

TIN-COPPER 99.3Sn/0.7Cu	99.15	99.55	—	0.10	0.10	—	0.05	—	0.005	—	0.005	—	0.001	0.10	0.05	0.02	0.45	0.85
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AMDT No 1 JULY 1988 **Page 8. Appendix B.**

Add the following:

<b>TIN-COPPER</b> 99.3Sn/0.7Cu	227	228	1	For general plumbing applications and for capillary fittings for joining copper tube in potable water systems, where a lead-free solder is specified.
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AUSTRALIAN STANDARD

**MATERIAL FOR SOLDERING**  
**Part 1**  
**SOLDER ALLOYS**

**AS 1834.1—1986**

First published (as <sup>AS</sup> H1 and <sup>AS</sup> H2) .....	1931
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## PREFACE

This edition of this standard was prepared by the Association's Committee on Lead and Lead alloys, by its Subcommittee on Solder, to supersede, in part, AS 1834—1979. It applies to tin-lead and other tin-containing solder alloys in cast or wrought form. The Subcommittee considered that AS 1834—1979 could be applied more easily if it was formed into a series. The other standards in the series are as follows:

AS 1834.2—Cored Solders

AS 1834.3—Fluxes.\*

During the preparation of the standard, cognizance was taken of the following:

BS 219 Specification for Soft Solders

QQ-S-571 Solder, Tin Alloy; Tin-Lead Alloy; and Lead Alloy

ASTM B32 Solder Metal.

A grade equivalent to the Sn63 grade of QQ-S-571 has been added to the standard as grade 63Sn/0.35 Sb. The tin-lead-zinc grades have been deleted due to low usage, while a 95 Sn/5Ag grade has been added.

\* SEE AMENDMENT 1

\* In course of preparation

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## STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard**  
for  
**MATERIAL FOR SOLDERING**  
**PART 1—SOLDER ALLOYS**

**1 SCOPE.** This standard specifies requirements for tin-lead and other tin-containing solder alloys supplied in a cast, wrought, paste or powder form.

**NOTES**

1. Aspects of solder powder and solder paste other than chemical composition and purity of the solder alloy are not covered in this standard. Enquiries should be directed to the manufacturer.
2. For the purpose of this standard, 'wrought' includes ribbon, wire, rod and preforms.
3. 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.
4. Typical properties and uses of these solders are given in Appendix B.

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

AS 1671	Methods for the Analysis of Lead Alloys
AS 2292	Methods for the Analysis of Solders
AS 2534	Lead and Lead Alloys—Sampling and Preparation of Samples for Chemical Analysis
AS XXXX*	Assembly of Printed Board Assemblies
BS 3338	Methods for the Sampling and Analysis of Tin and Tin Alloys Part 12: Sampling of Solders
ASTM B32	Solder Metal
ASTM E46	Chemical Analysis of Lead and Tin-base Solder Metal
ASTM E51	Method for Spectrographic Analysis of Tin Alloys by the Powder Technique
ASTM E87	Photometric Methods for Chemical Analysis of Lead, Tin, Antimony and Their Alloys.

**3 DESIGNATION.** The grade designation, as given in Table 1, shall include the following:

- (a) Number of this Australian standard, i.e. AS 1834.1.
- (b) Nominal tin content, followed by the chemical symbol for tin, i.e. Sn.

(c) Nominal content of any ternary addition followed by the chemical symbol for that element.

NOTE: Lead content is not included explicitly in the designation, and is obtained by difference, as appropriate.

*Examples of Designation*

AS 1834.1/70Sn, AS 1834.1/30Sn/1.8Sb,  
AS 1834.1/95Sn/5Sb

**4 CHEMICAL COMPOSITION.**

**4.1 General.** The tin-lead and tin-containing solder alloys shall conform to the chemical composition limits given in Table 1 (see also Paragraph A3 of Appendix A).

**NOTES:**

1. Additional antimonial grades based on partial replacement of tin by antimony are available, and enquiries regarding these grades should be directed to the supplier.
2. Attention is drawn to the fact that this standard covers the composition of the solder as supplied. For information concerning acceptable limits on impurities in working solder baths, reference should be made to AS XXXX.

**4.2 Methods of Sampling and analysis.** Methods of sampling for chemical analysis shall not be less accurate than those prescribed in AS 2534, BS 3338, Part 12, and ASTM B32.

Methods of chemical analysis shall not be less accurate than those prescribed in AS 1671, AS 2292, BS 3338, ASTM E46, ASTM E51, and ASTM E87.

**5 HEALTH AND SAFETY.** This standard calls for the use of substances and/or procedures that may be hazardous to health or that may cause other hazards (corrosion, fire) if adequate precautions are not taken. It refers only to technical suitability of substances and procedures recommended and in no way absolves the testing laboratory, the supplier or the user from statutory obligations relating to health and safety at any stage of manufacture, use or while performing tests recommended in this standard.

\* In course of preparation.