AS/NZS 1167.1:2005

Australian/New Zealand Standard™

Welding and brazing—Filler metals

Part 1: Filler metal for brazing and braze welding

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee WD-002, Welding Consumables. It was approved on behalf of the Council of Standards Australia on 19 September 2005 and on behalf of the Council of Standards New Zealand on 16 September 2005.
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The following are represented on Committee WD-002:

Australian Chamber of Commerce and Industry
Bureau of Steel Manufacturers of Australia
Business New Zealand
CSIRO Manufacturing and Infrastructure Technology
Welding Technology Institute of Australia

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee, Welding Consumables, to supersede AS 1167.1—1993, *Welding and brazing—Filler metals*, Part 1: *Filler metal for brazing and braze welding*.

The objective of this Standard is to specify requirements for brazing filler metal.

The main changes in this edition have been driven by the increasing international concern at the risks of cadmium exposure and strategies at the global and Australian levels, and were aimed at cadmium minimization. Hence, the deletion of nine alloys containing cadmium (A4 to A7, A9 to A12 and A17) and the addition of six cadmium free alloys (A18 to A23) in Table 1.

Other significant technical changes included the following:

(a) Deletion of alloys with very little usage (A1, A3, A13, A14 and B5).

(b) Reduction of cadmium impurity levels, in Tables 1 and 2, from 0.05 to 0.01%.

(c) Updating of melting ranges to show true liquidus values, and addition of Indicative Brazing Temperature Ranges in Table 2.

(d) Deletion of alloy R4343 from Table 4, and updating Beryllium content from 0.0008% to 0.0003% to align with ISO Standards.

In addition, Appendix A has been fully revised to update references to current equivalent EN, AWS and ISO Standards.

Mechanical properties of brazed joints are not covered in this Standard but will generally be found in the relevant application Standards.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

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1 SCOPE

This Standard specifies requirements for filler metals in all forms for brazing and braze welding processes. It includes requirements for chemical composition and analysis, packing and marking. In addition, a standard form of colour coding designed to be mutually acceptable to manufacturers and users has been recommended for identification purposes.

NOTE: In this Standard, the term brazing is used to imply both processes.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1674	Safety in welding and allied processes
1674.1	Part 1: Fire precautions
1674.2	Part 2: Electrical
2700	Colour standards for general purposes
2812	Welding, brazing and cutting of metals—Glossary of terms
ANSI/AWS	
A5.8	Specification for brazing filler metal
EN	
1044	Brazing—Filler metals
ISO	
3677	Filler materials for self soldering, brazing and braze welding—Designation
WTIA	
TN 07	Health and safety in welding Technical Note 7 Fume minimization guidelines

3 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2812 apply.

4 CHEMICAL COMPOSITION AND ANALYSIS

The chemical composition of the brazing alloy, determined in accordance with the relevant methods of the appropriate volume of the current book of ANSI/ASTM Standards, or in accordance with other methods that are not less accurate, shall comply with the appropriate requirements given in Tables 1 to 4.

NOTE: Appendix A gives Australian alloy designations and their European, American, and ISO equivalents.

