

Australian Standard™

**Aluminium and aluminium alloys—  
Determination of impurities and alloying  
elements—Atomic emission  
spectrometric method**

This Australian Standard was prepared by Committee CH-010, Analysis of Metals. It was approved on behalf of the Council of Standards Australia on 02 March 2004 and published on 21 April 2004.

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The following are represented on Committee CH-010:

Australasian Institute of Mining and Metallurgy  
Australian Aluminium Council  
Institute of Materials Engineering Australasia  
International Precious Metals Institute  
National Association of Testing Authorities Australia  
The Royal Australian Chemical Institute  
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STANDARDS AUSTRALIA

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RECONFIRMATION

OF

AS 4861—2004

**Aluminium and aluminium alloys—Determination of impurities and alloying  
elements—Atomic emission spectrometric method**

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Technical Committee CH-010 has 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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## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee CH-010, Analysis of Metals. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian, rather than an Australian/New Zealand Standard.

The following laboratories participated in the inter-laboratory test in the program, to provide the data given in Table 1:

Comalco Aluminium.

Hydro Aluminium Kurri Kurri Pty Ltd.

MCK Metals Pacific (New Zealand).

New Zealand Aluminium Smelters.

Steel and Lincoln.

Tomago Aluminium Company.

The objective of this Standard is to provide a method for the determination of impurities and alloying elements in aluminium by arc/spark atomic emission spectrometry.

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## CONTENTS

	<i>Page</i>
1 SCOPE.....	3
2 REFERENCED DOCUMENTS.....	4
3 PRINCIPLE.....	4
4 DEFINITION.....	4
5 APPARATUS.....	4
6 SAMPLING.....	4
7 PROCEDURE.....	4
8 PRECISION.....	9
9 ACCEPTANCE OF RESULTS.....	9
10 TEST REPORT.....	10

## STANDARDS AUSTRALIA

## Australian Standard

## Aluminium and aluminium alloys—Determination of impurities and alloying elements—Atomic emission spectrometric method

## 1 SCOPE

This Standard specifies the atomic emission spectrometric analysis of aluminium and aluminium alloys for the following elements in the concentration ranges indicated.

Element	Concentration range %
Antimony	0.001 – 0.5
Beryllium	0.000003 – 0.1
Bismuth	0.009 – 1.0
Boron	0.0002 – 0.1
Cadmium	0.0004 – 0.04
Calcium	0.00005 – 0.06
Chromium	0.0002 – 0.0
Cobalt	0.0003 – 1.0
Copper	0.0002 – 0.0
Gallium	0.0008 – 0.2
Iron	0.001 – 4.0
Lead	0.0004 – 2.0
Lithium	0.00001 – 0.1
Magnesium	0.0001 – 15.0
Manganese	0.00003 – 10.0
Nickel	0.0003 – 5.0
Phosphorus	0.002 – 0.1
Silicon	0.001 – 25.0
Sodium	0.00009 – 0.05
Strontium	0.00003 – 0.1
Tin	0.0005 – 5.0
Titanium	0.0002 – 1.0
Vanadium	0.0016 – 0.5
Zinc	0.0005 – 10
Zirconium	0.0002 – 0.5