AS 1329.2—1994
Reconfirmed 2016

Australian Standard®

Methods for the analysis of zinc and zinc alloys

Part 2: Determination of magnesium content—Flame atomic absorption spectrometric method

This Australian Standard was prepared by Committee CH/10, Analysis of Metals. It was approved on behalf of the Council of Standards Australia on 9 May 1994 and published on 19 September 1994.

The following interests are represented on Committee CH/10:

Aluminium Development Council, Australia

Australasian Institute of Mining and Metallurgy

Australian Lead Development Association

Bureau of Steel Manufacturers, Australia

Copper Technical Data Centre, Australia

National Association of Testing Authorities, Australia

Railways of Australia Committee

Additional interests participating in preparation of Standard:

Analytical laboratories

Department of Defence, Materials Research Laboratory

Steel manufacturers

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1329.2—1994

Methods for the analysis of zinc and zinc alloys

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RECONFIRMATION NOTICE

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.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 31 July 2016.

The following are represented on Technical Committee CH-010:

Australian Aluminium Council
Bureau of Steel Manufacturers of Australia
International Copper Association Australia
International Precious Metals Institute
National Association of Testing Authorities Australia

NOTES

Australian Standard®

Methods for the analysis of zinc and zinc alloys

Part 2: Determination of magnesium content—Flame atomic absorption spectrometric method

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PREFACE

This Standard was prepared by the Standards Australia Committee CH/10 on the Analysis of Metals to supersede AS 1329.2—1973, *Methods for the analysis of zinc and zinc alloys*, Part 2: *Magnesium in zinc alloys (atomic absorption spectrometric method)*.

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STANDARDS AUSTRALIA

Australian Standard

Methods for the analysis of zinc and zinc alloys

Part 2: Determination of magnesium content—Flame atomic absorption spectrometric method

1 SCOPE This Standard describes a flame atomic absorption spectrometric method for the determination of magnesium in zinc and zinc alloys. The method is applicable to the estimation in the range 0.002% to 0.10% of magnesium and has been found satisfactory in the presence of up to 5.0% of aluminium.

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

AS

2134 Recommended practice for chemical analysis by atomic absorption spectrometry

2134.1 Part 1: Flame atomic absorption spectrometry

2162 Code of practice for the use of volumetric glassware

2164 One-mark volumetric flasks

2166 One-mark pipettes

2167 Straight pipettes

2347 Method for the sampling of zinc metal and zinc alloys for chemical analysis

2850 Chemical analysis—Interlaboratory test programs—For determining precision of analytical method(s)—Guide to the planning and conduct

BS

4237 Report on reproducibility of methods of chemical analysis used in the iron and steel industry

3 PRINCIPLE The sample is dissolved in hydrochloric acid, and the magnesium content determined by flame atomic absorption spectroscopy.

4 REAGENTS

4.1 General Requirements All reagents shall be of analytical reagent grade, and distilled water or water of equivalent purity shall be used. Solutions shall be freshly prepared each day and, where necessary, filtered.

4.2 Solutions

4.2.1 *Hydrochloric acid (1 + 1)* Add 500 mL of hydrochloric acid (ρ_{20} 1.16 g/mL) to 500 mL of water.

4.2.2 *Hydrogen peroxide (1 + 9)* Add 10 mL of hydrogen peroxide (ρ_{20} 1.10 g/mL) to 90 mL with water.

4.3 Standard solutions

4.3.1 *Standard magnesium solution (1 mL ≡ 1 mg Mg)* Dissolve 1.000 g of pure magnesium in 30 mL of hydrochloric acid (4.2.1), and dilute to 1 L.