AS 3515.2—2002
Reconfirmed 2016

Australian Standard™

Gold and gold bearing alloys

Part 2: Determination of gold content (30% to 99.5%)—Gravimetric (fire assay) method

Standards Australia

This Australian Standard was prepared by Committee CH-010, Analysis of Metals. It was approved on behalf of the Council of Standards Australia on 31 July 2002 and published on 16 September 2002.

The following are represented on Committee CH-010:

AMDEL

Australasian Institute of Mining and Metallurgy

Australian Aluminium Council

Institute of Materials Engineering Australasia

National Association of Testing Authorities Australia

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This Standard was issued in draft form for comment as DR 01201.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 3515.2—2002
Gold and gold bearing alloys
Part 2: Determination of gold content (30% to 99.5%)—Gravimetric (fire assay) method

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.

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Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 22 November 2016.

The following are represented on Technical Committee CH-010:

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

NOTES

Australian Standard™

Gold and gold bearing alloys

Part 2: Determination of gold content (30% to 99.5%)—Gravimetric (fire assay) method

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH-010, Analysis of Metals, as Part 2 of a series of Standards for the determination of gold content in gold and gold bearing alloys. 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.

Reference should be made to the other documents in the series:

AS	
3515	Gold and gold bearing alloys
3515.1	Part 1: Determination of gold content (Less than 30%)—Gravimetric (fire assay) method
3515.3	Part 3: Determination of gold content (greater than 99.5%)—Gravimetric (fire assay) method

This Standard supersedes AS 3515.2—1993, *Gold and gold bearing alloys—Determination of gold content (30%—99%) Gravimetric methods*.

The objective of this Standard is to provide a gravimetric method for the determination of gold content 30% to 99.5%. A section on acceptance of results has been added to the Standard.

An interlaboratory test program was organized to provide information on the repeatability and reproducibility of the method. The following laboratories participated in the test program to provide the data given in Table 1:

Harrington's Metallurgists Limited

Johnson Matthey Pty Ltd

Australian Gold Refineries

Palloys Pty Ltd

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

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1 SCOPE

This Standard sets out a gravimetric procedure (fire assay) for the determination of gold content in gold and gold bearing alloys. This method is applicable to gold and gold alloys containing from 30% to 99.5% gold and less than 3% palladium, 2% nickel, 1% platinum, 0.05% rhodium and 0.05% tungsten.

NOTES:

1 Recommended methods of sampling dore bullion for use with this Standard are provided in Appendix A.

2 The presence of the following elements may cause difficulties in obtaining a homogeneous sample: iron, lead, antimony or arsenic.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
2243	Safety in laboratories (series)
2508	Safe storage and handling information card (series)
2830	Good laboratory practices
2830.1	Part 1: Chemical analysis
2850	Chemical analysis—Interlaboratory test programs—For determining precision of analytical method(s)—Guide to the planning and conduct
ISO	
3696	Water for analytical laboratory use—Specification and test methods
5725	Accuracy (trueness and precision) of measurement methods and results (series)

3 DEFINITIONS

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

3.1 Bullion

An alloy of gold and silver with variable amounts of one or more of the base metals.

3.2 Cornet

The alloy of gold and silver after it has been hammered, annealed and fashioned into a roll, prior to parting.

3.3 Cupellation

The process by which the precious metals are separated from the lead and other base metals with which they are alloyed. It is also the process whereby the sample, having been wrapped in lead sheet/foil with the necessary additives (i.e. silver or copper or both), is homogenized in the molten state prior to the separation of the gold and silver.