AS 3515.3—2002
Reconfirmed 2016

Australian Standard™

Gold and gold bearing alloys

Part 3: Determination of gold content (greater than 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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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 3515.3—2002
Gold and gold bearing alloys
Part 3: Determination of gold content (greater than 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 3: Determination of gold content (greater than 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 3 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
3515.2	Part 2: Determination of gold content (30% to 99.5%)—Gravimetric (fire assay) method

This Standard supersedes AS 3515.3—1995, *Gold and gold bearing alloys*, Part 3: *Determination of gold content (greater than 99.5 percent)—Gravimetric method*.

The objective of this Standard is to provide a gravimetric procedure for the determination of gold content in alloys. The Standard specifies that samples containing ≥ 99.99% gold or better are to have eight determinations performed, with at least eight proof tests run concurrently. A large laboratory sample mass is required and scrupulous attention must be paid to the cleaning of the test sample. Where gold samples contain <0.05% contaminant elements, an instrumental technique for the calculation of gold content 'by difference' may be more appropriate.

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

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1 SCOPE

This Standard sets out a gravimetric procedure for the determination of gold content in gold alloys. This method is applicable to gold and gold alloys containing more than 99.5% gold and less than 0.05% rhodium and 0.05% tungsten.

NOTE: This assay is an intricate procedure and therefore should only be carried out by an analyst who has the experience with the performance characteristics of both the chemistry of the method and the analytical instrument used.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
2508	Safe storage and handling information card (series)
2830	Good laboratory practice
2830.1	Part 1: Chemical analysis
2850	Chemical analysis—Inter-laboratory test programs—For determining precision of analytical methods)—Guide to the planning and conduct
AS/NZS	
2243	Safety in laboratories
2243.1	Part 1: General
ISO	
3696	Water for analytical laboratory use—Specifications and test methods

3 DEFINITIONS

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

3.1 Cornet

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

3.2 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 and copper), is homogenized in the molten state prior to the separation of the gold and silver.

3.3 Fine gold

Of purity greater than 99.5% gold.

3.4 Gold cornet

A cornet that has been parted.

