Australian Standard®

Copper, lead, zinc and nickel concentrates—Sampling

Part 1: Sampling procedures for determination of metal and moisture content

This Australian Standard® was prepared by Committee MN-005, Copper, Lead, Zinc and Nickel Ores and Concentrates. It was approved on behalf of the Council of Standards Australia on 24 January 2008.
This Standard was published on 19 March 2008.

The following are represented on Committee MN-005:

- CSIRO Minerals
- Minerals Council of Australia

Additional Interests:

- Minerals Industry Analytical Laboratories

This Standard was issued in draft form for comment as DR 07037.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Originally as AS 2862.1—1999.
Second edition 2008.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 8597 2

PREFACE

This Standard was prepared by the Standards Australia Committee MN-005, Copper, Lead, Zinc and Nickel Ores and Concentrates, to supersede AS 2862.1—1999, *Copper, lead and zinc sulfide concentrates—Sampling*, Part 1: *Sampling procedures for determination of metal and moisture content*. The objective of this Standard is to provide those involved in the sampling of sulfide concentrates with standardized sampling procedures for the determination of metal and moisture content.

The objective of this revision is to adopt the latest edition of the corresponding International Standard.

This Standard is identical with, and has been reproduced from ISO 12743:2006, *Copper, lead, zinc and nickel concentrates—Sampling procedures for determination of metal and moisture content*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
10251	Copper, lead, zinc and nickel concentrates—Determination of mass loss of bulk material on drying	2863	Copper, lead, zinc and nickel concentrates—Determination of mass loss of bulk material on drying
12744	Copper, lead and zinc sulfide concentrates—Experimental methods for checking the precision of sampling	2862	Copper, lead, zinc and nickel concentrates—Sampling
		2862.2	Part 2: Experimental methods for checking the precision of sampling
13292	Copper, lead, zinc and nickel concentrates—Experimental methods for checking the bias of sampling	2862.3	Part 3: Experimental methods for checking the bias of sampling

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

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AUSTRALIAN STANDARD

Copper, lead, zinc and nickel concentrates—Sampling

Part 1:

Sampling procedures for determination of metal and moisture content

WARNING — This International Standard may involve hazardous materials, operations and equipment. It is the responsibility of the user of this International Standard to establish appropriate health and safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard sets out the basic methods for sampling copper, lead, zinc and nickel concentrates from moving streams and stationary lots, including stopped-belt sampling, to provide samples for chemical analysis, physical testing and determination of moisture content, in accordance with the relevant International Standards. Where the concentrates are susceptible to significant oxidation or decomposition, it is necessary to use a common sample for moisture determination and chemical analysis to eliminate bias (see ISO 10251). In such cases, the common sample must be sufficiently representative, i.e. unbiased and sufficiently precise, for chemical analysis and determination of moisture content. Any large agglomerates (> 10 mm) present in the primary sample should be crushed prior to further sample processing. Sampling of concentrates in slurry form is specifically excluded from this International Standard.

Stopped-belt sampling is the reference method for collecting concentrate samples against which mechanical and manual-sampling procedures may be compared. Sampling from moving streams is the preferred method. Both falling-stream and cross-belt samplers are described.

Sampling from stationary lots is used only where sampling from moving streams is not possible. The procedures described in this International Standard, for sampling from stationary lots, only minimize some of the systematic sampling errors.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 10251, *Copper, lead, zinc and nickel concentrates — Determination of mass loss of bulk material on drying*

ISO 12744, *Copper, lead, zinc and nickel concentrates — Experimental methods for checking the precision of sampling*

ISO 13223, *Copper, lead, zinc and nickel concentrates — Experimental methods for checking the bias of sampling*