Australian Standard®

Copper, lead, zinc and nickel concentrates—Sampling

Part 2: Experimental methods for checking the precision of sampling

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.
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The following are represented on Committee MN-005:

- CSIRO Minerals
- Minerals Council of Australia

Additional Interests:

- Minerals Industry Analytical Laboratories

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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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PREFACE

This Standard was prepared by the Standards Australia Committee MN-005, Copper, Lead, Zinc and Nickel Ores and Concentrates, to supersede AS 2862.2—1999, *Copper, lead and zinc sulfide concentrates—Sampling*, Part 2: *Experimental methods for checking the precision of sampling.*

The objective of this Standard is to provide those involved in the sampling of sulfide concentrates with standardized methods for checking the precision of sampling.

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 12744:2006, *Copper, lead, zinc and nickel concentrates— Experimental methods for checking the precision of sampling.*

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	
12743	Copper, lead, zinc and nickel concentrates—Sampling procedures for determination of metal and moisture content	2862	Copper, lead, zinc and nickel concentrates—Sampling
		2862.1	Part 1: Sampling procedures for determination of metal and moisture content

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

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AUSTRALIAN STANDARD

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Part 2:

Experimental methods for checking the precision of sampling

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 specifies methods for checking the precision of primary sampling, sample processing, chemical analysis, physical testing and determination of moisture content of copper, lead, zinc and nickel concentrates being carried out in accordance with the methods specified in ISO 12743, expressed in terms of standard deviations.

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 12743, *Copper, lead, zinc and nickel concentrates — Sampling procedures for determination of metal and moisture content*

3 General conditions

3.1 General

The determination of precision of primary sampling is based on collecting pairs of interleaved samples from each lot. If sample processing and measurement are also carried out in duplicate, it is possible to determine the precision of sample processing and analysis.

3.2 Number of lots

It is recommended that pairs of interleaved samples be collected from more than 20 lots of the same type of concentrate, in order to reach a reliable conclusion. The lot size shall be chosen to ensure that this requirement is met.

3.3 Number of increments and number of samples

The minimum number of increments for checking precision should preferably be twice the number determined in accordance with ISO 12743. Hence, if the number of increments required for routine sampling is n and one lot sample is constituted, the minimum number of increments should be $2n$, and two interleaved samples shall be constituted.

Alternatively, if the precision is being checked as part of routine sampling, n increments may be taken and two interleaved samples constituted, each comprising $n/2$ increments. The sampling precision thus obtained must be divided by $\sqrt{2}$ to obtain the sampling precision for lot samples comprising n increments.