



**Copper, lead, zinc and nickel
concentrates—Sampling of slurries**

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-

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Australian Standard[®]

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-005 Copper, Lead, Zinc and Nickel Ores and Concentrates.

The objective of this Standard is to set out the basic methods for sampling particulate material that is mixed with a liquid, usually water, to form a slurry. In industry and in the mining and mineral processing literature, slurry is also referred to as pulp, but this term is not used in this standard. At very high ratios of fine particulate solids to liquids where material assumes a soft plastic form, the mixture is correctly termed as a paste. Sampling of pastes is not covered in this standard.

This Standard is identical with, and has been reproduced from ISO 11794:2010, *Copper, lead, zinc and nickel concentrates—Sampling of slurries*.

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

- (a) In the source text ‘this International Standard’ should read ‘this Australian Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian Standard</i>	
ISO		AS	
		2862	Copper, lead, zinc and nickel concentrates—Sampling
12743	Copper, lead, zinc and nickel concentrates—Sampling procedures for determination of metal and moisture content	2862.1	Part 1: Sampling procedures for determination of metal and moisture content
12744	Copper, lead, zinc and nickel concentrates—Experimental methods for checking the precision of 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

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annexes 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 of slurries

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 particulate material that is mixed with a liquid, usually water, to form a slurry. In industry and in the mining and mineral processing literature, slurry is also referred to as pulp, but this term is not used in this International Standard. At very high ratios of fine particulate solids to liquids where material assumes a soft plastic form, the mixture is correctly termed as a paste. Sampling of pastes is not covered in this International Standard.

The procedures described in this International Standard apply to sampling of particulate materials that are transported in moving streams as slurries, but not pressurized slurries. These streams may fall freely or be confined in pipes, launders, flumes, sluices, spirals or similar channels. Sampling of slurries in stationary situations, such as a settled or even a well-stirred slurry in a holding tank or dam, is not recommended and is not covered in this International Standard.

This International Standard describes procedures that are designed to provide samples representative of the slurry solids and particle-size distribution of the slurry under examination. After draining the slurry sample of fluid and measuring the fluid volume, damp samples of the contained particulate material in the slurry are available for drying (if required) and measurement of one or more characteristics in an unbiased manner and with a known degree of precision. The characteristics are measured by chemical analysis, physical testing or both.

The sampling methods described are applicable to slurries that require inspection to verify compliance with product specifications, determination of the value of a characteristic as a basis for settlement between trading partners or estimation of a set of average characteristics and variances that describes a system or procedure.

Provided that flow rates are not too high, the reference method against which other sampling procedures are compared is one where the entire stream is diverted into a vessel for a specified time or volume interval. This method corresponds to the stopped-belt method described in ISO 12743.

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*

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