

Australian Standard[®]

**Copper, lead and zinc sulfide
concentrates—Determination of
transportable moisture limits—Flow-
table method**

STANDARDS
Australia



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- CSIRO Minerals
- Minerals Council of Australia

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- Minerals Industry Analytical Laboratories
-

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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 provide those involved in the transport of sulfide concentrates with a standardized procedure for determining transportable moisture limits.

This Standard is identical with, and has been reproduced from ISO 12742:2007, *Copper, lead and zinc sulfide concentrates—Determination of transportable moisture limits—Flow-table method*.

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.
- (d) Substitute ‘L’ for ‘l’ as the unit for litres.

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

<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO	AS
10251 Copper, lead, zinc and nickel concentrates—Determination of mass loss of bulk material on drying	2862 Copper, lead and zinc sulfide concentrates—Determination of mass loss of bulk material on drying
12743 Copper, lead, zinc and nickel concentrates—Sampling procedures for determination of metal and moisture content	2862 Copper, lead and zinc sulfide concentrates—Sampling 2862.1 Part 1: Sampling procedures for determination of metal and moisture content

The term ‘normative’ has been used in this Standard to define the application of the annex to which it applies. A ‘normative’ annex is an integral part of a Standard.

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AUSTRALIAN STANDARD

Copper, lead, and zinc sulfide concentrates — Determination of transportable moisture limits — Flow-table method

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 a flow-table method for the determination of the transportable moisture limit (TML) of copper, lead and zinc sulfide concentrates, which may liquefy during transport.

This International Standard is applicable to the determination of the TML of concentrates containing 10 % to 80 % (mass fraction) of lead, or 10 % to 65 % (mass fraction) of zinc, or 10 % to 55 % (mass fraction) of copper. It is applicable to TMLs in the range 3 % to 28 % (mass fraction).

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

3 Principle

The moisture content of the sample is adjusted by mixing with water. The mixture is converted to a conical shape using a mould and tamper. The sample is placed on the flow table and the mould is removed. The flow characteristics are determined by repeated dropping of the flow table, while observing the behaviour of the sample. When sufficient water has been added to the sample so that plastic deformation occurs during the dropping of the flow table, the sample is considered to be at its flow moisture point.

The TML is calculated as 90 % of the flow moisture point.

4 Apparatus

Copper, lead and zinc concentrates may gain or lose moisture rapidly when exposed to air. The laboratory should be designed so that excessive temperatures, direct sunlight, air currents and humidity variations are avoided.

4.1 Flow table and frame, as specified in Annex A.

The flow-table mounting shall be as specified in Figure A.1.