Australian Standard™

Aluminium ores—Sampling

Part 3: Preparation of samples

[ISO title: Aluminium ores—Preparation of samples]

Standards Australia

This Australian Standard was prepared by Committee MN-003, Aluminium Ores. It was approved on behalf of the Council of Standards Australia on 28 February 2001 and published on 29 March 2001.

The following interests are represented on Committee MN-003:

Australian Aluminium Council

CSIRO Minerals

Royal Australian Chemical Institute

Additional interests participating in the preparation of this Standard:

Aluminium ore exporters

Aluminium ores industry laboratories

Aluminium ore mining companies

Aluminium ore refineries

Producers of alumina

Superintending organization

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Part 3: Preparation of samples

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PREFACE

This Standard was prepared by the Standards Australia Committee MN-003, Aluminium Ores to supersede AS 2806.3—1987, *Aluminium ores—Sampling*, Part 3: *Preparation of samples*.

The objective of this Standard is to provide testing laboratories a means of preparing samples for the analysis of aluminium ores.

This Standard is an adoption with national modifications and has been reproduced from ISO 6140:1991, *Aluminium ores—Preparation of samples*. The ISO text has been modified (see Item (d) below) to allow greater variability in the provision of the minimum mass of samples. The affected text is indicated by a marginal bar.

Statements expressed in mandatory terms in notes to the text are deemed to be requirements of this Standard.

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

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

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) Delete the fourth paragraph of Clause 9.1 and replace with the following:

‘The provisions of 4.2 regarding minimum mass of samples shall be implemented or alternatively the masses referred to in Table 3 shall be implemented for physical testing operations.’

(e) ISO 8685, as referenced in Clause 2, was published in 1992.

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

Reference to International Standard		*Australian Standard*	
ISO		AS	
565	Test sieves—Woven metal wire cloth and perforated plate—Nominated sizes of apertures	1152	Specification for test sieves
6138	Aluminium ores—Experimental determination of the heterogeneity of constitution	2806 2806.4	Aluminium ores—Sampling Part 4: Determination of the heterogeneity of constitution
8685	Aluminium ores—Sampling procedures	2806.1	Part 1: Sampling procedures
9033	Aluminium ores—Determination of the moisture content of bulk material	2932	Aluminium ores—Determination of the moisture content of bulk material

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AUSTRALIAN STANDARD

Aluminium ores—Sampling

Part 3: Preparation of samples

1 Scope

This International Standard specifies methods of treatment of gross samples and subsamples of aluminium ores with a view to the preparation of samples for the determination of moisture, chemical analysis and physical testing.

The methods specified are applicable to all aluminium ores.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings.*

ISO 6138:1991, *Aluminium ores — Experimental determination of the heterogeneity of constitution.*

ISO 8685:—[1], *Aluminium ores — Sampling procedures.*

ISO 9033:1989, *Aluminium ores — Determination of the moisture content of bulk material.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 chemical analysis sample: The sample crushed to pass a sieve aperture of 150 µm used for the determination of chemical characteristics of the ore.

3.2 division: The process of decreasing the sample mass (without modification of the particle size of the constituent parts) where a representative part of the sample is retained while rejecting the remainder.

3.3 gross sample: The quantity of an ore consisting of all of the increments or divided increments or subsamples or divided subsamples taken from a lot.

3.4 moisture sample: A sample used for the determination of moisture content of the lot or sampling unit.

3.5 nominal top size: The size of aperture of the finest sieve (complying with ISO 565) through which a minimum of 95 % of the mass of the material passes.

3.6 pass: The passage of the retained material once through a sample divider.

3.7 reduction: The process whereby a sample is reduced in particle size by crushing or grinding without a change in its mass or composition.

3.8 physical testing sample: A sample taken for the measurement of physical characteristics.

3.9 stage: A sequence of operations comprising reduction in particle size, mixing and culminating in sample division. The number of stages in sample preparation is equal to the number of divisions made.

1) To be published.