Australian Standard™

Aluminium ores—Chemical analysis

Part 2: Determination of the moisture content of bulk material (ISO 9033:1989, MOD)

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 17 May 2002 and published on 27 June 2002.

The following 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 ores industries

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 01279.

Australian Standard™

Aluminium ores—Chemical analysis

Part 2: Determination of the moisture content of bulk material (ISO 9033:1989, MOD)

Originated as AS 2932—1987.
Revised and redesignated as AS 2932.2—2002.

Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 4551 2

PREFACE

This Standard was prepared by the Standards Australia Committee MN-003, Aluminium Ores, to supersede AS 2932—1987, *Aluminium ores—Determination of the moisture content of bulk material.*

The objective of this Standard is to provide laboratories within the aluminium ores industry with a method for determining the moisture content of bulk aluminium ores.

This Standard has been adopted with national modifications and has been reproduced from ISO 9033:1989, *Aluminium ores—Determination of the moisture content of bulk material.* The modifications are listed below and a marginal bar appears against the text affected.

Statements expressed in mandatory terms in notes to text, tables and figures are deemed to be requirements of this Standard.

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) The following note should be added to Clause 4:

NOTE: For information on laboratory safety, reference should be made to the relevant parts of AS 2243, *Safety in laboratories* (series).'

(e) In Clause 8 Item c), *delete* the existing test and *replace* with 'result of the test including details of any correction for rainfall and/or sprayed water'.

NOTE: This modification has been made to ensure that any corrections are reported.

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

Reference to International Standard		*Australian Standard*	
ISO		AS	
6140	Aluminium ores—Preparation of samples	2806 2806.3	Aluminium ores—Sampling Part 3: Preparation of samples
8685	Aluminium ores—Sampling procedures	2806 2806.1	Aluminium ores—Sampling Part 1: Sampling procedures

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.

CONTENTS

NOTES

AUSTRALIAN STANDARD

Aluminium ores—Chemical analysis

Part 2:

Determination of the moisture content of bulk material

(ISO 9033:1989, MOD)

1 Scope

This International Standard specifies a method for the determination of the moisture content of aluminium ores. It applies to the samples taken from bulk aluminium ores, e.g. shipments and stockpiles. Annex A specifies a method to be used when it is difficult to carry out sieving, crushing and dividing owing to the sample being adhesive or excessively wet. In this case the sample may be pre-dried until preparation can be conducted without any trouble and the pre-dried moisture content of a consignment can be determined by the procedure specified in annex A. Annex B specifies methods of correction for sprayed water and/or rainfall. In the event of the consignment being subjected to rainfall and/or sprayed water to control dust emission, then the moisture content of the consignment can be corrected for this added water in accordance with annex B.

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 listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6140 : —[1], *Aluminium ores — Preparation of samples.*

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

3 Principles

Drying of a test portion to constant mass in a ventilated oven with forced circulation of air regulated at 105 °C ± 5 °C. Measurement of the loss in mass.

4 Apparatus

Ordinary laboratory equipment, and

4.1 Drying pan.

4.2 Ventilated oven, with forced circulation of air regulated at 105 °C ± 5 °C.

4.3 Weighing device, capable of being read to an accuracy of 0,01 % of the mass of the test portion.

5 Sampling and samples

Test samples shall be taken and prepared in accordance with the procedures specified in ISO 8685 and ISO 6140 respectively. Two possibilities exist for the preparation of the moisture samples. These are

a) the moisture sample prepared from each increment or subsample is prepared and analysed individually;

b) the moisture samples from each increment or subsample are combined to form a gross sample.

6 Procedure

6.1 Test portions

The test portions prepared by the procedure specified in ISO 6140 shall be provided in sealed containers and shall have the minimum masses specified in table 1.

When the drying oven (4.2) cannot accommodate the larger test portions, the test portion may be divided into several parts for drying. Divide the portion into the minimum number of parts possible, taking care to avoid a change in moisture content.

NOTE — In no case shall the minimum mass of a part be less than 1 kg.

Alternatively, to avoid dividing large test portions into parts for drying, moisture determinations may be carried out on individual increments or subsamples as taken, provided the sum of the masses of all the increments or subsamples exceeds the mass of the test portions given in table 1.

6.2 Number of determinations

Moisture determination may be carried out in one of the following ways:

a) Where moisture samples from individual increments or subsamples are analysed separately, one moisture determination shall be carried out on each subsample.

1) To be published.