

INTERNATIONAL STANDARD

**ISO
9033**

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Aluminium ores — Determination of the moisture content of bulk material

Minerais alumineux — Détermination de l'humidité du matériau en vrac



Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9033 was prepared by Technical Committee ISO/TC 129, *Aluminium ores*.

Annexes A and B form an integral part of this International Standard.

Aluminium ores — Determination of the moisture content of bulk material

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 $105\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$. 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 $105\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$.

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

- the moisture sample prepared from each increment or subsample is prepared and analysed individually;
- 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:

- 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.