

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 803

ALUMINIUM OXIDE PRIMARILY USED
FOR THE PRODUCTION OF ALUMINIUM

DETERMINATION OF LOSS OF MASS AT 300 °C
(CONVENTIONAL MOISTURE)

1st EDITION
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BRIEF HISTORY

The ISO Recommendation R 803, *Aluminium oxide primarily used for the production of aluminium – Determination of loss of mass at 300 °C (Conventional moisture)*, was drawn up by Technical Committee ISO/TC 47, *Chemistry*, the Secretariat of which is held by the Ente Nazionale Italiano di Unificazione (UNI).

Work on this question by the Technical Committee began in 1961 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In July 1966, this Draft ISO Recommendation (No. 1025) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Austria	India	South Africa, Rep. of
Belgium	Ireland	Spain
Brazil	Israel	Sweden
Bulgaria	Italy	Switzerland
Canada	Japan	Turkey
Chile	Korea, Rep. of	U.A.R.
Czechoslovakia	Netherlands	United Kingdom
France	Norway	U.S.A.
Germany	Poland	U.S.S.R.
Hungary	Romania	Yugoslavia

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in August 1968, to accept it as an ISO RECOMMENDATION.

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INTRODUCTION

Depending on its degree of calcination, aluminium oxide shows a tendency to readsorb variable quantities of water by a process involving physical forces (residual activity).

The water readsorbed cannot be completely eliminated by simply drying at 105 °C, the temperature usually employed for the determination of moisture. Therefore, it is necessary to use a suitably higher drying temperature. It is accepted that elimination of water is almost complete at 300 °C and this temperature is conventionally adopted.

1. SCOPE

This ISO Recommendation describes the method for the determination of loss of mass on drying at 300 °C (conventional moisture).

2. PRINCIPLE

Drying at 300 °C for 2 hours and determination of loss of mass.

3. APPARATUS

Ordinary laboratory apparatus and

- 3.1 *Desiccator*, preferably containing freshly activated alumina or phosphorus pentoxide (the use of calcium chloride should be avoided).
- 3.2 *Weighing bottle*, squat form, approximately 45 mm in diameter.
- 3.3 *Electric oven*, ventilated by convection and controlled at 300 ± 10 °C.

4. PROCEDURE

4.1 Test portion

Weigh to the nearest 0.001 g, approximately 5 g of the crude sample* in the weighing bottle (3.2), previously dried at 300 °C and tared.

* See ISO Recommendation R 802, *Aluminium oxide primarily used for the production of aluminium* – Preparation and storage of test samples, clause 2.2.