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# INTERNATIONAL STANDARD 2927

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## Aluminium oxide primarily used for the production of aluminium — Sampling

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## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

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.

International Standard ISO 2927 was drawn up by Technical Committee ISO/TC 47, *Chemistry*, and circulated to the Member Bodies in September 1972.

It has been approved by the Member Bodies of the following countries :

Australia	Hungary	Spain
Austria	India	Sweden
Belgium	Israel	Switzerland
Canada	Italy	Thailand
Czechoslovakia	Netherlands	Turkey
Egypt, Arab Rep. of	Poland	United Kingdom
France	Portugal	U.S.S.R.
Germany	South Africa, Rep. of	

The Member Body of the following country expressed disapproval of the document on technical grounds :

New Zealand

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

# Aluminium oxide primarily used for the production of aluminium – Sampling

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies *the practical requirements* for the taking of a representative sample intended for chemical analysis and measurement of the physical characteristics of aluminium oxide primarily used for the production of aluminium.

It applies to aluminium oxide during transport, loading, unloading, continuous flow and storage, as well as to aluminium oxide after storage, for example :

- when transported by a conveyor (belt, pipe, slat, etc.);
- when stored in, or unloading from, a container, silo or tank, etc;
- when in a heap, in a ship's hold, or in open silos, etc.

NOTE – This International Standard has been established in the interim period until general methods for the sampling of chemical products, at present under study, have been developed. It will be revised when general methods are available.

## 2 PRINCIPLE

Sampling without reduction of particle size, by removal of increments of constant mass, manually or mechanically, according to circumstances.

Storage of the increments and transport at ambient temperature in closed containers.

The sample shall remain in the same physical and chemical state in which it is found at the time of sampling until the time of its laboratory examination.

## 3 SAMPLING FROM BELT, PIPE, OR SLAT CONVEYOR

### 3.1 Apparatus

**3.1.1 Any suitable manual or mechanical equipment**, for example Archimedean screws or inclined chutes.

**3.1.2 Sample vessels**, preferably of plastics materials.

## 3.2 Procedure

### 3.2.1 Bulk sample – Number of increments

One increment taken over the entire width of the chute, at intervals of time representing 1/20th of the continuous operating time of the conveyor (minimum quantity : 2 kg).

### 3.2.2 Laboratory sample

For aluminium oxide with particle sizes ranging between a few micrometres and 300  $\mu\text{m}$ , a laboratory sample of 500 g is sufficient.

For reduction of the bulk sample to the laboratory sample, use classic methods for the sub-division of powdered materials, following the recommendations for handling described in the fifth and subsequent paragraphs of 3.2.3.

### 3.2.3 Method of sampling

First check that the sampling device is empty. Then operate the device at least three times, rejecting the sample obtained before beginning the actual sampling.

Always take the sample from the flow, never from the belt or the slats.

Take the sample in a single operation from the full width of the flow.

Sample only during continuous flow at maximum capacity, and never during an interruption to the feed or the unloading.

If the sample is taken mechanically, ensure that the collecting vessel is completely empty of any other product at the time of sampling. Guard against any dust filling the collecting vessels during the period between two sampling operations.

Avoid any free fall of the samples during their passage from the collector to the quartering or receiving stages. Transfer the samples by means of the Archimedean screws or inclined chutes (3.1.1).

Avoid the use of hoppers or loading funnels and any accumulation after sampling which might cause segregation of different particle sizes.