

Translated English of Chinese Standard: GB/T6609.22-2004

www.ChineseStandard.net → Buy True-PDF → Auto-delivery.

Sales@ChineseStandard.net

GB

NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 71.100.10

H 12

GB/T 6609.22-2004

**Chemical analysis methods and determination of physical
performance of alumina -- Sampling**

氧化铝化学分析方法和物理性能测定方法 取样

(ISO 2927:1973, MOD)

Issued on: February 05, 2004

Implemented on: July 01, 2004

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China;
Standardization Administration of the People's Republic of China.**

Table of Contents

Foreword	3
1 Scope.....	4
2 Principle	4
3 Sampling from belt, tube or plate transport machinery	4
4 Sampling during unloading using the gravity of containers, tank trucks, and silos ...	5
5 Sampling from alumina material piles, cabins, open silos, ton packaging bags, and tank trucks	7
6 Preparation and storage of laboratory samples	8
7 Sampling report.....	8

Chemical analysis methods and determination of physical performance of alumina -- Sampling

1 Scope

This Standard specifies the specific requirements for collecting representative alumina samples mainly used for aluminum production (for chemical composition analysis and physical property determination of alumina).

This Standard is applicable to the sampling of alumina during transportation, loading and unloading, continuous flow, storage, and after storage. For example:

- Sampling when transported by transport machinery (belt, pipe, plate, etc.);
- Sampling when storing or unloading in containers, silos, tank trucks, etc.;
- Sampling when from alumina material piles, cabins, open silos, ton packaging bags, tank trucks, etc.

2 Principle

Take a constant number of samples in batches using manual or mechanical methods depending on the situation. Keep the particle size from decreasing during sampling. Store and transport these samples in sealed containers at room temperature. The sample should remain in the same physical and chemical state as at the time of sampling until laboratory testing.

3 Sampling from belt, tube or plate transport machinery

3.1 Devices

3.1.1 Any suitable artificial or mechanical device, such as an Archimedean spiral or inclined groove.

3.1.2 Sample container: it is advisable to use plastic material.

3.2 Steps

3.2.1 Number of increments in batch samples

Take an increment (at least 2 kg) of the entire width of the chute at intervals equivalent to one twentieth of the continuous operation time of the transport device.

3.2.2 Laboratory samples

For alumina particles ranging from a few micrometers to 300 μm , 500 g of laboratory samples can be taken.

Take laboratory samples from the batch samples. According to the steps described in paragraph 5 and subsequent paragraphs of 3.2.3, use traditional fractionation methods suitable for dry powder products.

3.2.3 Sampling methods

Firstly, check the sampling device to ensure it is empty. Before actual sampling, turn on the sampling device at least three times. Discard the remaining samples.

Samples can only be taken from flowing alumina.

Each sample is taken from the entire width of the flow surface.

Sampling is only carried out in continuous flow at maximum capacity and not during supply interruption or discharge.

If sampling is done mechanically, it should be ensured that there are no other products in the sample collection container during sampling. During the time interval between two samplings, prevent any dust from entering the sample collection container.

When transferring samples from the sample collection container to the quarterer or receiving station, any spillage should be avoided. The sample should be moved using an Archimedean spiral or inclined groove (3.1.1).

Avoid using feeding hoppers or feeding hoppers. After sampling, it is necessary to avoid sample accumulation, otherwise it may cause segregation of samples of different particle sizes.

To minimize the impact of sampling on the atmospheric environment, sampling, fractionation, and final sample collection should be carried out as quickly as possible in a moisture-proof room.

4 Sampling during unloading using the gravity of containers, tank trucks, and silos

4.1 Devices

4.1.1 Any suitable artificial or mechanical device, such as an Archimedean spiral or an

5 Sampling from alumina material piles, cabins, open silos, ton packaging bags, and tank trucks

5.1 Devices

5.1.1 Archimedean spiral probe made of metal aluminum, metal copper, stainless steel, or plastic (with an effective filling length of 50 cm).

5.1.2 Archimedean spiral or inclined groove.

5.1.3 Sample container: preferably made of plastic.

5.2 Steps

5.2.1 Number of increments in batch samples

5.2.1.1 Sampling from material piles, cabins, and open silos with a volume exceeding 100 m³: 10~15 samples shall be taken from each batch, with each sample weighing no less than 1 kg.

5.2.1.2 Sampling from ton packaging bags: take 20 increments per 120 tons, each weighing no less than 1 kg.

5.2.1.3 Sampling from tank trucks: take at least 2 increments from each tank truck, each weighing no less than 1 kg.

5.2.2 Laboratory samples

500 g (see 3.2.2).

5.2.3 Steps

Use the entire length of the sampling probe (5.1.1) to sample vertically within the entire top of the material pile as much as possible. In other cases, samples are taken at various levels of equivalent probe length when unloading materials on material piles or in cargo holds, open silos, ton packaging bags, and tank trucks.

The number of samples obtained using a sampler in this way is limited by the sampler's capacity. After the sampler is completely emptied, the capacity of the sampler is determined through experimental filling.

Sampling is only effective when the sampling probe is uniformly filled and there is no interruption in between.

If sampling is done mechanically, it should be ensured that there are no other product residues in the sample collection container during sampling. During the time interval between two samplings, prevent any dust from entering the sample collection container.

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----