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Aluminium oxide primarily used for the production of aluminium — Preparation and storage of test samples

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Foreword

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This document was prepared by Technical Committee ISO/TC 226, *Materials for the production of primary aluminium*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Aluminium oxide primarily used for the production of aluminium — Preparation and storage of test samples

1 Scope

This document describes methods for the sample preparation of smelter-grade aluminium oxide. It covers the reduction of a bulk sample between 1 kg and 20 kg to produce a sample that is suitable for chemical and physical analysis. The reduced sample produced will be representative of the initial bulk sample. The bulk sample is considered to be from one source.

The methods are suitable for dry, free-flowing aluminium oxide.

As the moisture content will influence many physical analyses, the method aims to minimize the exposure of the sample to the atmosphere to avoid water absorption.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
increment
quantity of material collected in a single operation of a sample device

3.2
sample preparation
process of preparing the sample for analysis or testing, which may involve air-drying, particle size reduction, mixing and division, and may be performed in several stages

3.3
sample preparation stage
stage in the sample preparation sequence of operations that may consist of sample drying, reduction in particle size or mixing, and which culminates in sample division

Note 1 to entry: The completion of each operation of sample division defines the commencement of the next sample preparation stage. Thus, the number of stages in sample preparation is equal to the number of divisions made.

4 Principle

The bulk sample is mixed using a rotary splitter and the sample reduced to the desired size, then further divided by rotary splitting into appropriately sized portions suitable for the analyses required.