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International Standard 6375

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Carbonaceous materials for the production of aluminium — Cokes for electrodes — Sampling

Produits carbonés utilisés pour la production de l'aluminium — Cokes pour électrodes — Échantillonnage

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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 6375 was developed by Technical Committee ISO/TC 47, *Chemistry*, and was circulated to the member bodies in December 1978.

It has been approved by the member bodies of the following countries :

Belgium	India	South Africa, Rep. of
Bulgaria	Israel	Sweden
China	Italy	Switzerland
Czechoslovakia	Korea, Rep. of	Turkey
Egypt, Arab Rep. of	Netherlands	United Kingdom
France	New Zealand	USA
Germany, F. R.	Poland	USSR
Hungary	Romania	Yugoslavia

No member body expressed disapproval of the document.

Carbonaceous materials for the production of aluminium — Cokes for electrodes — Sampling

1 Scope and field of application

This International Standard specifies methods for sampling and preparation of samples from lots of calcined coke so as to obtain, with sufficient accuracy, a sample that is representative of the average qualities of each entire lot.

It is applicable to cokes manufactured from pitch or petroleum intended specifically for use in the manufacture of electrodes used for the electrolytic production of aluminium.

Because of the special requirements of these cokes, this International Standard includes provisions which do not appear in the methods for sampling similar carbonaceous products, such as metallurgical cokes. These provisions are mainly concerned with the composition of samples for physical measurements and for particle size analysis.

The theoretical and practical aspects of sampling on which this International Standard is based are described more fully in ISO 1988 (coal) and ISO 2309 (metallurgical coke) and users are referred to these documents for greater detail.

Because of processing considerations, it is essential that the product shall be of uniform chemical composition. Two samples should therefore be taken :

- the first at the time of loading : in order to check the quality of the product as supplied;
- the second at the time of unloading at the customer's premises or at the nearest port : in order to check for possible contamination in transit.

2 References

ISO 1988, *Hard coal — Sampling*.

ISO 2309, *Coke — Sampling*.

ISO 6206, *Chemical products for industrial use — Sampling — Vocabulary*.

3 Practical considerations

3.1 Sampling apparatus (see ISO 2309, annex)

Use automatic sampling apparatus whenever possible.

Hand-operated sampling tools (scoops, frames placed on conveyor belts, etc.) shall have a width for taking samples which is at least 2,5 times the maximum dimension of the largest pieces and shall be capable of taking a sample of material of 1 to 2 kg at a time.

The sample containers shall not be filled to more than 9/10 of their volume.

3.2 Special cases of sampling

Refer to ISO 2309, clause 6, for sampling procedures in specific circumstances (conveyor belt, various types of wagon, ships, etc.).

Whenever possible, avoid sampling from a stationary bulk and sample the consignment to be checked during loading or unloading.

Do not sample material corresponding to the top 0,20 m of the initial load so that bias associated with surface contamination is avoided. Sample the remainder uniformly throughout its entire bulk.

3.3 Processing of samples

Homogenization should preferably be carried out mechanically. Manual methods using a suitable working surface area, are however, acceptable.

The parts of crushing machines which come into contact with the product to be crushed shall be made of hard material which is unlikely to yield impurities when in operation.

Carry out sample mass reduction, preferably using closed sample dividers.

In all such operations, avoid the loss of fine particles.