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Ferroalloys — Experimental methods for checking the bias of sampling and sample preparation

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de l'échantillonnage et de la préparation des échantillons*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7347 was prepared by Technical Committee ISO/TC 132, *Ferroalloys*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

This is a preview of ISO 7347:1987. Click [here](#) to purchase the full version from the ANSI store.

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Ferroalloys — Experimental methods for checking the bias of sampling and sample preparation

1 Scope and field of application

This International Standard specifies the experimental methods to be applied for checking the bias of sampling and sample preparation of ferroalloys given in the relevant International Standards.

It should be read in conjunction with ISO 3713, ISO 7087 and ISO 7373.

2 References

ISO 3713, *Ferroalloys — Sampling and sample preparation — General rules*.

ISO 7087, *Ferroalloys — Experimental methods for the evaluation of the quality variation and methods for checking the precision of sampling*.

ISO 7373, *Ferroalloys — Experimental methods for checking the precision of sample division*.

3 General requirements

3.1 Methods for sampling, sample preparation and chemical analysis

Sampling, sample preparation and chemical analysis for the experiment shall be carried out in accordance with the methods given in the relevant International Standards.

3.2 Principle

In the experimental method, the results obtained from the method to be checked (Method B) shall be compared with the results of a specified reference method (Method A) which has been regarded as producing practically unbiased results from technical and empirical viewpoints. The comparison shall be made by use of a statistical method of test for significance of difference at a 5 % level of significance (two-sided test).

3.3 Quality characteristic

The quality characteristic on which checking the bias of sampling is carried out shall be that given in the relevant International Standard on the methods for ferroalloy sampling.

Any other element may be selected as a quality characteristic by agreement between the interested parties.

3.4 Number of experiments

The experiment shall be repeated at least 10 times (for example on either 10 consignments or 10 parts of the consignments; on either 10 gross samples or 10 sub-samples).

3.5 Selection of methods of data analysis

When individual increments taken by Method A and by Method B are correctly paired, the method of analysis for paired data shall be applied. When pairing of individual increments taken by Method A and by Method B is not conducted, the method of analysis for unpaired data shall be applied.

When the number of experiments is the same, the method of analysis for paired data is higher in sensitivity, in a statistical sense, than that for unpaired data in detecting the significance of difference. In order to apply the method of paired data analysis, it is necessary to design and perform the experiment so that pairing of increments, one from Method A and the other from Method B, is assured technically.

The method of analysis for unpaired data is based on the condition that the number of measurements of Method A and of Method B are the same. Care should be taken to obtain the same number of increments for both of the methods.

NOTE — The prescribed methods for statistical analysis of experimental data may also be applied to the case of checking the difference in the results obtained from different samples of one consignment taken at different places, for example, a loading point and a discharging point (see clause 6).

4 Experimental methods

4.1 Examples of experiment

The reference methods (Method A) are different and vary according to the intended purposes, and it is therefore difficult to establish rigid rules. Examples of reference methods are given below. The methods to be checked (Method B) are given in relation to the respective reference methods.