

INTERNATIONAL STANDARD

ISO
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Selection and preparation of samples and test pieces of wrought steels —

Part 2:

Samples for the determination of the chemical
composition

*Prélèvement et préparation des échantillons et éprouvettes en aciers corroyés —
Partie 2: Échantillons pour la détermination de la composition chimique*



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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 377-2 was prepared by Technical Committee ISO/TC 17, *Steel*.

Together with International Standard ISO 377-1, it cancels and replaces the first edition of ISO 377 (ISO 377 : 1985), of which it constitutes a technical revision.

ISO 377 consists of the following parts, under the general title *Selection and preparation of samples and test pieces of wrought steels*:

- *Part 1: Samples and test pieces for mechanical test*
- *Part 2: Samples for the determination of the chemical composition*

Annex A of this part of ISO 377 is for information only.

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Selection and preparation of samples and test pieces of wrought steels —

Part 2: Samples for the determination of the chemical composition

1 Scope

1.1 This part of ISO 377 specifies all the operations by which samples intended for the determination of the chemical composition are obtained from a given product. The determination of hydrogen is excluded.

These samples are for use in tests which, unless agreed to the contrary when ordering, are carried out in conformity with the methods indicated in the product standard or, in the absence of this, in the test standard. For the purpose of comparison with a specification, the sample represents the average composition.

There are two groups of methods for the determination of the chemical composition:

- a) methods in which the sample is subjected to a chemical reaction; these are designated by the name “chemical methods” (see clause 5);
- b) methods in which the determination of the constituent elements is carried out without a chemical reaction; these are designated by the name “physical methods” (see clause 6).

1.2 This part of ISO 377 applies to crude products¹⁾, semi-finished products and finished wrought steel products, dealt with in ISO 404 and does not apply to samples during the melting or refining stage of production. In cases where the product standards or the test standards specify different conditions, these different conditions are applicable.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 377. At the time of publication, the editions indicated were

valid. All standards are subject to revision, and parties to agreements based on this part of ISO 377 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 377-1 : 1989, *Selection and preparation of samples and test pieces of wrought steels — Part 1: Samples and test pieces for mechanical test*.

ISO 404 : 1981, *Steel and steel products — General technical delivery requirements*.

3 Definitions

NOTE — The equivalent English, French and Russian terms are given in annex A. They are illustrated in figure A.1.

For the purposes of this part of ISO 377, the following definitions apply.

3.1 sample product: Item (a sheet, for example) selected from a supplied batch for the purpose of obtaining test portions.

3.2 sample: Quantity of solid material removed from the sample product for the purpose of taking samples for analysis (see 3.3).

3.3 sample for analysis: Quantity of material taken from the sample, or directly from the product, in such a way as to represent the mean chemical composition of the product.

1) In the context of this standard, the concept of “crude products” includes not only ingots, but also continuously cast products intended for subsequent transformation such as blooms, billets, slabs and all products with other sections.