# INTERNATIONAL STANDARD

ISO 15349-2

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# Unalloyed steel — Determination of low carbon content —

Part 2: Infrared absorption method after combustion in an induction furnace (with preheating)

Acier non allié — Détermination des faibles teneurs en carbone —

Partie 2: Méthode par absorption dans l'infrarouge après combustion dans un four à induction (avec préchauffage)



Reference number ISO 15349-2:1999(E)

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15349 was prepared by Technical Committee ISO/TC 17, Steel, Subcommittee SC 1, Methods of determination of chemical composition.

ISO 15349 consists of the following parts, under the general title Unalloyed steel - Determination of low carbon content:

- Part 1: Infrared absorption method after combust ( in an electric resistance furnace (by peak separation) [Technical Report]
- Part 2: Infrared absorption method after combustion in an induction furnace (with preheating)
- electric resistance furnace (with preheating) Part 3: Infrared absorption method after combustion in an [Technical Report] related by FLS

Annexes A, B and C of this part of ISO 15349 are for information only

# Unalloyed steel — Determination of low carbon content —

## Part 2:

# Infrared absorption method after combustion in an induction furnace (with) preheating)

#### 1 Scope

This part of ISO 15349 specifies an infrared absorption method after combustion in an induction furnace for the determination of the low carbon content in unalloyed steel.

The method is applicable to carbon contents between 0,000 3 % (m/m) and 0,010 % (m/m).

#### 2 Normative references

The following normative documents contain providers which, through reference in this text, constitute provisions of this part of ISO 15349. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based or this part of ISO 15349 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document before to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 648:1977, Laboratory glassware — One-mark pipettes.

ISO 1042:1998, Laboratory glassware — One-mark volumetric flasks

ISO 3696:1987, Water for analytical laboratory use - Specification and test methods.

ISO 5725-1:1994, Accuracy (trueness and precision) of measurement results — Part 1: General principles and definitions.

ISO 5725-2:1994, Accuracy (trueness and precision) of measurement methods and results — Part 2: Basic method for the determination of repeatability and reproducibility of a standard measurement method.

ISO 5725-3:1994, Accuracy (trueness and precision) of measurement methods and results — Part 3: Intermediate measures of the precision of a standard measurement method.

ISO 14284:1996, Steel and iron — Sampling and preparation of samples for the determination of chemical composition.

#### 3 Principle

Preheating of a test portion at low temperature and combustion of a test portion with accelerator at a high temperature in an induction furnace in a current of pure oxygen. Transformation of carbon into carbon dioxide and/or carbon monoxide.