
**Steel and iron — Determination of nitrogen
content — Thermal conductimetric method
after fusion in a current of inert gas**

*Aciers et fontes — Dosage de l'azote — Méthode par conductibilité
thermique après fusion sous un courant de gaz inerte*

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Foreword

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International Standard ISO 10720 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 1, *Methods of determination of chemical composition*.

Annexes A to C of this International Standard are for information only.

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Steel and iron — Determination of nitrogen content — Thermal conductimetric method after fusion in a current of inert gas

1 Scope

This International Standard specifies a thermal conductimetric method after fusion under inert gas for the determination of nitrogen in steel and iron.

The method is applicable to nitrogen contents between 0,000 8 % (m/m) and 0,5% (m/m).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard 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 365-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

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

ISO 1042:—¹⁾, *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 methods and 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

Fusion of a test portion in a single-use graphite crucible under helium gas at a high temperature (e. g. 2 200 °C)
Extraction of the nitrogen in the form of molecular nitrogen in the stream of helium.

Separation from the other gaseous extracts and measurement by thermal conductimetric method.

4 Reagents and materials

During the analysis, unless otherwise stated, use only reagents of recognized analytical grade and only grade 2 water as specified in ISO 3696.

1) To be published. (Revision of ISO 1042:1983)