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STANDARD

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**10714**

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**Steel and iron — Determination of phosphorus  
content — Phosphovanadomolybdate  
spectrophotometric method**

*Aciers et fontes — Dosage du phosphore — Méthode par  
spectrophotométrie au phosphovanadomolybdate*



Reference number  
ISO 10714:1992(E)

## 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 voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

International Standard ISO 10714 was prepared by Technical Committee ISO/TC 17, *Steel*, Sub-Committee SC 1, *Methods of determination of chemical composition*.

The publication of this International Standard gives rise to the cancellation of ISO 2732:1984.

Annexes A and B of this International Standard are for information only.

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# Steel and iron — Determination of phosphorus content — Phosphovanadomolybdate spectrophotometric method

## 1 Scope

This International Standard specifies a spectrophotometric method for the determination of phosphorus in steel and iron with the following limitations.

The method is applicable to phosphorus contents between 0,001 0 % (m/m) and 1,0 % (m/m).

Arsenic, hafnium, niobium, tantalum, titanium, and tungsten interfere in determining phosphorus, but the interferences can be partially overcome by formation of complexes and use of small quantities of test portion. Depending on the concentration of the interfering elements, the application ranges and test portions given in table 1 apply.

The lower end of the application range can only be reached in test samples with low contents of the interfering elements.

## 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 stan-

dards 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 377-2:1989, *Selection and preparation of samples and test pieces of wrought steels — Part 2: Samples for the determination of the chemical composition.*

ISO 385-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

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

ISO 1042:1983, *Laboratory glassware — One-mark volumetric flasks.*

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

ISO 5725:1986, *Precision of test methods — Determination of repeatability and reproducibility for a standard test method by inter-laboratory tests.*

Table 1

Maximum content of the interfering elements, % (m/m)						Test portion g	Application range, $\Delta w_p$ % (m/m)
As	Hf	Nb	Ta	Ti	W		
0,05	0,1	1	0,1	2	2	1,0	0,001 to 0,010
0,2	0,5	5	0,5	10	8	0,25	0,005 to 0,040
0,5	1,5	10	1,0	25	25	0,10	0,010 to 0,100
0,2	0,5	5	0,5	10	8	0,25	0,100 to 1,00