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Replace GB/T 719—1984

Partial replace GB/T 222-1984

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**Steel and iron—Sampling and preparation of samples  
for the determination of chemical composition**

**钢和铁 化学成分测定用试样的取样和制样方法**

(ISO 14284: 1996, IDT)

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## Foreword

Specimen sampling and sample preparation method for determination of chemical compositions in steels and irons are not only the key links that accurately, objectively and comprehensively reflect steel and iron product's quality, but also key links for quality control in enterprise production.

This Standard is identical to ISO 14284: 1996 Steel and iron -- Sampling and preparation of samples for the determination of chemical composition (English version).

This Standard will replace sampling methods parts of specimen for chemical analysis GB/T 222-1984 *Method of sampling steel for determination of chemical composition and permissible variations for product analysis* and GB/T 719-1984 *Pig iron; sampling for chemical analysis*.

The standard is distinct from relevant parts in GB/T 222-1984 and GB/T 719-1984., The former standards adopt the method of specimen analysis, sampling and sample preparation in determination of steel and iron chemical compositions, and only specify specimen's typicalness, sampling time, sampling part, sample quantity, size and cleaning requirements, etc. in principle or a simple manner, moreover, they barely specify sample preparation method of specimen analysis in determination of steel chemical compositions, whereas, this standard, besides specific regulations in the terms above, presents detailed regulations in terms of sampling equipment, operation process (including flow diagram,), operation conditions, sample storage, marking, safety and health, and different requirements in specimen chemical analysis, heat analysis and physical analysis, and different requirements in determining various specimens like hydrogen, oxygen and nitrogen specimens, etc.

Annex A and Annex B of this Standard are informative annex.

This Standard is proposed by National Technical Committee on Iron and Steel of Standardization Administration of China.

This Standard is under the jurisdiction of National Technical Committee on Iron and Steel of Standardization Administration of China.

Draft unit of this Standard is China Metallurgical Information and Standardization Research Institute.

Chief drafters of this Standard are Chen Zibin and Wu Qiansi.

The publication history of the previous standards replaced by this standard is as follows:

——GB/T 719-1984, GB/T 222-1984, GB/T 222-1963.

# Steel and iron—Sampling and preparation of samples for the determination of chemical composition

## 1 Scope

This Standard specifies methods for sampling and sample preparation for the determination of the chemical composition of pig iron, cast iron and steel. Methods are specified for use with both liquid and solid metal.

## 2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 2975 Steel and steel products--Location and preparation of test pieces for mechanical testing (eqv ISO 377: 1997)

ISO 9147 Pig-irons -- Definition and classification

## 3 Definitions

For the purposes of this Standard, the following definitions apply.

### 3.1 chemical method of analysis

Method for the determination of chemical composition in which the sample is submitted to chemical reaction.

### 3.2 physical method of analysis

Method for the determination of chemical composition in which the determination of composition is carried out without submitting the sample to chemical reaction, for example an optical emission spectrometric method, an X-ray fluorescence spectrometric method.

### 3.3 thermal method of analysis

Method for the determination of chemical composition in which the sample is submitted to a process of heating, combustion or fusion.

### 3.4 melt

Liquid metal from which a sample is removed.

### 3.5 spoon sampling

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