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**NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC  
OF CHINA**

**中华人民共和国国家标准**

GB/T 222-2006

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**Permissible tolerance for chemical composition of  
steel products**

**钢的成品化学成分允许偏差**

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**Issued by General Administration of Quality Supervision, Inspection  
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**Standardization Administration of the People's Republic of  
China**

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## Foreword

This standard is the revision based on the relevant part of finished product chemical component allowable deviation in GB/T 222—1984 *Method of Sampling Steel for Determination of Chemical Composition and Permissible Variations for Product Analysis*.

This standard replaces the relevant part finished “Steel Product Chemical Component Allowable Deviation” in GB/T 222—1984 Standard. Standard for relevant “Method of Sampling Steel for Determination” will be separately formulated.

The principle change between this standard and GB/T 222—1984 Standard in finished product chemical component allowable deviation shall be as follows:

—The range of application of Table 1 changes from plain carbon steel and low alloy steel to non-alloyed steel and low alloy steel; the range of application of Table 2 is alloy steel (6.1 in version 1984, 5.1 in this version);

—Deviation values in Table 1 and Table 2 are applicable to steel with cross section area of not more than 65,000 mm<sup>2</sup> (5.1 in this version)

—Increase finished product analysis to replace smelting analysis regulations (5.4 in this version);

—Adjusted the deviation value of carbon and manganese in Table 1 and Table 2, increased the regulation of aluminum, cobalt, nitrogen and calcium, etc.

This Standard is proposed by original State Bureau of Metallurgical Industry.

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

The responsible drafting organization is Metallurgical Information and Standardization Institute.

The chief drafting staff of this standard includes Wu Qiansi, Luan Yan, Liu Baoshi and Dai Qiang.

This Standard is issued for the first time on August, 1984.

# Permissible tolerance for chemical composition of steel products

## 1 Scope

This Standard specifies permissible tolerances of chemical composition of finished non-alloy steel (excluding boiling steel), low alloy steel and alloy steel products versus threshold value of melted chemical composition, as well as relevant terms and definitions.

This Standard is applicable to the stipulations on permissible tolerance for chemical composition of steel products standard and specifications.

## 2 Terms and Definitions

For the purpose of this Standard, the following terms and definitions are applicable to this standard.

### 2.1

#### **Heat (or cast/ladle) analysis**

It refers to a procedure that taking ingot sample during molten steel casting to make test sample and then carrying out chemical analysis. The analytic result refers to average chemical composition of molten steel of the same batch.

### 2.2

#### **Product analysis**

Product analysis refers to take sample from processed finished steel product (including steel feed) and then to analyze its chemical composition. Product analysis is mainly used to check chemical composition, and it is also called check analysis. Due to the fact that molten steel is distributed unevenly (segregation) during crystallization, composition value of product analysis is different from composition value of heat analysis sometimes.

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