

ICS 77.080.01

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

GB 223.43-1985

Replacing GB/T 223.43-1994

**Iron, steel and alloy -- Determination of tungsten content --
Gravimetric method and spectrophotometric method
(English Translation)**

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3.1 Principle
- 3.2 Reagents

Foreword

GB/T in this part 223 instead of the GB/T 223.43-1994 "steel and alloy chemical analysis method for determining the amount of tungsten." this portion of the GB/T 223.43-1994 compared primarily with the following modifications.

--- Name to "Determination of tungsten steel and alloy content gravimetric method and spectrophotometry";

--- Increased water analysis reagents and instructions to modify the content and concentration of representation;

--- Modified Weigh Sample volume represented;

--- Modify the results of the formula in the amount of representation;

--- Change the specification for precision functional description.

Appendix A of this section is informative appendix.

This part is proposed by the China Iron and Steel Association.

This part of the National Steel Standardization Technical Committee.

This section drafted by. Institute of Metal Research, Daye steel mills.

1 Scope

This section GB/T 223 requirements using cinchonine gravimetric and tetrakis phenylarsonic - thiocyanate - chloroform extraction photometric measurements Set tungsten content.

This section cinchonine gravimetric method is suitable for steel, high temperature alloys and precision alloys mass fraction of 1.00% - 22.00% of the amount of tungsten Determination.

This section tetrakis phenylarsonic - thiocyanate - chloroform extraction spectrophotometric

method for carbon steel, alloy steel and high temperature alloys mass fraction to determine the number of 0.050% to 1.50% tungsten content.

2 Normative references

The following documents contain provisions which, through reference GB/T 223 of this text, constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 223.12 Methods for chemical analysis of iron, steel and alloys of sodium carbonate separation - diphenyl hydrazine spectrophotometric determination of chromium content
 GB/T 223.14 Methods for chemical analysis of iron, steel and alloys, tantalum reagent extraction and spectrophotometric determination of vanadium content Spectrophotometric determination of molybdenum content
 GB/T 223.26 Methods for chemical analysis of iron, steel and alloy The thiocyanate direct
 GB/T 6379.1 measurement methods and results of Accuracy (trueness and precision) - Part 1. General principles and definitions
 GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2.
 Determine the weight of a standard measurement method the basic method of refolding and reproducibility
 GB/T 20066 Steel and iron - Sampling and determination of the chemical composition of the sample with a sample preparation method 3 a method cinchonine gravimetric method

3.1 Principle

Free samples of niobium. In the hydrochloric acid solution, the nitric oxide, tungsten formed precipitate tungstate, tungsten caprylate Ning complete precipitation, filtration, burning After the addition of silicon with hydrofluoric acid vaporized, burning to constant, that is impure tungsten trioxide quality.

Containing niobium samples. the niobium pentoxide and tungsten trioxide precipitated with sodium carbonate melt, after separating agent magnesium niobate by precipitation, and then beta- naphthol quinoline Rhodamine B or precipitation of tungsten, burning to constant as an impure quality tungsten trioxide.

Tungsten trioxide impure molten sodium carbonate, and filtered. Filtrate molybdenum, chromium, vanadium, respectively spectrophotometric determination of correction. Shen filter paper Lake iron, titanium and other impurities, burning into oxides after weighing. These oxides by subtracting the mass of impure tungsten trioxide mass, that was pure ozone Tungsten quality.

3.2 Reagents

Unless otherwise indicated, the analysis uses only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.2.1

anhydrous sodium carbonate.

3.2.2

nitrate, rho about 1.42g/mL.