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

GB/T 223.9-2008

Replacing GB/T 223.9-2000; GB/T 223.10-2000

**Iron, steel and alloy -- Determination of aluminium content --
Chrome azurol S photometric method
(English Translation)**

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Foreword

This section GB/T 223 is to GB/T 223.9-2000 "steel and alloy chemical analysis method Chromium Azure S spectrophotometry Given the amount of aluminum "and GB/T 223.10-2000" steel and alloy chemical analysis method cupferron isolated - Chromium Azure S Spectrophotometry the amount of aluminum, "the integration of amendments.

This Part replaces GB/T 223.9-2000 and GB/T 223.10-2000.

This portion of the GB/T 223.9-2000, GB/T 223.10-2000 compared primarily with the following modifications.

- Name to "iron, steel and aluminum alloys - Determination of chromium content Azure S Spectrophotometry";
- Original two standards into a single standard, includes two analysis methods;
- Method one. Modify the preparation of a nickel solution;
- Method Two. Modify the preparation of aluminum standard solution;
- Modify the results of the calculation formula, and the formula in the amount of the unit;
- Change the specification of the 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. China Iron and Steel Research Institute Group, Baoshan Iron & Steel Co., Ltd. Special Steel Branch, Daye steel mills.

1 Scope

This section GB/T 223 requirements using Chromium Azure S Spectrophotometry Determination of soluble aluminum and copper and iron separation reagent - CAS S Determination of the aluminum content.

This section applies to a method for the mass fraction of iron, steel and alloys for the determination of 0.050% to 1.00% acid soluble aluminum content; this section method not applicable to steel and alloy content was measured 0.015% to 0.50% aluminum 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 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 of direct spectrophotometric Chromium Azure S

3.1 Principle

After the sample is dissolved by acid at pH (5.3 to 5.9) in acid medium, aluminum and chrome azure S generated purple complex measure Absorbance.

Vanadium-containing 100µg color solution, 2mg not interfere with the determination of chromium, iron, nickel interference masking available Zn-EDTA, 300µg titanium available 0.15g mannitol masking.

3.2 Reagents and materials

Unless otherwise stated, the analysis using only the confirmation of analytical grade reagents and distilled water or its equivalent purity.

3.2.1

iron, aluminum or known to contain residual aluminum content.

3.2.2

hydrochloric acid, rho about 1.19g/mL.

3.2.3

hydrochloride, rho of about 1.19g/mL, diluted to 5 + 95.

3.2.4

nitrate, rho about 1.42g/mL.

3.2.5

perchloric acid, rho about 1.67g/mL.

3.2.6

mannitol solution, 50g/L.

3.2.7

hexamethylenetetramine solution, 400g/L, stored in a plastic bottle.

3.2.8

ammonium fluoride solution, 5g/L, stored in a plastic bottle.

3.2.9

Chromium Azure S solution, 0.5g/L.

3.2.10

edetate zinc (Zn-EDTA) solution. Weigh 8.1g of zinc oxide in a beaker, add 40mL of hydrochloric acid (1 + 1) heating the solution