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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3368-2012

Determination of phosphorus content in carbon steel and low-middle alloy steel. Phosphomolybdate blue spectrophotometric method

碳钢、中低合金钢中磷含量的测定 磷钼蓝分光光度法

(English Translation)

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. Tianjin People's Republic of China Exit Inspection and Quarantine.

1 Scope

This standard specifies the phosphorus molybdenum blue spectrophotometric determination of carbon steel, low alloy steel phosphorus content approach.

This standard applies to carbon steel, low alloy steel in the determination of phosphorus content was measured in the range of 0.005% to 0.15% carbon, low-alloy steel 0.005% to 0.10%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Preparation of standard solution of GB/T 602 Determination of impurities in chemical reagents GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement method to repeat and basic methods of reproduction Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 20066 Steel and iron - Sampling and determination of the chemical composition of the sample with a sample preparation method

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3 Method summary

Carbon perchloric acid sample dissolution, low alloy steel with nitric acid - hydrochloric acid mixed acid, perchloric acid decomposition sample in sulfuric acid and molybdic acid Ammonium form a yellow complex with stannous chloride to restore phosphorus molybdenum blue absorbance was measured on a spectrophotometer at the wavelength of 660nm at.

4 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade reagent water to comply with two water GB/T 6682 regulations.

4.1
perchloric acid (rho = 1.67g/mL).

4.2
sulfate (rho = 1.84g/mL).

4.3
nitric acid (rho = 1.42g/mL).

4.4
hydrochloric acid (rho = 1.19g/mL).

4.5
perchloric acid (11).

4.6
sulfate (114).

4.7
sulfate (124).

4.8
nitric acid - mixing hydrochloric acid. amount of 100mL nitric acid (4.3), was added to 200mL of hydrochloric acid (4.4), and mix well.

4.9
sodium sulfite solution (10%). Weigh 10g of sodium sulfite, dissolved in 60mL water, dilute with water to 100mL.

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4.10

ammonium molybdate solution (5%). Weigh 5g of ammonium molybdate was dissolved in 60mL water, dilute with water to 100mL.

4.11

sodium fluoride solution (2.4%). Weigh 2.4g of sodium fluoride, dissolved in 60mL water, dilute with water to 100mL.

Sodium Fluoride 4.12 - Stannous chloride solution. 100mL sodium fluoride (4.11) was added 0.2g of stannous chloride, formulated with time.

4.13

P standard stock solution (100μg/mL). according to GB/T 602 formulated or direct purchase of certified reference materials.

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