NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 223.37-2020

Iron, steel and alloy--Determination of nitrogen content--Indophenol blue spectrophotometric method after distillation separation

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Table of Contents

Foreword

GB/T 223 "Iron, steel and alloy" is divided into several parts.

This Part is Part 37 of GB/T 223.

This Part is drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB/T 223.37-1989 "Methods for chemical analysis of iron, steel and alloy - The indophenol blue photometric methods for the determination of nitrogen content after distillation separation". Compared with GB/T 223.37-1989, in addition to editorial changes, the main technical changes are as follows:

- Modify the scope (see Clause 1; Clause 1 of the 1989 edition);
- Modify the mass of test portion (see 8.1; 5.1 of the 1989 edition);
- Modify the sample treatment process (see 8.3.1 and 8.3.2; 5.3.1 of the 1989 edition);
- ADD the distillation process of calibration solutions (see 8.4.1).

This Part, using translation method, is identical to ISO 4945:2018 "Steel -

Determination of nitrogen - Spectrophotometric method".

China's documents which have a consistent correspondence with the international documents normatively referenced in this Part are as follows:

? GB/T 6682-2008 Water for analytical laboratory use - Specification and test methods (ISO 3696:1987, MOD)

? GB/T 12806-2011 Laboratory glassware - One-mark volumetric flasks (ISO 1042:1998, NEQ)

? GB/T 20066-2006 Steel and iron - Sampling and preparation of samples for the determination of chemical composition (ISO 14284:1996, IDT)

For ease of use, this Part has made the following editorial change:

- In order to be consistent with the existing series of standards, change the standard name to "Iron, steel and alloy - Determination of nitrogen content - Indophenol blue spectrophotometric method after distillation separation".

This Part was proposed by China Iron and Steel Association.

This Part shall be under the jurisdiction of National Technical Committee 183 Iron, steel and alloy - Determination of nitrogen content - Indophenol blue spectrophotometric method after distillation separation

1 Scope

This Part of GB/T 223 specifies an indophenol blue spectrophotometric method after distillation separation for the determination of nitrogen content in iron, steel and alloy.

The Part is applicable to the determination of nitrogen mass fraction between **0.0006 % and 0.050 % in low alloy steels and between 0.010 % and 0.050 %** in high alloy steels.

The Part does not apply to the determination of nitrogen content in iron, steel and alloy containing silicon nitrides or having silicon contents higher than 0.6 %.

2 Normative references

The following documents are indispensable for the application of this document. For the dated references, only the editions with the dates indicated are applicable to this document. For the undated references, the latest edition (including all the amendments) are applicable to this document.

ISO 648 Laboratory glassware - Single-volume pipettes

ISO 1042 Laboratory glassware - One-mark volumetric flasks

ISO 3696 Water for analytical laboratory use - Specification and test methods

ISO 14284 Steel and iron - Sampling and preparation of samples for the determination of chemical composition

3 Terms and definitions

No terms and definitions are listed in this Part.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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