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

GB/T 33167-2016

**Seamless stainless steel tubes and pipes for industrial furnace
of petroleum and chemical hydrogenation unit
(English Translation)**

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Classification and code...	6
4 Order content...	7
5 Size, shape and weight...	7
6 Technical requirements...	10
7 Test method...	15
8 Inspection rules...	16
9 Numerical rounding off...	17
10 Packaging, marking and quality certification documents...	18

Foreword

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

This standard was proposed by China Iron and Steel Industry Association.

This standard shall be under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC 183).

The drafting organizations of this standard. ZTE Energy Equipment Co., Ltd., Zhejiang Jiulite Material Technology Co., Ltd., Jiangsu Wujin Stainless Steel Co., Ltd., Yongxing Special Stainless Steel Co., Ltd., Metallurgical Industry Information Standards Institute.

1 Scope

This standard specifies the classification and code, order content, dimension, appearance and weight, technical requirements, test methods, inspection rules, packaging, marking and quality certification documents of seamless stainless steel tubes and pipes for industrial furnace of petroleum and chemical

hydrogenation unit.

This standard applies to the seamless stainless steel tubes and pipes of outer diameter 68 mm ~ 273 mm for industrial furnace of petroleum and chemical hydrogenation unit (hereinafter referred to as steel tubes).

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB/T 223.11 Methods for chemical analysis of iron, steel and alloy - Ammonium sulfate oxidation volumetric method for the determination of chromium content

GB/T 223.16 Methods for chemical analysis of iron, steel and alloy - The chromotropic acid photometric method for the determination of titanium content

GB/T 223.18 Methods for chemical analysis of iron, steel and alloy - The sodium thiosulfate separation iodometric method for the determination of copper content

GB/T 223.25 Methods for chemical analysis of iron, steel and alloy - The dimethylglyoxime gravimetric method for the determination of nickel content

GB/T 223.28 Methods for chemical analysis of iron, steel and alloy - The alpha-benzooxime gravimetric method for the determination of molybdenum content

GB/T 223.37 Methods for chemical analysis of iron, steel and alloy - The indophenol blue photometric method for the determination of nitrogen content after distillation separation

GB/T 223.40 Iron, steel and alloy - Determination of niobium content by the Chlorosulfonol S spectrophotometric method

GB/T 223.58 Methods for chemical analysis of iron, steel and alloy - The sodium arsenite-sodium nitrite titration method for the determination of manganese content

GB/T 223.59 Iron, steel and alloy - Determination of phosphorus content - Bismuth phosphomolybdenum blue spectrophotometric method and antimony phosphomolybdenum blue spectrophotometric method

GB/T 223.60 Methods for chemical analysis of iron, steel and alloy - The perchloric acid dehydration gravimetric method for the determination of silicon content

GB/T 223.68 Methods for chemical analysis of iron, steel and alloy - The combustion potassium iodate volumetric method for the determination of sulfur content

GB/T 223.69 Iron, steel and alloy - Determination of carbon contents - Gas-volumetric method after combustion in the pipe furnace

GB/T 228.1 Metallic materials - Tensile testing - Part 1. Method of test at room temperature

GB/T 228.2 Metallic materials - Tensile testing - Part 2. Method of test at elevated temperature

GB/T 241 Metal materials - Tube - Hydrostatic pressure test

GB/T 242 Metal materials - Tube - Drift-expanding test

GB/T 246 Metal materials - Tube - Flattening test

GB/T 2102 Acceptance packing marking and quality certification of steel tube

GB/T 2975 Steel and steel products - Location and preparation of test pieces for mechanical testing

GB/T 4334-2008 Corrosion of metals and alloys - Test methods for intergranular corrosion of stainless steels

GB/T 5777-2008 Seamless steel tube and tubing - Methods for ultrasonic

testing

GB/T 6394 Metal - Methods for estimating the average grain size

GB/T 7735 Seamless and welding (except for submerged arc welding)

tubes - The inspection method on eddy current test

GB/T 8170 Rules for rounding off for numerical values & expression and judgment of limiting values

GB/T 10561-2005 Steel - Determination of content of nonmetallic inclusions

- Micrographic method using standards diagrams

GB/T 11170 Stainless steel - Determination of multi-element contents -

Spark discharge atomic emission spectrometric method (Routine method)

GB/T 17395 Dimensions, shapes, masses and tolerances of seamless steel tubes

GB/T 20066 Steel and iron - Sampling and preparation of samples for the determination of chemical composition

GB/T 20123 Steel and iron - Determination of total carbon and sulfur content

- Infrared absorption method after combustion in an induction furnace (Routine method)

GB/T 20124 Steel and iron - Determination of nitrogen content - Thermal conductimetric method after fusion in a current of inert gas (Routine method)

NB/T 47013.5-2015 Nondestructive testing of pressure equipment - Part 5.

Penetrant testing

SH/T 3037-2002 Calculation of heater-tube thickness in petroleum refineries

YB/T 5137 Round blank of hot-rolled and forged seamless steel tube for high pressure

3.1 Steel tubes are classified as follows in accordance with the processing methods.

a) Hot rolled (extruded, upset and forged) steel tubes, W-H;