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

GB 28884-2012

Replacing GB/T 28884-2012

**Seamless steel tubes for large capacity gas cylinder
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents"

Drafting:

This document replaces GB/T 28884-2012 "Seamless Steel Tubes for Large Volume Gas Cylinders": Compared with GB/T 28884-2012, except for the structural adjustment, in addition to the integration and editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the:2012 edition);
- b) The size specification range of steel pipes has been changed (see 5.1:2, 4:1:2 of the:2012 edition);
- c) Added advanced precision requirements for allowable deviation of steel tube wall thickness (see 5.1:3);
- d) Straightness is changed to curvature (see 5.3, 4:3 of the:2012 edition);
- e) The requirements for terminal shape have been changed (see 5.5, 4:5 of the:2012 edition);
- f) The chemical composition requirements of steel have been changed (see 6.1:1, 5:1:1 of the:2012 edition);
- g) Added the tube manufacturing method and requirements (see 6.2:2);
- h) The delivery status requirements of steel pipes have been changed (see 6.3, 5:3 of the:2012 edition);
- i) The mechanical property requirements of steel pipes have been changed (see 6.4:1, 5:4:1 of the:2012 edition);
- j) The requirements for non-metallic inclusions have been changed (see 6.5, 5:5 of the:2012 edition);
- k) The grain size requirements have been changed (see 6.6, 5:6 of the:2012 edition);

- l) Added surface roughness requirements (see 6.8);
- m) Added the requirements for the blind area of automatic thickness measurement (see 6.9);
- n) The non-destructive testing requirements have been changed (see 6.10, 5:9 of the:2012 edition);
- o) Added the test method for automatic thickness measurement (see Table 5);
- p) The batch quantity of each batch of steel pipes has been changed (see 8.2, 7:2 of the:2012 edition):

1 Scope

This document specifies the ordering content, size, shape, weight and allowable deviation, technical requirements, test methods and other requirements of seamless steel pipes for large volume gas cylinders:

methods, inspection rules, packaging, marking and quality certificates:

This document is applicable to the manufacture of seamless steel pipes for gas cylinders with a volume of 150L~4500L (hereinafter referred to as "steel pipes"), bottle containers, and other Seamless steel pipes for volumetric gas cylinders can be used for reference:

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document:

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document:

GB/T 222 Permissible deviation of chemical composition of finished steel products GB/T 223.5 Determination of acid-soluble silicon and total silicon content of iron and steel - Reduced molybdenum silico-silicic acid spectrophotometric method GB/T 223.11 Determination of chromium content in steel and alloys Visual titration or potentiometric titration method GB/T 223.14 Chemical analysis methods for iron, steel and alloys - Tantalum extraction spectrophotometric method for determination of vanadium content GB/T 223.19 Methods for chemical analysis of iron, steel and alloys - Determination of copper content by the new cuproline-chloroform extraction spectrophotometric method GB/T 223.23 Determination of nickel content in steel and alloys - Dimethylglyoxime spectrophotometric method GB/T 223.26 Determination of molybdenum content in steel and alloys - Thiocyanate spectrophotometric method GB/T 223.29 Determination of lead content in iron, steel and alloys - Carrier precipitation-xyleneol orange spectrophotometric

method GB/T 223.30 Chemical analysis methods for iron, steel and alloys - Determination of arsenazo III by precipitation separation with bromomandelic acid Zirconium content GB/T 223.31 Determination of arsenic content in iron, steel and alloys - Distillation separation - Molybdenum blue spectrophotometric method GB/T 223.37 Determination of nitrogen content in iron, steel and alloys - Spectrophotometric method using indophenol blue distillation separation GB/T 223.40 Determination of niobium content in iron, steel and alloys - Chlorosulfonphenol S spectrophotometric method GB/T 223.47 Chemical analysis methods for iron, steel and alloys - Determination of antimony content by carrier precipitation-molybdenum blue photometric method GB/T 223.50 Chemical analysis methods for steel and alloys - Determination by direct photometric method with phenylfluorone-cetyltrimethylammonium bromide Tin amount GB/T 223.59 Determination of phosphorus content in iron, steel and alloys - Bismuth phosphomolybdenum blue spectrophotometric method and antimony phosphomolybdenum blue spectrophotometric method GB/T 223.63 Determination of manganese content in iron, steel and alloys - Sodium (potassium) periodate spectrophotometric method GB/T 223.78 Chemical analysis methods for iron, steel and alloys - Curcumin direct photometric method for determination of boron content GB/T 223.80 Determination of bismuth and arsenic content in iron, steel and alloys - Hydride generation-atomic fluorescence spectrometry GB/T 223.82 Determination of hydrogen content of steel - Inert gas fusion - Thermal conductivity or infrared method GB/T 223.84 Determination of titanium content in steel and alloys - Diantipyryl methane spectrophotometric method GB/T 223.85 Determination of sulfur content in iron, steel and alloys - Infrared absorption method after combustion in an induction furnace GB/T 223.86 Determination of total carbon content of steel and alloys - Infrared absorption method after combustion in an induction furnace GB/T 228.1 Tensile test of metallic materials Part 1: Room temperature test method GB/T 229 Charpy pendulum impact test method for metallic materials