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

GB/T 14291-2006

**Welded steel tubes for mine liquid service
(English Translation)**

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Foreword

This Standard corresponds to ISO 559.1991 "Steel tubes for water and sewage" (English version); the consistent degree is not equivalent.

This Standard replaces GB/T 14291-1993 "Welded steel tubes for mine liquid service". Compared with GB/T 14291-1993, the main changes of this Standard are as follows.

- Modify the outer-diameter and wall-thickness series;
- Modify the permissible-deviation of outer-diameter and wall-thickness;
- Add the tube-end's cut-oblique requirements;
- Modify the coefficient of theoretical weight formula; add the weight permissible-deviation;
- Add the steel designations Q295A, Q295B, Q345A and Q345B; and their mechanical properties;
- Add the requirements of tube-end weld-seam's ultrasonic test, after hydraulic test;
- Modify the provision that non-destructive test replaces hydraulic test;
- Modify the bending test and flattening test provisions;
- Modify the group-batching rules.

This Standard was proposed by China Iron and Steel Association.

This Standard shall be under the jurisdiction of the National Steel Standardization Technical Committee.

Drafting organization of this Standard. Jinxi Steel Tube Co., Ltd.

Main drafters of this Standard. Qi Huijuan, Bi Jingdong, Zhu Xingwei, Xu Shoushan, Liu Shuochen.

This Standard was first-published in April 19, 1993.

Welded steel tubes for mine liquid service

1 Scope

This Standard specifies the dimension, shape, weight, technical requirements, test methods, inspection rules, packaging, marking and quality certificate for welded steel tubes for mine liquid service.

This Standard applies to the straight-seam welded steel tubes that are used for mine pressured-air, drainage, drainage gas and slurry transportation.

2 Normative references

The following normative documents contain the provisions which, through reference in this text, constitute the provisions of this Standard. For dated references, the subsequent amendments (excluding corrections) or revisions of these publications do not apply. However, the parties who enter into agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document applies.

GB/T 222 Permissible Tolerances for Chemical Composition of Steel Products

GB/T223.5 Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdsilicate spectrophotometric method

GB/T 223.10 Methods for chemical analysis of iron, steel and alloy -The cupferron separation-chrome azurol S photometric method for the determination of aluminium content

GB/T 223.12 Methods for chemical analysis of iron, steel and alloy - The sodium

carbonate separation-diphenyl carbazide photometric method for the determination of chromium content

GB/T 223.14 Methods for chemical analysis of iron, steel and alloy - The N-benzoyl-N-phenylhydroxylamine extraction photometric method for the determination of vanadium 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 223.19 Methods for chemical analysis of iron steel and alloy - The neocuproine-chloroform extraction photometric method for the determination of copper content

GB/T 223.23 Methods for chemical analysis of iron, steel and alloy - The dimethylglyoxime spectrophotometric method for the determination of nickel content

GB/T 223.39 Methods for chemical analysis iron, steel and alloy - The sulphochlorophenol S photometric method for the determination of niobium content

GB/T 223.59 Methods for chemical analysis of iron, steel and alloy - The reduced molybdoantimonyl phosphoric acid photometric method for the determination of phosphorus content

GB/T 223.62 Methods for chemical analysis of iron, steel and alloy - The butyl acetate extraction photometric method for the determination of phosphorus content

GB/T 223.63 Methods for chemical analysis of iron, steel and alloy - The sodium (potassium) periodate photometric method for the determination of manganese content

GB/T 223.68 Methods for chemical analysis of iron, steel and alloy - the potassium iodate titration method after combustion in the pipe furnace for the determination of sulfur content

GB/T 223.69 Methods for chemical analysis of iron, steel and alloy - The gas-volumetric method after combustion in the pipe furnace for the determination of carbon content

GB/T 228 Metallic Materials - Method for Tensile Testing at Ambient Temperature
(GB/T 228-2002, eqv ISO 6892.1998)

GB/T 241 Metal tubes - Hydrostatic pressure testing

GB/T 244 Metallic materials-Tube - Bend test (GB/T 244-2008, ISO 8491.1998, IDT)

GB/T 246 Metal materials - Tube - Flattening test (GB/T 246-2007, ISO 8492.1998,
IDT)

GB/T 700 Carbon structural steels (GB/T 700-2006, ISO 630.1995, NEQ)

GB/T 1591 High strength low alloy structural steels GB/T 1591-1994, neq ISO 4950-
1.1981, ISO 4950-2.1981, ISO 4951.1981)

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

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

GB/T 4336 Standard test method for spark discharge atomic emission
spectrometric analysis of carbon and low-alloy steel (routine method)

GB/T 7735 Steel tubes - The inspection method on eddy current test (GB/T 7735-
2004, ISO 9304.1989, MOD)

GB/T 18256 Welded steel tubes (except submerged arc-welded-ultrasonic testing
for verification of hydraulic leak-tightness

GB/T 20066 Steel and Iron - Sampling and preparation of samples for the
determination of chemical composition (GB/T 20066-2006, ISO 14284.1996, IDT)

3 Ordering contents

The contract or order that is based on this Standard shall include the following contents.

- a) standard number;
- b) product name;
- c) steel designation;
- d) order quantity (total weight or total length);
- e) dimensions (outer-diameter x wall-thickness, in millimeters);
- f) delivery status;