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

GB/T 13793-2016

Replacing GB/T 13793-2008

Steel pipes with a longitudinal electric (resistance) weld

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1 Scope

GB/T 13793-2016 is the Chinese national standard on steel pipes with a longitudinal electric (resistance) weld, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 August 2016 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 July 2017. Classification: ICS 77.140.75, CCS H48. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the classification and code, ordering content, size, shape, weight and allowable deviations, technical requirements, test methods, inspection rules, marking, packaging and quality certificates of the steel pipes with a longitudinal electric (resistance) weld. This standard applies to the steel pipes with a longitudinal electric (resistance) weld which is used for machinery, construction and other structural purposes, AND for which the outer diameter is not greater than 711 mm; it is also applicable to the welded steel pipes for general fluid delivery services.

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 222 Permissible tolerances for chemical composition of steel products

GB/T 223.3 Methods for chemical analysis of iron, steel and alloy - The diantipyrylmethane phosphomolybdate gravimetric method for the determination of phosphorus content

GB/T 223.5 Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdosilicate spectrophotometric method

GB/T 223.9 Iron, steel and alloy - Determination of aluminium content - Chrom azurol S photometric method

GB/T 223.11 Iron, steel and alloy - Determination of chromium content - Visual titration or potentiometric titration method

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

3 Classification and code

3.1 The steel pipe is, based on the outer diameter accuracy level, divided into.

3.2 The steel pipe is, based on the wall thickness accuracy level, divided into.

3.3 The steel pipe is, based on the bending degree level, divided into.

4 Order content

4.1 General requirements The contract or order for the steel pipe ordering in accordance with this standard shall at least contain the following.

4.2 Special requirements If agreed by the supplier and the buyer AND indicated in the contract, the buyer may select the following requirements.

5.1 Outer diameter and wall thickness

5.1.1 The nominal outer diameter (D) and nominal wall thickness (t) of steel pipes shall comply with the provisions of GB/T 21835. As required by the buyer AND through negotiation between the supplier and the buyer, it may supply the steel pipes of other sizes than those specified in GB/T 21835.

5.1.2 The allowable deviation of outer diameter and wall thickness of steel pipe shall comply with the requirements of Table 1 and Table 2, respectively. When the contract does not indicate the allowable deviation level of steel pipe size, the allowable deviation of the outer diameter and wall thickness of the steel pipe used for belt conveyor shall be supplied at high accuracy, AND the allowable deviation of the outer diameter and wall thickness of other steel pipes shall be supplied at general accuracy.

5.2 Length

5.2.1 Normal length The general length of the steel pipe shall comply with the following provisions.

5.2.2 Length of sizing and length of double sizing As required by the buyer, through negotiation between the supplier and the buyer, AND indicated in the contract, it may supply the steel pipes based on the length of sizing or the length of double sizing. The total length of the sizing and double sizing shall be within the range of the general length. Each length of sizing shall be reserved with an incision margin of 5 mm ~ 10 mm. The allowable deviation of the length of sizing and the length of double sizing shall comply with the following requirements.

5.4 Out-of-roundness The out-of-roundness of the steel pipe (the difference between the maximum outer diameter and the minimum outer diameter of the same cross-section) shall comply with the following requirements.

5.6 Weld height of steel pipe Pipe end

5.6.1 The weld burrs outside the steel pipe shall be cleared and flattened.

5.6.2 The steel pipes for the belt conveyor idler shall be supplied after removing the inner burrs. As required by the buyer, other steel pipes of more than 25 mm outer diameter can

be supplied after removing the inner burrs.

5.6.3 When the steel pipes are supplied after removing the inner burrs, the inner weld burr height shall comply with the provisions of Table 4, AND after the burr is removed, the remaining wall thickness of the steel pipe shall be not less than the allowable minimum value of the wall thickness. If the steel pipe accuracy level does not specified in the contract, it shall follow the general accuracy. As required by the buyer, through negotiation between the supplier and the buyer, AND indicated in the contract, it may supply the steel pipe of other inner burr height than those specified in Table 4.

6.1 Steel designation and chemical composition

6.1.1 The designation and chemical composition of the steel (melting analysis) shall be respectively in accordance with the requirements of 08, 10, 15, and 20 of GB/T 699-2015, OR the provisions of Q195, Q215A, Q215B, Q235A, Q235B, Q235C, Q275A, Q275B, Q275C in GB/T 700-2006, OR the provisions of

6.1.2 The chemical composition of the steel pipe shall be accepted based on the melting composition. When the buyer requires finished product analysis, it shall make indication in the contract; AND the allowable deviation of the chemical composition of the finished product shall comply with the provisions of GB/T 222.

6.2 Manufacturing methods Steel pipe shall be manufactured using hot-rolled steel strip or cold-rolled steel strip through high-frequency resistance welding method. When the buyer specifies the raw material of a certain rolling status, it shall be indicated in the contract.

6.3 Supply status The steel pipe shall be supplied in welded status or heat treatment status. As required by the buyer, through negotiation between the supplier and the buyer, AND indicated in the contract, the steel pipe can be supplied at the overhaul heat treatment status or weld heat treatment status.

6.4.1 Base metal tensile test

6.4.2 Weld transverse tensile test As for the steel pipe of outer diameter not less than 219 mm, it shall be subjected to transverse tensile test of welds. The weld transverse tensile test only determines the tensile strength, which shall comply with the provisions of

6.4.3 Impact test As required by the buyer, through negotiation between the supplier and the buyer, AND indicated in the contract, the steel pipes of quality level B, C and D can be subjected to impact test. AND the impact energy absorption of the pipe, weld, and heat affected zone shall be determined by the supplier and the buyer through negotiation.

6.8 Surface quality

6.8.1 The inner and outer surface of the steel pipe shall not be allowed to have cracks, scarring, folding, delamination, lap welding and over-burning defects. BUT it is allowed for