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

GB/T 24511-2017

**Stainless steel and heat resisting steel plate, sheet and strip for
pressure equipment
(English Translation)**

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1 Scope

This standard specifies the classification and code, order content, size, shape, weight, technical requirements, test methods, inspection rules, packaging, marking, quality certificates of stainless-steel and heat resisting steel plate, sheet and strip for pressure equipments.

This standard applies to hot-rolled stainless-steel and heat resisting steel plate, sheet and strip (including coil-cut steel plates), cold-rolled stainless-steel and heat resisting steel plate, sheet and strip (including coil-cut steel plates) for pressure equipment which has a width of not less than 600 mm.

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 223.5 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 aluminum content -

Chrome azurol S photometric method

GB/T 223.11 Iron, steel and alloy - Determination of chromium content -

Visual titration or potentiometric titration method

GB/T 223.16 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 iodimetric method for the determination of copper content

GB/T 223.19 Methods for chemical analysis of iron, steel and alloy - The neocuproine-chloroform extraction spectrophotometric method for the determination of copper content

GB/T 223.23 Iron, steel and alloy - Determination of nickel content - The dimethylglyoxime spectrophotometric method

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

3 Classification and code

3.1

According to the edge state, it can be divided into.

3.2

According to dimensional accuracy, it can be divided into.

4 Order content

The contract or order placed in accordance with this standard shall include the following.

- a) Product name (or item);
- b) Designation or code;
- c) Standard number;
- d) Size and accuracy;
- e) Weight or quantity;
- f) Surface processing type;
- g) Delivery status;

h) Other special requirements.

5.1.1 Dimensions

The nominal size range of steel plate strip is as shown in Table 1. The recommended nominal size shall meet the requirements of GB/T 708 and GB/T 709.

5.1.3 Allowable deviation of width

5.1.3.1

The hot-rolled thick steel plate shall be delivered after trimmed; the allowable deviation of width shall meet the requirements of Table 5.

Table 5 (continued), in mm

5.1.3.2

The hot-rolled coil-cut steel plate shall be delivered after trimmed. The allowable deviation of the width of the trimmed hot-rolled steel sheet and steel strip, as well as the coil-cut steel sheet shall meet the requirements in Table 6.

The allowable deviation of the width of the non-trimmed hot-rolled steel strip shall be negotiated between the supplier and the buyer.

5.1.3.3

Cold-rolled steel plates and steel strips shall be delivered after trimmed.

The allowable deviation of width shall meet the requirements of Table 7.

5.1.4 Allowable deviation of length

The allowable deviation of the length of hot-rolled thick steel plate, hot-rolled coil-cut steel plate, cold-rolled coil-cut steel plate shall meet the requirements of Table 8.

5.2.1 Sickle bend

The sickle bend of hot-rolled thick steel plate, hot-rolled steel strip and coil-cut steel plate, cold-rolled steel strip and coil-cut steel plate shall meet the requirements of Table 9.

5.2.4 Tower shape

5.2.4.1

Tower shape. the phenomenon that the edges of the steel coil are not in the same vertical plane during the coiling process, as shown in Figure 1.

5.2.4.2

The steel coil shall be firmly formed into a coil and try to keep cylindrical and not crimped.

5.2.4.3

The tower shape of the hot-rolled trimmed steel coil shall not be larger than 30.0 mm; the tower shape of the cold-rolled trimmed steel coil shall not be larger than 20.0 mm.

5.2.4.4

The tower shape of untrimmed steel coils shall not be larger than 70.0 mm.

5.3.1 Weight of steel plate

Steel plates are delivered according to theoretical or actual weight. When calculating the theoretical weight, use the nominal size of the steel plate for calculation, but the calculated thickness is the arithmetic average of the maximum and minimum allowable thickness of the steel plate. See Appendix A for the density of stainless-steel.

5.3.2 Weight of steel strip

The steel strip is delivered according to actual weight.

6.1 Manufacturing method

6.1.1

Use crude molten steel for refining outside the furnace.

6.1.2

The compression ratio of the continuous casting billet or steel ingot shall not be less than 3.

6.1.3

Hot-rolled stainless-steel and heat-resisting steel coils which have a thickness of 14.0 mm ~ 25.0 mm may be flattened in the hot-rolled state and subjected to single-sheet heat treatment, before they can be delivered in accordance with the standard of single sheet medium plate.

6.2 Chemical composition

6.2.1

The steel designation and chemical composition (melting analysis) shall meet the requirements of Table 13 ~ Table 15. Refer to Appendix B for the comparison of stainless-steel designations.