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Q/BQB

ENTERPRISE STANDARD

Q/BQB 311-2023

Replacing Q/BQB 311-2018

Continuously hot-rolled high yield strength steel sheet and strip for cold forming

冷成形用高屈服强度热连轧钢板及钢带

(English Translation)

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Issued by: Baoshan Iron & Steel Co., Ltd. (Baosteel)

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1 Scope

This document specifies the dimension, shape, technical requirements, inspection and testing, packaging, marking, and inspection documents for continuously hot-rolled high-yield strength steel sheets and strips for cold forming.

This document applies to continuously hot-rolled high-yield strength steel strips for cold forming produced by Baoshan Iron and Steel Co., Ltd., as well as steel sheets cut transversely and steel strips slit longitudinally from it, hereafter referred to as steel sheets and steel strips.

2 Normative references

The following documents contain the provisions which, through normative reference in this document, constitute the essential provisions of this document. For the dated referenced documents, only the versions with the indicated dates are applicable to this document; for the undated referenced documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 222-2006 Permissible tolerances for chemical composition of steel products · GB/T 223 Methods for chemical analysis of iron, steel and alloy (applicable parts) · GB/T

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228.1-2021 Metallic materials - Tensile testing - Part 1: Method of test at room temperature · GB/T 232 Metallic materials - Bend test · GB/T 2975 Steel and steel products - Location and preparation of samples and test pieces for mechanical testing · GB/T 4336 Carbon and low-alloy steel - Determination of multi-element contents - Spark discharge atomic emission spectrometric method (routine method) · GB/T 8170 Rules of rounding off for numerical values & expression and judgment of limiting values · 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 20125 Low-alloy steel - Determination of multi-element contents - Inductively coupled plasma atomic emission spectrometric method · Q/BQB 300 General rules of package, mark and inspection documents for continuously hot rolled steel sheet and strip · Q/BQB 301 Dimension, shape, weight and tolerances for continuously hot-rolled steel sheet and strip

3 Terms and definitions

There are no terms or definitions that need to be defined in this document.

4 Categories and codes

4.1

The grades, nominal thickness, purpose, and product categories of steel sheets and steel strips are shown in Table 1.

5 Information required for ordering

5.1

Users need to provide the following information when ordering.

a) This document number;

b) Product category;

c) Grade, surface treatment method, and surface quality level;

d) Specifications and precision of dimensions (thickness, width, unevenness);

e) Edge state;

f) Purpose;

g) Type of inspection documents.

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5.2 Matters omitted from the order contract

5.2.1
If the surface treatment method is not specified, the product will be delivered with the rolled surface.

5.2.2
For hot-rolled steel sheets and steel strips, if the dimensional precision is not specified, they will be delivered with the ordinary precision specified in Q/BQB 301; if the edge status is not specified, the steel strips will be delivered in an untrimmed state, and the steel sheets will be delivered in a trimmed state.

5.2.3
For hot-rolled pickled steel sheets and steel strips, if the dimensional precision is not specified, the thickness shall be high thickness precision and other dimensions shall be ordinary precision for delivery; if the edge condition, surface quality level, and whether it is oiled or not is not specified, they shall be delivered with trimmed edges, higher-grade and oiled surface; if the inner diameter of the steel coil is not specified, the inner diameter of the steel coil shall be 610 mm for delivery.

6 Dimensions, shape, weight and tolerances

The dimensions, shape, weight, and tolerances for steel sheets and steel strips shall comply with the regulations of Q/BQB 301. If the buyer has higher requirements for thickness precision, the high precision PT.C given in Table 4 of Q/BQB 301 can be selected when ordering.

7.1 Grade and chemical composition

7.1.1
The grade and chemical composition (smelting analysis) of steel shall comply with the requirements in Table 2.

7.1.2
The permissible tolerances of the chemical composition of finished steel sheets and steel strips shall comply with the provisions of GB/T 222.

7.2 Smelting method

The steel used for steel sheets and steel strips is killed steel smelted in an oxygen converter.

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7.3 Delivery status

The steel sheets and steel strips are delivered in a hot-rolled or controlled-rolled state.

7.4 Surface treatment methods

7.4.1

The surface treatment methods of steel sheets and steel strips can be rolling and acid pickling.

7.5 Mechanical and process properties

7.5.1

The mechanical properties and process properties of steel sheets and steel strips shall comply with the requirements in Table 3. If there are other performance requirements for steel sheets and steel strips, they can be negotiated when ordering and specified in the contract.

7.5.2

After the bend test, there shall be no visible cracks the naked eyes on the outer surface of the specimen. If the supplier can ensure that the bend test result is qualified, the test may not be performed.

7.6 Surface quality

7.6.1

The surface of steel sheets and steel strips shall not have cracks, scars, folds, bubbles, inclusions, or other defects that are harmful to use; the steel sheets and steel strips shall not have delamination. There must be no roll-stop marks on the steel sheets and steel strips with pickled surfaces.

8 Inspection and testing

8.1

The appearance of steel sheets and steel strips shall be inspected by the naked eyes.

8.2

The dimensions and shape of steel sheets and steel strips shall be checked with appropriate measuring tools.

8.3

When selecting the specified inspection and test types, the inspection document types shall comply with the provisions of the clauses 8.4~8.6.

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