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ENTERPRISE STANDARD OF
BAOSHAN IRON AND STEEL CO., LTD

Q/BQB 410-2023

Replacing Q/BQB 410-2019

Cold-Rolled Carbon Structural Steel Sheet and Strip

冷轧碳素结构钢板及钢带

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Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 *Directives for Standardization – Part 1: Rules for the Structure and Drafting of Standardizing Documents*.

This Document was formulated by reference of DIN 1623:2009 and JFS A2001:2020.

This Document replaced Q/BQB 410-2019 *Cold-rolled Carbon Structural Steel Sheet and Strip*.

Compared with Q/BQB 410-2019, the major technical changes of this Document are as follows:

- Revise the Normative References;
- Revise the upper limit requirements of the Component-C of B240ZK and B280VK designations in Table 4;
- Revise the lower limit requirements of the Component-AL of the original designations in Table 4;
- Add the Designations Q235, Q275 and Q325 and related technical requirements;
- Revise the tensile specimen provisions in Table 6, using the P17 specimen specified in GB/T 228.1;
- In 8.3 tensile test method, add the second-level rate requirement (original 7.3);
- Revise Appendix A Comparison List of Approximate Designations of Relevant Domestic and Foreign Standards;
- Editorial modification of the document.

The Appendix A of this Document is informative.

This Document was proposed by Manufacturing and Management Department of Baoshan Iron and Steel Co., Ltd.

This Document shall be under the jurisdiction of Manufacturing and Management Department of Baoshan Iron and Steel Co., Ltd.

This Document was drafted by Manufacturing and Management Department of Baoshan Iron and Steel Co., Ltd.

Chief drafting staffs of this Document: Yuan Min.

The historical editions replaced by this Document are as follows:

Q/BQB 410-1988, Q/BQB 410-1994, Q/BQB 410-1999, Q/BQB 410-2003, Q/BQB 410-2009.

Cold-Rolled Carbon Structural Steel Sheet and Strip

1 Scope

This Document specifies the terms and definitions, classification and code, size, shape, weight, technical requirements, inspection and testing, packaging, marking and inspection documents of cold-rolled carbon structural steel sheet and strip.

This Document applies to cold-rolled carbon structural steel sheet and strip (hereinafter referred to as steel sheet and strip) with a thickness of 0.50mm ~ 3.5mm produced by Baoshan Iron & Steel Co., Ltd.

2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in 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) is applicable to this Document.

GB/T 222 Permissible tolerances for chemical composition of steel products

GB/T 223 Methods for chemical analysis of iron, steel and alloy

GB/T 228.1-2021 Metallic materials - Tensile testing - Part 1: Method of test at room temperature

GB/T 232 Metallic materials - Bend test

GB/T 2523 Measuring method of surface roughness and peak count for cold-rolled metal sheet (strip)

GB/T 2975 Steel and Steel Products - Location and Preparation of 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 judgement of limiting values

GB/T 20066 Steel and Iron-Sampling and Preparation of Samples for the Determination

4.3 The classification of steel sheet and strip according to the surface structure shall comply with the provisions of Table 3.

5 Information Required for Ordering

5.1 When ordering, the user shall provide the following information:

- a) Product name (steel sheet or strip);
- b) Enterprise standard number of this Document;
- c) Designation;
- d) Order weight;
- e) Product specifications and dimensions, roughness accuracy;
- f) Edge state;
- g) Surface quality level;
- h) Oiling requirements;
- i) Packaging method;
- j) Purpose;
- k) Others.

5.2 If the size, roughness accuracy, surface quality level, edge state and packaging method are not specified in the ordering contract, this Standard product shall be supplied as trimmed steel sheet or strip with ordinary size, roughness accuracy and Level-FB surface quality; and shall be packaged in the packaging method provided by the supplier.

6 Dimensions, Shape, Weight and Allowable Deviations

The dimension, shape, weight and allowable deviations of steel sheet and strip shall comply with the provisions of Q/BQB 401.

8.3 The tensile test shall be in accordance with Method-B of GB/T 228.1-2021. In order to improve the reproducibility of the measurement results, it is recommended to use the beam displacement rate control method. The beam displacement rate for determining the yield strength is $0.00083 \times L_c$ (mm/s) (L_c is the parallel length of the tensile specimen, in mm; the same below) or $0.05 \times L_c$ (mm/min); after the yield strength is measured, the beam displacement rate is $0.0067 \times L_c$ (mm/s) or $0.4 \times L_c$ (mm/min).

8.4 Steel sheet and strip shall be inspected and accepted in batches. Each inspection batch shall consist of steel sheet and strip of the same designation, specification and processing state of no more than 30 tons. For steel strips weighing more than 30 tons, each steel coil shall constitute an inspection batch.

8.5 The inspection items, number of specimens, sampling methods and test methods of each batch of steel sheets and strips shall comply with the provisions of Table 9.

8.6 The supplier may use different inspection and test methods for acceptance testing. In case of disputes, the inspection and test methods and relevant technical requirements specified in this standard shall be used for testing.

8.7 Reinspection

For tensile test, if a test result does not meet the requirements of this Standard, double the number of specimens from the same batch shall be randomly selected for reinspecting the unqualified item. If the reinspection result (including all the indicators required by this test item) is qualified, the entire batch shall be qualified. If even one indicator of the reinspection result (including all the indicators required by this test item) is unqualified, the reinspection shall be unqualified. If the reinspection is unqualified, the single workpiece that has been tested and has unqualified test results cannot be accepted; but the single workpieces that have not been tested in the batch of materials can be resubmitted for testing and acceptance piece by piece.

9 Packaging, Marking and Inspection Documents

The packaging, marking and inspection documents of steel sheet and strip shall comply with the provisions of Q/BQB 400. If the purchaser has special requirements for packaging, it shall be stated in the contract.

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Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

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