

Supply Technical Conditions of Baoshan Iron and Steel Co., Ltd.

Steel plates and steel strips for hot stamping

Q/BQB 409-2014

1 Scope

This Technical Conditions specifies the requirements for the classification and code, dimension, shape, technical requirements, inspection and test of steel plates and steel strips for hot stamping.

This Technical Conditions applies to steel plates and steel strips for hot stamping (hereinafter referred to as steel plates and steel strips) with a thickness of 0.7 mm to 5.0 mm produced by Baoshan Iron and Steel Co., Ltd.

Steel plates and steel strips with a thickness of less than 2.0 mm are usually delivered by cold-rolled surface. Steel plates and steel strips with a thickness of not less than 2.0 mm are usually delivered by hot-rolled rolled surface and hot-rolled pickled surface.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 222-2006 Permissible tolerances for chemical composition of steel products

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

GB/T 228.1-2010 Metallic materials - Tensile testing - Part 1: Method of test at room temperature

GB/T 230.1-2009 Metallic materials - Rockwell hardness test - Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)

Bright surface	B
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5 Information required for ordering

5.1 The user shall provide the following information when ordering:

- a) product name (steel plate or steel strip);
- b) number of this Technical Conditions;
- c) grade;
- d) surface state (when delivered in hot rolled state);
- e) product specification and dimension, flatness accuracy;
- f) edge state;
- g) surface quality level;
- h) packaging method;
- i) use;
- j) other.

5.2 For products delivered by cold-rolled surface, if the dimensional accuracy, flatness accuracy, surface quality level, edge state and packaging method are not indicated in the order contract, then the products in this Technical Conditions are supplied as trimmed steel strips or trimmed steel plates with ordinary dimension and flatness accuracy specified in Q/BQB 401, FB level surface quality specified in Table 8, and packaged according to the packaging method provided by the supply party. When the inner diameter of the steel coil is not specified, the inner diameter of the steel coil is 610 mm.

5.3 For products delivered by hot-rolled pickled surface, if the dimensional accuracy, surface quality level, edge state and packaging method are not indicated in the order contract, then the products in this Technical Conditions are supplied as trimmed steel strips or trimmed steel plates with relatively advanced thickness accuracy specified in Q/BQB 301, FB level surface quality specified in Table 9, and packaged according to the packaging method provided by the supply party. When the inner diameter of the steel coil is not specified, the inner diameter of the steel coil is 610 mm.

5.4 For products delivered by hot-rolled rolled surface, if the dimensional accuracy, surface quality level, edge state and packaging method are not

7.3.3 For steel plates and steel strips delivered by cold-rolled surface, oiling shall normally be applied and the oil film applied shall be able to be removed with aqueous alkaline solution. Under normal conditions of packaging, transportation, handling and storage, the supply party shall ensure that the surface of steel plates and steel strips does not rust within 6 months from the date of completion of the manufacture.

7.3.4 For steel plates and steel strips delivered by pickled surface, oiling shall normally be applied and the oil film applied shall be able to be removed with aqueous alkaline solution. Under normal conditions of packaging, transportation, handling and storage, the supply party shall ensure that the surface of steel plates and steel strips does not rust within 3 months from the date of completion of the manufacture.

7.3.5 According to the requirements of the demand party, agreed upon between the supply and demand parties and specified in the contract, products may also be supplied without oiling. For non-oiled products, the supply party will not bear the corresponding product quality responsibility for defects such as rust, scratches and friction marks during the handling, storage and use.

NOTE: The date of issue in the product inspection document is usually specified as the date of completion of the manufacture of the product.

7.4 Mechanical properties

7.4.1 The supply party shall ensure that the mechanical properties of steel plates and steel strip before hot stamping comply with the requirements of Table 6 within 6 months from the date of completion of the manufacture.

7.4.2 After steel plates and steel strips are hot stamped into relevant parts, their performance shall comply with the requirements of Table 7. The supply party does not provide a performance inspection report for the relevant parts.

7.4.3 When steel plates and steel strips are supplied according to the specified parts, the supply and demand parties may agree on a range of mechanical properties that meet the processing needs of the part as the acceptance criteria. At this time, the mechanical properties specified in Tables 6 and 7 will no longer be used as the basis for delivery and acceptance.

7.4.4 Due to the influence of aging, the mechanical properties of steel plates and steel strips will deteriorate with the prolongation of storage time, such as the increase of yield strength and tensile strength, the decrease of elongation after break, formability deteriorates, tensile strain marks appear, etc. It is recommended that users use it as soon as possible.

with suitable measuring tools.

8.3 The tensile test shall be in accordance with Method B of GB/T 228.1. In order to improve the reproducibility of the measurement results, it is recommended to use the beam displacement control method. The rate to measure the yield strength is 5 % Lc/min (Lc is the parallel length of the specimen).

8.4 Steel plates and steel strips shall be accepted in batches. When delivered by cold-rolled surface, each inspection batch shall consist of steel plates and steel strips of the same grade, the same specification and the same processing state of not more than 30 tons. For steel strips weighing more than 30 tons, each steel coil constitutes an inspection batch. When delivered by hot-rolled rolled and hot-rolled pickled surfaces, each inspection batch shall consist of steel plates and steel strips of the same furnace number, the same grade, the same thickness, and the same delivery state of not more than 70 tons.

8.5 The inspection items, specimen quantity, sampling method and test method of each batch of steel plates and steel strips shall comply with the requirements of Table 11.

8.6 The supply party may use different inspection and test methods for acceptance testing. In the event of a dispute, the test shall be carried out using the inspection and test methods specified in this Technical Conditions and the relevant technical requirements.

Table 11

Inspection item	Specimen quantity (piece)	Sampling method	Test method
Chemical analysis	1/furnace	GB/T 20066	GB/T 223, GB/T 4336, GB/T 20123, GB/T 20125, GB/T 20126
Tensile test	1/batch	GB/T 2975	GB/T 228.1 Method B
Hardness	1/batch		GB/T 230.1, GB/T 4340.1
Surface roughness	—		GB/T 2523

8.7 Re-inspection

For the tensile test, if the test result of one item does not meet the technical requirements, then take double the quantity of specimens from the same batch for the re-inspection of the unqualified item. If the re-inspection result (including all the indicators required for the test of this item) is qualified, the whole batch is qualified. For the re-inspection result (including all the indicators required for the test of this item), even if one of the indicators is unqualified, the re-inspection is unqualified. If the re-inspection is unqualified, the single piece of

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