

ICS 77.140.50

CCS H 46



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

GB/T 3274-2017

**Hot-rolled plates, sheets and strips of carbon structural steels
and high strength low alloy structural steels**

碳素结构钢和低合金结构钢热轧钢板和钢带

Issued on: February 28, 2017

Implemented on: November 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

Table of Contents

- 1 Application Scope
- 2 Normative References
- 3 Ordering Information
- 4 Dimensions, Shape and Weight
- 5 Technical Requirements
 - 5.4 Mechanical properties
 - 5.6 Surface quality
- 6 Test Methods
- 7 Inspection Rules
- 8 Packaging, Marking and Quality Certification

Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009. This Standard incorporates and revises GB 912-2008, Hot-rolled Sheets and Strips of Carbon Structural Steels and High Strength Low Alloy Structural Steels, and GB/T 3274-2007, Hot-rolled Plates and Strips of Carbon Structural Steels and High Strength Low Alloy Structural Steels. Compared with GB 912-2008, Hot-rolled Sheets and Strips of Carbon Structural Steels and High Strength Low Alloy Structural Steels, and GB/T 3274-2007, Hot-rolled Plates and Strips of Carbon Structural Steels and High Strength Low Alloy Structural Steels, the main technical changes of this Standard are as follows: -- it changes the delivery length of steel strips with a defect into not more than 6% of the total length of each roll of steel strip (see 5.6.4); -- it adds intrinsic quality requirements (see 5.7); and -- it extends inspection lot weight and changes into lot grouping by furnace (see 7.2). This Standard was proposed by China Iron and Steel Industry Association. This Standard shall be under the jurisdiction of China National Standardization Technical Committee on Steels (SAC/TC 183). The drafting organizations of this Standard. An Steel Co., Ltd., Chongqing Iron & Steel (Group) Co., Ltd., Shougang Group Co., Ltd., China Metallurgical Information Standardization Institute, HBIS Co., Ltd. Tangshan Branch, Ma Steel (Group) Holding Co., Ltd., Fujian Sangang Group Co., Ltd. and Wuhan Iron and Steel (Group) Co., Ltd. The main drafters of this Standard. Liu Xuyuan, Du Dasong, Pu Zhimin, Shi Li, Zhang Weixu, Deng Cuiqing, Fang Tuoye, Liu Jianfeng, Liu Meihong, Su Haolu, Tang Zhigang, Li Zehan and Zhao Liping. The editions of the standard replaced by this Standard are as follows: -- GB/T 912-1989 and GB 912-2008; -- GB/T 3274-1988 and GB/T 3274-2007. Hot-rolled Plates, Sheets and Strips of Carbon Structural Steels and High Strength Low Alloy Structural

Steels

1 Application Scope

China's national standard for hot-rolled plate, sheet and strip in carbon structural steel and high strength low alloy structural steel. It specifies the order content, the dimensions, shape and weight, the technical requirements, the test methods, the inspection rules, and the packaging, marking and quality certification for these products. It is the current edition of GB/T 3274 and it also incorporates and replaces GB 912-2008, so that two standards that had covered plate on one hand and sheet and strip on the other became one. That consolidation is the most useful thing about this edition. The distinction between plate and sheet was one of thickness and of how the product was made, and it had ceased to correspond to how the material is bought: a fabricator ordering steel for a structure specifies a grade, a thickness and a set of properties, and whether the mill supplies it as cut plate from a reversing mill or as sheet from a coil is a production question. Having two standards meant two sets of tolerances, two lists of grades and two certificates for what a customer regarded as one material. The steels covered are the ordinary structural grades - the carbon steels of GB/T 700 and the high strength low alloy steels of GB/T 1591 - and this is by a wide margin the largest tonnage of steel that China produces to any single specification. The other changes in this edition are practical: the permitted length of defective strip is limited to not more than six per cent of the total length of each coil, internal quality requirements are added, and the inspection lot is enlarged and grouped by furnace. Issued on 28 February 2017 and in force since 1 November 2017.

This Standard specifies the order content, dimensions, shape, weight, technical requirements, test methods, inspection rules, packaging, marking and quality certification for hot-rolled plates, sheets and strips of carbon structural steels and high strength low alloy structural steels. This Standard applies to hot-rolled plates, sheets and strips of carbon structural steels and high strength low alloy structural steels with a thickness not greater than 400 mm (hereinafter referred to as steel plates (sheets) and strips).

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, Permissible Tolerances for Chemical Composition of Steel Products

GB/T 228.1, Metallic Materials - Tensile Testing - Part

3 Ordering Information

3.1 The contracts or orders based on this Standard shall include the following content.

3.2 Steel plates (sheets) sheared from steel strips are normally delivered in cut edge; if a purchase contract does not specify the edge condition, steel strips are normally delivered in mill edge.

4 Dimensions, Shape and Weight

The dimensions, shape, weight and permissible tolerances of steel plates (sheets) and strips shall be as specified in GB/T 709.

5 Technical Requirements

5.1 Designation and chemical composition The designation and chemical composition of steels shall be as specified in GB/T 700 and GB/T 1591. The permissible tolerances for the chemical composition of finished steel plates (sheets) and strips shall be as specified in GB/T 222.

5.2 Smelting method Steels shall be smelted by oxygen converter or electric furnace.

5.3 Delivery condition Steel plates (sheets) and strips shall be delivered in hot rolling, controlled rolling or heat treatment.

5.4 Mechanical properties

5.4.1 The tensile strength and elongation after fracture of steel plates (sheets) and strips with a thickness less than 3 mm shall be as specified in GB/T 700 and GB/T 1591; the elongation after fracture is allowed when it is 5% (of the absolute value) lower than that specified in GB/T 700 and GB/T 1591. In accordance with the requirements of the purchaser, the tensile strength of steel plates (sheets) and strips can be as specified in GB/T 700 and GB/T 1591.

5.4.2 The mechanical and processing properties of steel plates (sheets) and strips with a thickness not less than 3 mm shall be as specified in GB/T 700 and GB/T 1591.

5.5 Processing properties A 180° bending test shall be carried out for steel plates (sheets) and strips; the bending pressure head diameter of specimens shall be as specified in GB/T 700 and GB/T 1591. If the supplier is incapable of guaranteeing that the cold bending test is a pass, it can be omitted.

5.6 Surface quality

5.6.1 No visible layering shall exist in the section of steel plates (sheets) and strips. The surface of steel plates (sheets) and strips shall be free from scar, crack, fold, inclusion, bubble and scale impression and other defects adverse to use.

5.7 Intrinsic quality When the purchaser does not accept steel plates (sheets) and strips with internal defects such as layering, it shall make the request of a nondestructive test at

the time of ordering, with the test method and conformity level as agreed by the supplier and the purchaser.

5.8 Welding repair The surface of steel plates has defects which can not be eliminated in accordance with 5.6.3, welding repair can be done as agreed by the supplier and the purchaser and shall meet the following requirements.

6 Test Methods

The test items and test methods for each lot of steel plates (sheets) and strips shall be as specified in Table 1.

7 Inspection Rules

7.1 The inspection and acceptance of steel plates (sheets) and strips shall be carried out by the supervision department of the supplier on quality and technology.

7.2 Steel plates (sheets) and strips shall be accepted by lot; each lot is constituted by steel plates (sheets) and strips of the same designation, furnace number, quality grade and delivery condition. When the minimum thickness of steel plates (sheets) of the same lot is greater than 10 mm,

7.3 The sampling quantity and sampling method for steel plates (sheets) and strips shall be as specified in Table 1.

7.5 The inspection results of mechanical properties and chemical composition shall be expressed with the comparison method of rounding values; the rounding rules shall be as specified in GB/T 8170.