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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

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GB/T 3524-2015

Replacing GB/T 3524-2005

### Hot-rolled carbon and low alloy structural steel strips

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### **Foreword**

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 3524-2005 Hot-rolled carbon and low alloy structural steel strips.

Compared with GB/T 3524-2005, The main technical changes are as follows:

- Expanded the range of steel strip specifications;
- Adjusted the tolerance of steel strip thickness;
- Adjusted the tolerance of steel strip width;
- Strengthened the allowable deviation of three-points difference of steel strip;
- Refined the allowable deviation of same-strip difference of steel strip;
- Adjusted sampling requirements for steel strip;
- Deleted two designations: Q255, Q295;
- Added three designations: Q390, Q420, Q460.

This Standard was proposed by China Iron and Steel Association.

This Standard shall be under the jurisdiction of China National Steel Standardization Technical Committee (SAC/TC 183).

The drafting organizations of this Standard: Nanjing Iron and Steel Co., Ltd., Metallurgical Industry Information Standards Institute, Tangshan Rui Feng Steel (Group) Co., Ltd..

Main drafters of this Standard: Xu Haiquan, Wang Duanjun, Ren Cuiying, Zhan Shengling, Zhang Weixu, Dong Hongshan, Gao Yan, Li Xuesong.

This Standard replaces the following previous standards:

- GB/T 3524-1983, GB/T 3524-1992, GB/T 3524-2005.

### Hot-rolled carbon and low alloy structural steel strips

### 1 Scope

This Standard specified the classification and code, ordering content, size, shape, weight and tolerance, technical requirements, test methods, inspection rules, packaging, marks and quality certification, etc. of hot-rolled carbon and low alloy structural steel strips.

This Standard applies to hot-rolled carbon and low alloy structural steel strips of which thickness is not greater than 12.00 mm, the width is not greater than 600 mm (hereinafter referred to as "steel 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 223.3 Methods for chemical analysis of iron, steel and alloy The diantipyrylmethane phosphomolybdate gravimetric method for the determination of phosphorus content
- GB/T 223.5 Methods for chemical analysis of iron, steel and alloy The reduced molybdosilicate spectrophotometric method for the determination of acid-soluble silicon content
- GB/T 223.9 Methods for chemical analysis of iron, steel and alloy The chrom azurol S photometric method for the determination of aluminium content
- GB/T 223.11 Iron, Steel and Alloy Determination of Chromium Content Visual Titration or Potentiometric Titration Method
- GB/T 223.14 Methods for Chemical Analysis of Iron, Steel and Alloy The N-Benzoy-N-Phenylhydroxylamine Extraction Photometric Method for the Determination of Vanadium Content
- GB/T 223.17 Methods for chemical analysis of iron steel and alloy The

- diantipyrylmethane 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 photometric 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 223.37 Methods for Chemical Analysis of Iron, Steel and Alloy The Indophenol Blue Photometric Method for the Determination of Nitrogen Content after Distillation Separation
- GB/T 223.40 Iron, Steel and Alloy Determination of Niobium Content by the Sulphochlorophenol S Spectrophotometric Method
- GB/T 223.58 Methods for Chemical Analysis of Iron, Steel and Alloy The sodium arsenite-sodium nitrite titrimetric method for the determination of manganese content
- GB/T 223.59 Iron, Steel and Alloy Determination of Phosphorus Content Bismuth Phosphomolybdate Blue Spectrophotometric Method and Antimony Phosphomolybdate Blue Spectrophotometric Method
- GB/T 223.60 Methods for chemical analysis of iron, steel and alloy The perchloric acid dehydration gravimetric method for the determination of silicon content
- GB/T 223.63 Methods for chemical analysis of iron, steel and alloy The sodium (potassium) periodate photometric method for the determination of manganese content
- GB/T 223.64 Iron, Steel and Alloy Determination of Manganese Content Flame Atomic Absorption Spectrometric Method
- GB/T 223.68 Methods for Chemical Analysis of Iron, Steel and Alloy The Potassium Iodate Titration Method after Combustion in the Pipe Furnace for the Determination of Sulfur Content
- GB/T 223.71 Methods for Chemical Analysis of Iron, Steel and Alloy The Gravimetric Method after Combustion in the Pipe Furnace for the Determination of Carbon Content

GB/T 223.72 Iron, Steel and Alloy - Determination of Sulfur Content - Gravimetric Method

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

GB/T 232 Metallic materials - Bend test

GB/T 247 General rule of package mark and certification for steel plates (sheets) and strips

GB/T 700 Carbon structural steels

GB/T 1591 High Strength Low Alloy Structural Steels

GB/T 2975 Steel and Steel Products - Location and Preparation of Test Pieces for Mechanical Testing

GB/T 4336 Standard Test Method for Spark Discharge Atomic Emission Spectrometric Analysis of Carbon and Low-Alloy Steel (Routine Method)

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 17505 Steel and Steel Products - General Technical Delivery Requirements

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

### 3 Classification and code

#### 3.1 Classify according to edge state

- a) Trimming EC;
- b) Un-trimming EM.

#### 3.2 Classify according to thickness precision:

- a) Normal thickness precision PT.A;
- b) High thickness precision PT.B.

### 4 Ordering content

**4.1** Order contract shall contain the following information:

- a) Standard No.;
- b) Product name;
- c) Designation;
- d) Specifications;
- e) Edge state (EC or EM);
- f) Thickness precision (PT.A or PT.B);
- g) Weight;
- h) Delivery status (hot-rolled, pickled or otherwise);
- i) Special requirements.
- **4.2** If the contract does not specify the edge state, thickness precision, delivery status, the steel strips shall be delivered as un-trimming, ordinary thickness precision, hot-rolled state.

### 5 Size, shape, weight and tolerance

- 5.1 Steel strip thickness and tolerance
- **5.1.1** Steel strip thickness and tolerance shall comply with provisions in Table 1.
- **5.1.2** Agreed by both parties, when the buyer requires delivery according to high thickness precision, it shall be indicated in the contract.
- **5.1.3** According to buyer's requirements, it can make appropriate adjustments to the positive and negative deviations of steel strips within the tolerance range stipulated in Table 1.
- **5.1.4** According to buyer's requirements, agreed by both parties, steel strips of other than the specifications stipulated in Table 1 can be provided.

#### 5.2 Steel strip width and tolerance

- **5.2.1** Steel strip width and tolerance shall comply with provisions in Table 2.
- **5.2.2** According to buyer's requirements, it can make appropriate adjustments to steel strip width deviation within the tolerance range.

**7.5** The distance BETWEEN measuring positions for size, shape and surface quality of steel strip AND both ends of steel strip shall ensure the accuracy of measurement. During arbitration test, the measuring position shall be outside the non-examination length of both ends.

### 8 Inspection rules

- **8.1** The steel strip inspection and acceptance shall be performed by the technical quality supervision department of seller.
- **8.2** Steel strips shall be inspected and accepted in batch. A batch is composed by steel strips of same designation, same furnace number, same specification and same delivery status.
- **8.3** The re-inspection and determination rules of steel strip shall comply with provisions of GB/T 17505.

### 9 Packaging, marks and quality certificate

The packaging, marks and quality certificate of steel strips shall comply with provisions of GB/T 247.

## 10 Rounding of numerical value

This Standard uses rounding value comparison method. The rounding rules shall comply with provisions of GB/T 8170.

END	

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