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GB/T 8749-2021

Hot-rolled quality carbon structural steel strip

优质碳素结构钢热轧钢带

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1 Scope

China's national standard for hot-rolled quality carbon structural steel strip. Narrow strip - under 600 mm wide - is a distinct product from wide coil, rolled on its own mills and sold to a different trade: it is the material of welded tube, cold-formed sections, chain, springs, hand tools, and the thousands of pressed and formed parts that a general engineering industry consumes. Quality carbon steel means the composition is guaranteed and the sulfur and phosphorus are controlled, which is what allows the strip to be formed severely, welded, or hardened and tempered with a predictable result. The strip's edge condition and its flatness matter as much as its properties, because narrow strip is usually formed continuously - roll formed or tube welded - and a strip with camber or a ragged edge will not track through the mill. The standard specifies the classification and codes, order content, dimensions, shape, weight, technical requirements, test methods, inspection rules, packaging, marking and quality certificate, for strip under 600 mm wide and up to 12 mm thick, and may be referenced from 600 to 750 mm.

This Standard specifies classification and code, order content, size, shape, weight, technical requirements, test methods, inspection rules and packaging, marking, quality certificate for hot-rolled quality carbon structural steel strip. This Standard is applicable to hot-rolled quality carbon structural steel strip of which the width is less than 600mm, the thickness is not more than 12mm (hereinafter referred to as the steel strip). The steel strip

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with a width of 600mm~750mm can refer to this Standard.

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 223.5, Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdosilicate spectrophotometric method

GB/T 223.12, Methods for chemical analysis of iron, steel and alloy. The sodium carbonate separation-diphenyl carbazide photometric method for the determination of chromium 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, Iron, steel and alloy - Determination of nitrogen content - Indophenol blue spectrophotometric method after distillation separation

GB/T 223.59, Iron, steel and alloy - Determination of phosphorus content - Bismuth phosphomolybdate blue spectrophotometric method and antimony phosphomolybdate blue spectrophotometric method

GB/T20125, Low-alloy steel - Determination of multi-element contents - Inductively coupled plasma atomic emission spectrometric method

GB/T 38813, General requirements for hot-rolled pickled steel sheet and strip

3 Terms and definitions

There are no terms and definitions that need to be defined in this Standard.

4 Classification and code

4.1 Classify according to the edge state:

a) Trimmed steel strip, EC;

b) Un-trimmed steel strip, EM.

4.2 Classify according to thickness accuracy:

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a) Ordinary thickness accuracy, PT.A;

b) Higher thickness accuracy, PT.B.

5 Order content

5.1 The order contract or order sheet according to this Standard shall include the following information:

a) Reference to this Standard;

b) Specification;

e) Edge state (EC or EM);

f) Delivery state (hot rolled, pickled or other);

g) Thickness accuracy;

h) Special requirements.

5.2 If the order contract does not specify the edge state, delivery state, thickness accuracy and other information, then it shall be supplied according to

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6.5 Shape

6.5.1 The steel strip shall be delivered in coils. They shall not be loose. The height of one side of the steel strip coil shall not exceed 50mm.

6.5.2 The sickle bend of untrimmed steel strip is not more than 20mm every 5m. The sickle bend of the trimmed steel strip shall not exceed 15mm every 5m.

6.6 Steel strip weight The steel strip is delivered according to actual weight.

7.1 Steel designation and chemical composition

7.1.1 The steel designation and chemical composition (melting analysis) shall meet the requirements of GB/T 699. Required by the purchaser, agreed by the supplier and the purchaser and indicated in the contract, the requirements for harmful elements sulfur and phosphorus in steel can be tightened.

7.1.2 The allowable deviation of the chemical composition of the finished steel strip shall comply with the relevant regulations of GB/T 222.

7.2 Smelting method Steel is smelted by converter or electric furnace.

7.3 Delivery state

7.3.1 The steel strip is delivered in hot rolled state. Agreed by the supplier and the purchaser and indicated in the contract, the steel strip with surface pickling can be supplied.

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7.3.2 When the steel strip is delivered in the pickled state, it is usually supplied with oil. The applied oil film shall be able to be removed with alkaline solution. Required by the purchaser, agreed by the supplier and the purchaser and indicated in the contract, the surface of the pickled steel strip can also be supplied unoiled.

7.5.2 For steel strips for cold rolling, the bending test shall be negotiated between the supplier and the purchaser.

7.6 Decarburized layer Required by the purchaser, the steel strip made of steels of designation 35 and higher carbon content designations can be used to check the depth of surface decarburization. The depth of the single-sided total decarburization layer (full decarburization layer plus partial decarburization layer) shall meet the following requirements:

a) When the thickness of the steel strip is not more than 3.2mm, the total depth of the decarburization layer is not more than 0.08mm;

b) When the thickness of the steel strip is greater than 3.2mm, the total depth of the decarburization layer is not more than 2.5% of the actual thickness of the steel strip.

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7.7 Surface quality

7.7.1 The surface of the steel strip is not allowed to have bubbles, scars, cracks, folds, inclusions and pressed into the oxide scale, which are harmful to use. The steel strips are not allowed to have visible delamination, and thin scale or rust that hinders inspection of surface defects. Local defects such as scratches, concave surfaces, pits, surface roughness, bumps, whose depth or height does not exceed half of the thickness tolerance, are allowed. The depth or height (calculated from the actual size) is calculated on one side. The minimum thickness allowed by the corresponding specifications of the steel strip shall be ensured.

7.7.2 Untrimmed steel strips are not allowed to have chips, cracks and significant edge waves. Other edge defects whose depth is not more than half of the width tolerance are allowed. The effective width shall ensure the minimum thickness of the steel strip corresponding to the specifications.

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