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FERROUS METALLURGY INDUSTRY STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

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Hot rolling checker plate and strip

热轧花纹钢板和钢带

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Hot rolling checker plate and strip

1 Scope

This standard specifies the classification and code, the information required for ordering, size, shape, weight and tolerance, technical requirements, test methods, inspection rules, packaging, marking, quality certificate of hot-rolled steel checker plate and strip.

This standard applies to diamond-shaped, lentil-shaped, round-bean-shaped and combined-shaped hot-rolled steel checker plate and strip (hereinafter referred to as steel plates and steel strips).

2 Normative references

The provisions in following documents become the provisions of this standard through reference in this standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this standard; however, parties who reach an agreement based on this standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

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

GB/T 223 Steel, iron and alloy - Chemical analysis method

GB/T 228 Metallic materials – Tensile testing at ambient temperature (GB/T 228-2002, eqv ISO 6892:1998)

GB/T 232 Metallic materials - Bend test (GB/T 232-1999, eqv ISO 7438:1985)

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

GB/T 700 Carbon structural steels

GB/T 709 Dimensions, shape, weight and tolerances for hot rolled steel sheets and strips

GB 712 Ship and ocean engineering structural steel

GB/T 2975 Steel and steel products - Location and preparation of test pieces for mechanical testing

GB/T 4171 Superior atmospheric corrosion resisting structural steel

GB/T 4336 Standard test method for spark discharge atomic emission spectrometric analysis of carbon and low-alloy steel (Routine method)

GB/T 20066 Steel and iron - Sampling and preparation of samples for the determination of chemical composition

YB/T 081 Rule for rounding off of numerical values and judgement of testing values for technical standards of metallurgy

3 Classification and code

3.1 Classified by edge status:

Edge-cut: EC

Non-edge-cut: EM

3.2 Classified by pattern shape:

Rhombus-shaped: LX

Lentil-shaped: BD

Round-bean-shaped: YD

Combined-shaped: ZH

4 Ordering information

When ordering, the user shall provide the following information:

- a) This standard number;
- b) Designation;
- c) Product category (steel plate or steel strip);
- d) Specifications;
- e) Pattern shape;
- f) Edge status;
- g) Use;
- h) Other requirements.

tensile and bending tests. The performance indicators shall comply with the provisions of GB/T 700, GB 712, GB/T 4171 or as agreed by both parties.

6.4 Surface quality

6.4.1 The surface of the steel plates and steel strips shall be free from air bubbles, crusting, cracking, folding or inclusions. Steel plates and strips must not be delaminated.

6.4.2 The surface of steel plates and strips is allowed to have a thin-layer of iron oxide scale, rust, surface roughness formed by the shedding of iron oxide scales or other local defects whose height or depth does not exceed the tolerance. The pattern shall be complete, it allows a slight burr which has a height not exceeding half the thickness tolerance on the pattern.

6.4.3 During the continuous production of steel strips, since the local surface defects are not easily found and removed, it allows to deliver the steel strips with defects. But the defective parts must not exceed 8% of the total length of each roll of steel strip.

7 Test methods

7.1 The appearance of steel plates and strips are visually-checked. The size and shape are measured by a suitable tool.

7.2 The basic thickness and pattern height of the steel plate and steel strip are measured along the width direction at a distance of not less than 40 mm from the edge. For the steel strips supplied in rolls, the total length at both ends where the appearance and size are not evaluated is as follows:

$$L(m) = \frac{90}{\text{Basic thickness (mm)}}$$

But the maximum value is not more than 20 m.

7.3 The inspection items, sampling quantities, sampling methods and test methods for each batch of steel shall comply with the requirements of Table 4.

Table 4

No.	Inspection items	Sampling quantity	Sampling method	Test method
1	Chemical analysis	1 per furnace	GB/T 20066	GB/T 223, GB/T 4336
2	Tensile ^{a, b}	1	GB/T 2975	GB/T 228
3	Cold-bending ^{a, c}	1	GB/T 2975	GB/T 232

^a It is inspected where the user has requirement.

^b For the mechanical property specimen, it shall keep the original pattern surface, the strength is calculated based on basic thickness.

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