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YB/T 2011-2004

Replacing YB/T 2011-1983 and YB/T 154-1999

Continuous Casting Square and Rectangular Blank

连续铸钢方坯和矩形坯

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Foreword

This Standard revises and combines "Continuous Casting Square and Rectangular Blank" (YB/T 2011-1983) and "Continuous Casting Square and Rectangular Blank of Quality Carbon Structure Steels and Alloy Steels" (YB/T 154-1999).

This Standard replaces "Continuous Casting Square and Rectangular Blank" (YB/T 2011-1983) and "Continuous Casting Square and Rectangular Blank of Quality Carbon Structure Steels and Alloy Steels" (YB/T 154-1999).

Compared with YB/T 2011-1983 and YB/T 154-1999, this Standard has the following main changes:

- Steel classification in application scope is in accordance with GB/T 13304-1991;
- Chapter 3 "order contents" was added;
- The side length of continuous casting square and rectangular blank was expanded to 380 mm;
- Table 2 "Figure of Continuous Casting Square and Rectangular Blank Shape" was added;
- The permissible deviation of oblique cutting was adjusted;
- The specification of weight was added;
- The specification of Furnace No. division was cancelled;
- Casting content was adjusted;
- Surface quality content was modified and adjusted.

This Standard was proposed by China Iron and Steel Association.

This Standard is under the jurisdiction of China Steel Standardization Technical Committee.

Drafting organizations of this Standard: China Metallurgical Information and Standardization Institute, Capital Iron and Steel Company, Baoshan Iron & Steel Co., Ltd., Chongqing Special Steel Co., Ltd.

Chief drafting staffs of this Standard: Liu Zeyan, Zhang Bingcheng, Wangliping, Li Yuguang, Feng Chao, Yang Xinliang and Liu Baoshi.

The previous editions replaced by this Standard are as follows:

- YB/T 154-1999 and YB/T 2011-1983.

Continuous Casting Square and Rectangular Blank

1 Scope

This Standard specifies the definition, order contents, size, shape, weight, permissible deviation, technical requirements, test methods, inspection rules, transportation, storage, marking and quality certificate of continuous casting square and rectangular blank (hereinafter referred to as continuous casting blank) of non-alloy steel, low alloy steel, and alloy steel.

This Standard is applicable to continuous casting square and rectangular blank of non-alloy steel, low alloy steel and alloy steel (tool steel excluded) classified in accordance with Part 2 of GB/T 13304-1991.

2 Normative References

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. For dated reference, subsequent amendments to (excluding correction to), or revisions of, any of these publications do not apply. However, the parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards. For undated references, the latest edition of the normative document referred to applies

GB/T 222 Method of Sampling Steel for Determination of Chemical Composition and Permissible Variations for Product Analysis

GB/T 226 Pickle Test Methods of Macro-structure and Imperfection of Steel

GB/T 2101 General Requirement of Acceptance Packaging, Marking and Certification for Section Steel

GB/T 13304-1991 Steel Classification

YB/T 153 Standard Diagrams for Macrostructure and Defect in Quality Carbon Structural Steel and Alloy Structural Steel Continuous Casting Blank

3 Definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 Continuous Casting Square Blank

Continuous casting blank shall be poured by molten steel of the same trademark. If molten steel of different trademarks are adopted, the intermediate blank shall be judged according to actual constituents.

6.3 Cropping and End Cropping Quantity

The head of newly-poured continuous casting blank and the end at the end of pouring shall be provided with enough cropping length so as to ensure that the continuous casting blank is free from shrinkage cavity.

6.4 Macrostructure

For continuous casting blank of high-quality non-alloy steel, special-quality non-alloy steel and alloy steel, its macrostructure evaluation shall comply with YB/T 153. The qualification grade shall be determined through negotiation between the Supplier and the Purchaser. If the Supplier can guarantee the qualified macrostructure, inspection may not be conducted.

6.5 Surface Quality

6.5.1 The surface of continuous casting blank shall be free from any observable, halved joint, skull patch, scab and inclusion.

6.5.2 Common-quality non-alloy steel and low alloy steel shall be free from any cracks whose depth is greater than 2mm; high-quality non-alloy steel and special-quality non-alloy steel and alloy steel shall be free from any cracks whose depth is greater than 1mm.

6.5.3 Common-quality non-alloy steel and low alloy steel shall be free from scratch, indentation, air hole, wrinkle, cold splash, bump, concave and horizontal chatter mark whose depth or height is greater than 3mm.

6.5.4 High-quality non-alloy steel and special-quality non-alloy steel and alloy steel shall be free from scratch, indentation, air hole, wrinkle, cold splash, bump, concave and horizontal chatter mark whose depth or height is greater than 2mm.

6.5.5 Cross-section of continuous casting blank shall be free from any shrinkage cavity, subsurface bubble and cracks which affect the normal use.

6.5.6 Any above-mentioned defects or the defects beyond the specification on the surface of continuous casting blank shall be removed. The removal width shall be no less than 6 times of the depth and the length shall be no less than 10 times of the depth. The defective position shall be round and smooth and free from corner angle after renovation. The renovation depth on single side shall be no greater than 8% of the side length of continuous casting blank; the sum of removal depth on opposite sides shall be no greater than 12% of the thickness. The removal depth shall be counted from actual size.

blank length. The measuring positions shall be beyond the shear deformation and defective area.

8.3.2 Length

It refers to the length from the center line of the side of continuous casting blank to the both ends.

8.3.3 Bulging

It refers to the difference between the maximum side length (long side or short side) and the minimum actual side length (long side or short side) at the bulging on the same section of the continuous casting blank.

8.3.4 Re-inspection rules

Re-inspection of continuous casting blank shall comply with those specified in GB/T 2101.

9 Transportation, Storage, Marking and Quality Certificate

9.1 Where the Purchaser has special requirements for transportation and storage, it shall be specified through negotiation between the Supplier and the Purchaser.

9.2 Each continuous casting blank shall be marked with trademark and Furnace No. at the end or on the side near the end.

9.3 The quality certificate shall be in accordance with those specified in GB/T 2101.

END

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