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

中华人民共和国国家标准

GB/T 700-2006

Replace GB/T 700-1998

Carbon Structural Steels

碳素结构钢

(ISO 630: 1995, Structural steels—Plates, wide flats, bars, sections and profiles, NEQ)

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Foreword

This standard is not equivalent to ISO 630:1995 Structural Steels in the respect of consistency. The main differences between the two standards are as follows:

- No grades are specified corresponding to the yield strength levels of 185N/mm² and 355N/mm²;
- Grades Q195 and Q215 are specified corresponding to levels 195N/mm² and 215N/mm²;
- The phosphorus contents of class A steels of Q235 and Q275 are decreased by 0.005%;
- The thickness of Q235 class B steel is divided into two levels according to the deoxidization method and the carbon content is 0.20% in both levels;
- Q235 class B steel of which the thickness is smaller than 25mm may not be subject to test with the consent of the buyer if the supplier can ensure that the impact absorbed energy is up to standard;
- The yield strength of Q275 steel of which the thickness is bigger than 80mm-100mm is increased by 10N/mm²;
- Cold bending test is added;
- Detailed batching rules are specified according to the situation of China.

This standard will replace GB/T 700-1988 Carbon Structural Steels and has the following changes in comparison with GB/T 700-1988:

- Semi-killed steel is cancelled in "deoxidization method";
- Grades Q255 and Q275 in GB/T 700-1988 are cancelled;
- Grade E275 in ISO 630:1995 is newly added and changed to the new grade Q275;
- The lower limits of carbon and manganese contents of each grade are cancelled, and the upper limit of manganese content is increased;
- The limit of silicon content of rimmed steel and killed steel is cancelled;
- Silicon content is changed from 0.30% to 0.35% (except for Q195);
- The phosphorus and sulphur contents of grade Q195 are decreased respectively from 0.045% and 0.050% to 0.035% and 0.040%;
- The regulation for the elongation after fracture of the thickness (or diameter) level of not bigger than 16mm is cancelled;
- "the upper limit of the tensile strength of wide strip steel (including sheared steel plate) is not

used as a term of delivery" and "Q235 class B steel of which the thickness is smaller than 25mm may not be subject to test with the consent of the buyer if the supplier can ensure that the impact absorbed energy is up to standard" are added in the footnotes of Table 2;

- The regulation for the nitrogen content in the steel is modified;
- The regulation for impact test is modified and the figure of the minimum impact absorbed energy of the samples of which the thickness is 5mm- 10mm is added;
- The basis of batching is changed from "the same furnace and kettle number" to "the same furnace number" and the limitation for the furnace number of mixed batch is cancelled.

Annex A of this standard is normative annex.

This standard was proposed by China Iron and Steel Association.

This standard is under the jurisdiction of National Technical Committee for Steel Standardization.

This standard was drafted by China Metallurgical Information & Standardization Institute, Capital Iron and Steel Company, Handan Iron & Steel Group and Benxi Iron & Steel Group Co., Ltd.

The main drafters of this standard are Tang Yifan, Luan Yan, Wang Liping, Sun Ping, Zhang Xianfeng and Dai Qiang.

This standard was first issued in January 1965, first revised in October 1979 and revised for the second time in June 1988.

Carbon structural steels

1 Scope

This standard specifies the grade, dimension, shape, weight and permissible deviation, technical requirements, test methods, inspection rules, packing, marking and quality certificate of carbon structural steel.

This standard is applicable to the structural hot rolled steel sheets, steel strips, sectional steels and bar steels generally used for welding, riveting and bolting engineering in delivery state.

The chemical composition specified by this standard is also applicable to steel ingots, continuous casting billets, steel billets and their products.

2 Normative references

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

GB/T 222-2006 Permissible tolerances for chemical composition of steel products

GB/T 223.3 Methods for chemical analysis of iron, steel and alloy--The diantipyryl methane phosphomolybdate gravimetric method for the determination of phosphorus content

GB/T 223.10 Methods for chemical analysis of iron, steel and alloy--The cupferron separation-chrome azurol S photometric method for the determination of aluminum content

GB/T 223.11 Methods for chemical analysis of iron, steel and alloy--The ammonium persulfate oxidation volumetric method for the determination of chromium 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 223.24 Methods for chemical analysis of iron, steel and alloy—The extraction

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