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

GB/T 30584-2026

Replacing GB/T 30584-2014

Seamless steel tubes for crane jibs

起重机臂架用无缝钢管

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 30584-2014 "Seamless Steel Tubes for Crane Booms". Compared with GB/T 30584-2014, the only differences are in the structural design. Aside from integration and editorial changes, the main technical changes are as follows:

- a) The requirements for tube blanks have been changed (see 6.3, 6.2.2 of the 2014 edition);
- b) Added requirements for steel grades BJ590, BJ960, and BJ1020 in the delivery status (see 6.5.2);

- c) Added steel grades BJ590, BJ960, and BJ1020, along with their chemical composition and mechanical property requirements, and added standardized numerical designations for the steel grades. Codes (see Tables 1 and 2);
- d) The impact test temperature and its absorbed energy were changed (see Table 2, Table 3 in the.2014 edition);
- e) Additional requirements for external surface quality have been added (see 7.3.2);
- f) The requirements for non-destructive testing have been changed (see 7.4, 6.6 in the.2014 edition);
- g) A minimum wall thickness delivery method has been added (see 7.5.1);
- h) The permissible deviation of the outer diameter of cold-rolled (drawn) steel pipes has been changed (see Table 4, Table 1 in the.2014 edition);
- i) The permissible deviation for fixed length has been changed (see 7.5.2.2, 5.3.2 in the.2014 version);

4 Classification and Codes

4.1 Steel pipes are classified and designated according to their manufacturing method as follows:

- a) Hot-rolled steel pipe WH;
- b) Cold-drawn (rolled) steel pipe WC.

4.2 The steel grades listed in this document are determined by the first capital letter of the Chinese pinyin for "arm" and "frame" representing the crane boom, and the specified minimum lower yield strength. It consists of two parts. the degree value and the value of the degree.

5.Order details Contracts or orders for steel pipes ordered in accordance with this document shall include, but are not limited to, the following.

- a) This document number;
- b) Product Name;
- c) Steel grade or unified numerical designation;
- d) Quantity ordered (total weight or total length);
- e) Dimensions (nominal outer diameter x nominal wall thickness, in millimeters);
- f) Special requirements.

6 Manufacturing process

6.1 Steel smelting methods Steel should be refined in an electric arc furnace followed by ladle refining and then vacuum refining, or refined in an oxygen converter followed by ladle refining and then vacuum refining. (Supplied by...) This needs to be negotiated by both parties and specified in the contract. Other smelting methods with higher requirements may be used. When the buyer specifies a particular smelting method, it should be stated in the contract. As noted in the text.

6.2 Method for manufacturing tube blanks The tube blank should be manufactured by continuous casting, ingot casting or hot rolling (forging) methods.

6.3 Requirements for tube blanks Continuously cast tube blanks should conform to the requirements of YB/T 4149, which specifies that low-magnification structural defects include center cracks, intermediate cracks, subcutaneous cracks, and subcutaneous bubbles. The grade should not exceed Grade 1, but other continuously cast tube blanks with higher quality requirements approved by all relevant parties may also be used. Hot-rolled (forged) tube blanks should meet the following requirements. In accordance with the provisions of YB/T 5221. The provisions for ingot casting of tube blanks (steel ingots) may be followed as for hot-rolled (forged) tube blanks.

6.4 Manufacturing Method of Steel Pipes Steel pipes should be manufactured using hot rolling or cold drawing (rolling) seamless methods. If the buyer specifies a particular manufacturing method, it should be stated in the contract.

6.5 Delivery Status

6.5.1 Steel pipes of grade BJ450 shall be delivered in normalized or quenched and tempered condition. When the final rolling temperature of the steel pipe is above the critical phase transformation temperature A_{r3} , and the steel... If the pipe has undergone air cooling, then the steel pipe should be considered to have undergone normalizing.

6.5.2 Steel pipes of grades BJ590, BJ770, BJ890, BJ960, and BJ1020 shall be delivered in quenched and tempered condition.

7.1 Steel grades and chemical composition

7.1.1 The steel grade and chemical composition (smelting analysis) shall conform to the provisions of Table 1.

7.1.2 When the buyer requests finished product analysis, it should be specified in the contract. The permissible deviation of the chemical composition of the finished steel pipes should conform to GB/T 222. According to the regulations.

7.1.3 At the request of the buyer, and upon consultation between the supplier and the

buyer, and as specified in the contract, other grades of steel pipes may be used.

7.2 Mechanical Properties

7.2.1 Stretching The room temperature tensile properties of the steel pipes in the delivery condition shall conform to the requirements of Table 2.

7.2.2 Impact

7.2.2.1 Steel pipes with a nominal outer diameter of not less than 76 mm and a nominal wall thickness or average wall thickness (when delivered based on the minimum wall thickness) of not less than

6.5 mm shall When performing Charpy V-notch impact tests, the test temperature and absorbed energy should meet the requirements specified in Table 2.

7.2.2.2 The impact absorption energy specified in Table 2 is the required value for the impact absorption energy of the standard specimen. When using small-sized impact specimens, the smaller... The minimum Charpy V-notch impact absorption energy requirement for the standard-sized specimen should be the requirement for the standard-sized specimen multiplied by the reduction factor in Table 3.

7.2.2.3 As required by the buyer, and upon negotiation between the supplier and the buyer, and as specified in the contract, Charpy V-type defects in other temperatures or directions may be made. The required impact absorption energy value for the impact test shall be determined through negotiation between the supplier and the buyer.

7.3 Surface Quality

7.3.1 The inner and outer surfaces of the steel pipe shall be free from cracks, folds, roll marks, delamination, and scale. These defects shall be completely removed, and the repaired areas shall be rounded. For smooth transitions, the actual wall thickness at the grinding point should not be less than the minimum allowable wall thickness deviation.

7.3.2 The outer surface of the steel pipe shall be free from defects such as oxide scale, pitting, and dense pitting that would affect surface inspection.

7.3.3 Other local defects with a depth not exceeding the wall thickness deviation are allowed to exist.

7.4 Non-destructive testing

7.4.1 Each steel pipe shall undergo ultrasonic testing plus eddy current testing, or ultrasonic testing plus magnetic flux leakage testing, along its entire length. The acceptance level during ultrasonic testing shall meet the following requirements. Complies with the requirements of U2 in GB/T 5777-2019; the acceptance level for eddy current testing should