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

GB/T 3078-2019

Replacing GB/T 3078-2008

Quality structural steel cold drawn bars

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Foreword

This Standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This Standard replaces GB/T 3078-2008, Quality structural steel cold drawn bars.

Compared with GB/T 3078-2008, the major changes of this Standard are as follows:

- Add terms and definitions (see Chapter 3);
- Add delivery state code symbols (see 7.3.1);
- Modify the macrostructure requirements to comply with the provisions of GB/T
- Clarify the test method (see Chapter 7, Chapter 7 of version 2008);
- Standardize the group approval rules (see Chapter 8, Chapter 8 of version 2008);
- Add provisions for the surface roughness level of cold drawn bars (see 7.9.4).

This Standard was proposed by China Iron and Steel Industry Association.

This Standard shall be under the jurisdiction of National Technical Committee 183 on Iron and Steel of Standardization Administration of China (SAC/TC 183).

The drafting organizations of this Standard: Dongbei Special Steel Group Co., Ltd., Jiangyin Xingcheng Special Steel Works Co., Ltd., Fangda Special Steel Technology Co., Ltd., China Metallurgical Information and Standardization Institute, Liaoning Xindali-type steel Co., Ltd., Xiwang Group Company Limited.

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The previous versions of the standards which are replaced by this Standard are:

1 Scope

This Standard specifies the classification, ordering content, size, shape and allowable deviation, technical requirements, test methods, inspection rules, packaging, marking and quality certificates of structural steel cold drawing and cold drawing polish steels.

This Standard applies to quality carbon structural steel and alloy structural steel cold drawing bars (round steel, square steel and hexagonal steel) and cold drawing polish round steel (hereinafter collectively referred to as "steel").

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

3 Terms and definitions

Terms and definitions determined by GB/T 341-2008 and GB/T 3207-2008 are applicable to this document. For ease of use, some of the terms and definitions in GB/T 341-2008 and GB/T 3207-2008 are repeated below.

3.1 Cold drawing

A process in which it is formed by pressure processing methods such as die drawing or roll drawing at normal temperature.

3.2 Polish steel

4 Classification

Steels, according to the use and processing purposes, are divided into:

- 1) Steel for hot-press processing (UHP);
- 3) Steel for cold forging (UCF);
- 3) Steel for hot forging (UHF).

5 Order content

Contracts which are ordered under this Standard shall include the following contents:

- c) designation or unified digital code of the steel;
- e) size, shape and allowable deviation (see Chapter 6);
- f) use and processing purposes (when it is not specified, perform according to steel for cutting);
- i) cold or hot forging (see 7.6, if it is required);
- j) decarburization layer (see 7.8, if it is required);
- k) special requirements (see 7.10, if it is required).

6 Size, shape and allowable deviation

6.1 The size, shape and allowable deviation of cold drawing steel bars shall comply with the provisions of GB/T 905-1994. The specific requirements shall be indicated in the contract. If it is not specified, perform according to provisions of level-h11.

6.2 The size, shape and allowable deviation of cold drawing polish round steel shall comply with the provisions of GB/T 3207-2008. The specific requirements shall be indicated in the contract. If it is not specified, perform according to provisions of levelh11.

7 Technical requirements

7.1 Designation and chemical composition

7.1.1 For the steel designation and chemical composition, quality carbon structural steel shall comply with the provisions of GB/T 699, alloy structural steel shall comply with the provisions of GB/T 3077. According to the requirements of the buyer, it can be ordered according to other designations if it is specified in the contract.

7.2 Smelting method

Unless otherwise specified in the contract, the smelting method is chosen by the supplier.

7.3 Delivery state

7.3.1 The delivery state of steels is shown in Table 1. The specific delivery state shall be indicated in the contract. If it is not specified, deliver in cold drawing state.

7.3.2 if it is negotiated between the supplier and the buyer, and indicated in the contract, it can be delivered in other states.

7.4 Hardness

7.4.1 The delivery hardness value of steels (except for normalizing state) shall comply with the requirements of Table 2. According to the requirements of the buyer, the hardness value of the alloy structural steel that is delivered under heat treatment after cold drawing (except for normalizing state) without designation in Table 2 shall comply with the provisions of GB/T 3077; the hardness of the steel that is delivered under cold drawing and cold drawing polish state shall not be greater than 285 HBW. This hardness value is the reference value and it is not used as the basis for determination. The hardness value of the steel that is delivered under the normalizing state is determined by the supplier and the buyer. 7.4.2 For the steel for hot-press processing that is delivered in the cold drawing state, the Brinell hardness values of 50Mn2, 35CrMnSi, 42CrMo and 35CrMoV steels shall comply with the requirements of Table 2;

7.5 Mechanical property

7.6 Forging

7.7 Macrostructure

7.8 Decarburization layer

7.9 Surface quality