



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

GB/T 24242.2-2020

**Non-alloy steel wire rod for conversion to wire - Part 2: Specific
requirements for general purpose wire rod**

Issued on: September 29, 2020

Implemented on: April 1, 2021

Issued by: SAMR; SAC

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Foreword

GB/T 24242 Non-alloy Steel Wire Rod for Conversion to Wire is divided into 4 parts:

---Part 1: General Requirements;

---Part 2: Specific Requirements for General Purpose Wire Rod;

---Part 3: Specific Requirements for Rimmed and Rimmed Substitute Low Carbon Steel Wire Rod;

---Part 4: Specific Requirements for Special Purpose Wire Rod.

This Part is Part 2 of GB/T 24242.

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

This Part serves as a replacement of GB/T 24242.2-2009 Non-alloy Steel Wire Rods for Conversion to Wire - Part 2: Specific Requirements for General Purpose Wire Rod.

In comparison with GB/T 24242.2-2009, other than editorial modifications, the main technical changes are as follows:

---The requirements for mechanical properties are modified (see 4.3; 3.4 of Version 2009);

---The requirements for decarburized layer are modified (see 4.4; 3.6.1 of Version 2009);

---The requirements for microstructure are modified (see 4.5; 3.6.2 of Version 2009);

---The requirements for central segregation are modified (see 4.6; 3.5 of Version 2009);

---The requirements for oxide scale are added (see 4.7);

---The requirements for surface quality are modified (see 4.8; 3.3 of Version 2009).

This Part adopts the re-drafting method in the modification and adoption of ISO 16120-2:2017 Non-alloy Steel Wire Rod for Conversion to Wire - Part 2: Specific Requirements for General Purpose Wire Rod.

In comparison with ISO 16120-2:2017, this Part has structural adjustments. Appendix A lists out a table of comparison of Chapter No. between this Part and ISO 16120-2:2017.

Non-alloy Steel Wire Rod for Conversion to Wire - Part
2: Specific Requirements for General Purpose Wire
Rod

1 Scope

This Part of GB/T 24242 specifies the designation expression methods, dimensions, shapes, weights and allowable deviations, order content, technical requirements, test methods, inspection rules, packaging, marking and quality certificate of general purpose wire rod in non-alloy steel wire rod for conversion to wire.

This Part is applicable to high-quality wire rod for drawn or cold-rolled steel wire with general performance requirements (hereinafter referred to as wire rod).

2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 222 Permissible Tolerances for Chemical Composition of Steel Products

GB/T 24242.1-2020 Non-alloy Steel Wire Rod for Conversion to Wire - Part 1: General Requirements (ISO 16120-1:2017, MOD)

3.1 The designation of wire rod steel is usually expressed by chemical

composition,

and the designation code is CXXD. It is composed of two parts: the English initials of Carbon and Drawing, and the Arabic numerals of the average content of carbon element (in a few ten thousandths).

Example: C70D.

In which: 70---the average content of carbon element is 70 parts per 10,000;

C, D---respectively the English initials of Carbon and Drawing.

3.2 For the designations C26D ~ C92D, in accordance with the demands of the

demand-side, when the designation of wire rod steel is expressed by chemical composition, the designation code may also be expressed as CXXDA or CXXDB, in which, A represents Type-A steel, whose manganese content is 0.30% ~ 0.60%; B represents Type-B steel, whose manganese content is 0.60% ~ 0.90%.

3.3 If the wire rod products in Appendix C are provided, then, the designation shall be

named after tensile strength, and the code is TXXXX. It is composed of two parts: the English initial of tensile strength and the median value of the tensile strength range.

Example: T1000.

In which: T---the English initial of the first word of tensile strength;

1,000---the median value of the tensile strength range.

4.1 General Requirements

The dimensions, shapes, weights and allowable deviations, order content, smelting method, delivery state, surface state, test methods, inspection rules, packaging, marking and quality certificate of wire rod shall comply with the stipulations of GB/T 24242.1-2020.

4.2.1 In terms of wire rod named after its chemical composition, the designation and

chemical composition (melting analysis) shall comply with the stipulations of Table 1.

4.2.2 In terms of wire rod named after its tensile strength, the designation and the chemical composition (melting analysis) of the main elements shall comply with the stipulations of Appendix C.

4.2.3 The allowable deviations of the chemical composition analysis of wire rod shall

comply with the stipulations of GB/T 222.

4.2.4 Apart from the elements required for smelting, the elements not listed in Table 1

shall not be intentionally added to steel without the consent of the demand-side. During ordering, through the negotiation between the demand-side and the supply-side, commonly used microalloying elements, such as: Cr and V, may be added. The content of Cr shall be not greater than 0.3%; the content of V shall be not greater than 0.10%.

4.2.5 Through the agreement between the demand-side and the supply-side, on the

basis of Table 1, the content of C of the designations C26D ~ C92D may be increased by 0.01% in the upper limit or be decreased by 0.01% in the lower limit.

4.2.6 For wire rod used for galvanizing, if the demand-side requires the lower limit of

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