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

GB/T 33964-2017

**Wire rods for welding solid electrodes of atmospheric corrosion
resisting steels**
(English Translation)

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Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Designation representation method...	7
4 Order content...	8
5 Dimension, shape, mass and tolerance...	8
6 Technical requirements...	8
7 Test methods...	11
8 Inspection rules...	11
9 Packaging, marking, and quality certificate...	12

1 Scope

This Standard specifies the designation, order content, dimension, shape, mass and tolerance, technical requirements, test methods, inspection rules, packaging, marking, and quality certificate of wire rods for welding solid electrodes of atmospheric corrosion resisting steels.

This Standard is applicable to the wire rods for the production of welding solid electrodes for atmospheric corrosion resisting steel gas-shielded arc welding and submerged-arc automatic welding (hereinafter abbreviated as gas- shielded electrodes and submerged-arc electrodes).

2 Normative references

The following documents are indispensable for the application of this document.

For the dated references, only the versions with the dates indicated are applicable to this document. For the undated references, the latest version (including all the amendments) are applicable to this document.

GB/T 223.3 Methods for Chemical Analysis of Iron, Steel and Alloy - The

Diantiprylmethane Phosphomolybdate Gravimetric Method for the
Determination of Phosphorus Content

GB/T 223.4 Alloyed steel - Determination of manganese content -

Potentiometric or visual titration method

GB/T 223.5 Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdosilicate spectrophotometric method

GB/T 223.9 Iron steel and alloy - Determination of aluminium content - Chrom azurol S photometric method

GB/T 223.11 Iron, Steel and Alloy - Determination of Chromium Content - Visual Titration or Potentiometric Titration Method

GB/T 223.12 Methods for chemical analysis of iron, steel and alloy - The sodium carbonate separation-diphenyl carbazide photometric method for the determination of chromium content

Phosphomolybdate Blue Spectrophotometric Method

GB/T 223.60 Methods for chemical analysis of iron, steel and alloy - The perchloric acid dehydration gravimetric method for the determination of silicon content

GB/T 223.62 Methods for chemical analysis of iron, steel and alloy - The butyl acetate extraction photometric method for the determination of phosphorus content

GB/T 223.63 Methods for chemical analysis of iron, steel and alloy - The sodium (potassium) periodate photometric method for the determination of manganese content

GB/T 223.64 Iron, steel and alloy - Determination of manganese content - Flame atomic absorption spectrometric method

GB/T 223.67 Iron, steel and alloy - Determination of sulfur content - Methylene blue spectrophotometric method

GB/T 223.68 Methods for chemical analysis of iron, steel and alloy - The potassium iodate titration method after combustion in the pipe furnace for the determination of sulfur content

GB/T 223.69 Iron, steel and alloy - Determination of carbon contents - Gas- volumetric method after combustion in the pipe furnace

GB/T 223.71 Methods for chemical analysis of iron, steel and alloy - The gravimetric method after combustion in the pipe furnace for the determination of carbon content

GB/T 223.72 Iron, steel and alloy - Determination of sulfur content - Gravimetric method

GB/T 223.74 Methods for chemical analysis of iron, steel and alloy - The combustion gravimetric/gas-volumetric method for the determination of combined carbon content

GB/T 228.1 Metallic materials - Tensile testing - Part 1. Method of test at room temperature

GB/T 2101 General requirement of acceptance, packaging, marking and certification for

section steel

GB/T 2975 Steel and steel products - Location and preparation of samples and test pieces for mechanical testing

H - "Steel for welding"; 08 - Average carbon content (mass fraction); MnSiNiCu - Main alloying elements.

Example 2. H08MnSiCrNiCuA

H - "Steel for welding"; 08 - Average carbon content (mass fraction); MnSiCrNiCu - Main alloying elements; A - High-grade fine steel.

4 Order content

The contract for ordering according to this Standard shall include the following.

- a) Product name;
- b) Standard number;
- c) Designation;
- d) Nominal dimension;
- e) Accuracy level of dimension and shape;
- f) Delivery mass and quantity;
- g) Special requirements.

5 Dimension, shape, mass and tolerance

5.1

The dimension, shape and tolerance of the wire rod shall be in accordance with the requirements of Level B or Level C accuracy in GB/T 14981-2009. The specific accuracy level requirements shall be indicated in the contract. If not specified, the Level B accuracy provisions shall be implemented.

5.2

The wire rod shall be delivered according to the actual mass. If the supplier and the buyer do not expressly stipulate in the contract, the mass of the wire rod shall comply with the provisions of GB/T 14981-2009.

6.1.1 The designation and chemical composition (finished product analysis) of

the wire rods used to make gas-shielded electrodes and submerged-arc electrodes are shown in Table 1 and Table 2. SEE Appendix A for a comparison of this Standard's designation with other standards.

contracts.

8.2 Lot grouping rule

The wire rods shall be accepted in lots. Each lot shall consist of the wire rods of the same furnace number, the same designation, the same dimension, and the same delivery state.

8.3 Sampling quantity

The sampling quantity for quality inspection of wire rod shall comply with the requirements of Table 3.

8.4 Reinspection and judgement rules

The reinspection and judgement rules of the wire rod shall be in accordance with the provisions of GB/T 2101.

8.5 Rounding off of numerical values

The numerical values of inspection result shall, by rounded-off value comparison method, be rounded off to be consistent with the number of digits indicated by the specified value standard. The rule for rounding off shall comply with YB/T 081.

9 Packaging, marking, and quality certificate

The packaging, marking, and quality certificate of the wire rod shall be carried out in accordance with the provisions of GB/T 2101.

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