



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

GB/T 39033-2020

Austenitic-ferritic duplex stainless steel wire rods

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1 Scope

This Standard specifies the order content, size, shape, weight and allowable deviation, technical requirements, test methods, inspection rules, packaging, marking and quality certificate of austenitic-ferritic duplex stainless steel wire rods.

This Standard applies to austenitic-ferritic duplex stainless steel round wire rods whose nominal diameter is 5.0 mm ~ 40.0 mm.

This Standard does not apply to welding wire rods.

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.

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

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

GB/T 223.11, Iron, steel and alloy - Determination of chromium content - Visual titration or potentiometric titration method

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 223.25, Methods for chemical analysis of iron, steel and alloy - The dimethylglyoxime gravimetric method for the determination of nickel content

GB/T 223.26, Iron, steel and alloy - Determination of molybdenum content -The thiocyanate spectrophotometric method

GB/T 223.28, Methods for chemical analysis of iron, steel and alloy - The alpha-benzoinoxime gravimetric method for the determination of molybdenum content

GB/T 13305, Micrographic method for determining area content of the alpha-phases in stainless steels

GB/T 14981-2009, Dimension shape mass and tolerance for hot-rolled round wire rod

GB/T 17505, Steel and steel products - General technical delivery requirements

GB/T 20066, Steel and iron - Sampling and preparation of samples for the determination of chemical composition

GB/T 20123, Steel and iron - Determination of total carbon and sulfur content Infrared absorption method after combustion in an induction furnace (routine method)

GB/T 20124, Steel and iron - Determination of nitrogen content - Thermal conductimetric method after fusion in a current of inert gas

GB/T 36164, High alloy steel - Determination of multi-element contents - X-ray fluorescence spectrometry (routine method)

YB/T 081, Rule for rounding off of numerical values and judgment of testing values for technical standards of metallurgy

3 Order content

Contracts which order in accordance with this Standard shall at least contain the following contents:

- a) reference to this Standard;
- b) product name;
- c) designation or unified digital code;
- d) delivery weight (or quantity);
- e) size and shape;
- f) delivery status;

g) other special requirements.

a When electroslag steels are batched according to the sub-heat number, except that the surface and size are sampled one by one, the sampling quantity for other inspection items is 1. When it is batched according to the electroslag electrode's smelting master heat number, except that, for chemical composition, 1 is taken for each electroslag furnace number, the sampling quantity for other inspection items is the same as that specified in the table.

6.2 The chemical analysis method is carried out in accordance with GB/T 223.5, GB/T 223.11, GB/T 223.18, GB/T 223.25, GB/T 223.26, GB/T 223.28, GB/T 223.43, GB/T 223.53, GB/T 223.62, GB/T 223.63, GB/T 223.79, GB/T 223.85, GB/T 223.86 or GB/T 11170, GB/T 20123, GB/T 20124, GB/T 36164. The arbitration is carried out according to GB/T 223.5, GB/T 223.11, GB/T 223.18, GB/T 223.25, GB/T 223.26, GB/T 223.28, GB/T 223.43, GB/T 223.53, GB/T 223.62, GB/T 223.63, GB/T 223.79, GB/T 223.85, GB/T 223.86, GB/T 20124.

7 Inspection rules

7.1 Inspection and acceptance The quality of the wire rod is inspected by the quality supervision department of the supplier; the buyer has the right to inspect and accept in accordance with the provisions of this Standard.

7.2 Batch rules Wire rods shall be inspected and accepted in batches; each batch shall be composed of wire rods of the same designation, the same heat number, the same specification, the same rolling system and the same heat treatment furnace. Electroslag steels, under the stable process conditions, are allowed to be batched according to the electroslag electrode smelting master furnace number.

7.3 Re-inspection and determination rules The re-inspection and determination rules of the wire rods are performed according to the provisions of GB/T 17505.

7.4 Numerical rounding The numerical rounding of the test results shall be performed according to the rounding-off value comparison method to a value that is consistent with the digit that is identified by the standard number of the specified value; the rounding rules shall comply with the provisions of YB/T 081.