GB 1499.2-2024

Steel for the Reinforcement of Concrete - Part 2: Hot Rolled Ribbed Bars

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Scope

This document specifies the classification, grades, dimensions, shapes, weights and permissible deviations, smelting and properties, test methods, inspection rules, packaging, marking, and quality certificates for hot rolled ribbed bars for the reinforcement of concrete (hereinafter referred to as bars).

This document applies to ordinary hot rolled ribbed bars and fine-grained hot rolled ribbed bars for the reinforcement of concrete.

This document does not apply to recycled bars made from finished steel products or heat-treated residual bars.

Normative References

The following documents, through normative references in the text, constitute essential provisions of this document. For dated references, only the edition corresponding to the date of reference applies. For undated references, the latest edition (including all amendments) applies.

GB/T 222 Permissible deviations of chemical composition for finished steel products

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

GB/T 223.11 Steel and iron - Determination of chromium content - Visual titration or potentiometric titration method

GB/T 223.12 Methods for chemical analysis of steel and iron - Determination of chromium content by sodium carbonate separation-diphenylcarbazide photometric method

GB/T 223.14 Methods for chemical analysis of steel and iron - Determination of vanadium content by tantalum reagent extraction photometric method

GB/T 223.17 Methods for chemical analysis of steel and iron - Determination of titanium content by diantipyrylmethane photometric method

GB/T 223.19 Methods for chemical analysis of steel and iron - Determination of copper content by neocuproine-chloroform extraction photometric method

GB/T 223.23 Steel and iron - Determination of nickel content - Dimethylglyoxime spectrophotometric method

GB/T 223.26 Steel and iron - Determination of molybdenum content - Thiocyanate spectrophotometric method

GB/T 223.37 Steel and iron - Determination of nitrogen content - Distillation separation-indophenol blue spectrophotometric method

GB/T 223.40 Steel and iron - Determination of niobium content - Chlorosulfophenol S spectrophotometric method

GB/T 223.59 Steel and iron - Determination of phosphorus content - Bismuth phosphomolybdate blue and antimony phosphomolybdate blue spectrophotometric methods

GB/T 223.63 Steel and iron - Determination of manganese content - Sodium (potassium) periodate spectrophotometric method

GB/T 223.84 Steel and iron - Determination of titanium content - Diantipyrylmethane spectrophotometric method

GB/T 223.85 Steel and iron - Determination of sulfur content - Infrared absorption method after combustion in an induction furnace

GB/T 223.86 Steel and iron - Determination of total carbon content - Infrared absorption method after combustion in an induction furnace

GB/T 2101 General requirements for acceptance, packaging, marking, and quality certificates of section steel

GB/T 2260 Codes for the administrative divisions of the People's Republic of China

GB/T 4336 Carbon steel and low-alloy steel - Determination of multi-element content - Spark discharge atomic emission spectrometry (conventional method)

GB/T 4340.1 Metallic materials - Vickers hardness test - Part 1: Test method

GB/T 6394 Method for determining the average grain size of metals

GB/T 13298 Method for metallographic examination of metals

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 a high-frequency induction furnace (conventional method)

GB/T 20124 Steel and iron - Determination of nitrogen content - Inert gas fusion thermal conductivity method (conventional method)

GB/T 20125 Low-alloy steel - Determination of multi-element content - Inductively coupled plasma atomic emission spectrometry

GB/T 28900 Test methods for steel bars for the reinforcement of concrete

JGJ 18 Code for welding and acceptance of steel bars

JGJ 107 Technical specification for mechanical connection of steel bars

YB/T 081 Rounding off of numerical values and judgment of test values in metallurgical technical standards

Terms and Definitions

The following terms and definitions apply to this document.

3.1

Hot rolled bars: Bars delivered in the hot rolled condition.

3.2

Hot rolled bars of fine grains: Bars with fine grains formed through controlled rolling and cooling processes during hot rolling.

3.3

Ribbed bars: Steel for concrete structures with a circular cross-section and ribs on the surface.

3.4

Longitudinal rib: A uniform and continuous rib parallel to the axis of the bar.

3.5

Transverse rib: A rib that is not parallel to the axis of the bar.

3.6

Crescent ribbed bars: Bars with transverse ribs in a crescent shape in the longitudinal section and not intersecting with longitudinal ribs.

3.7

Nominal diameter: The diameter of a circle with an area equal to the nominal cross-sectional area of the bar.

3.8

Specific projected rib area: The ratio of the projected area of transverse ribs on a plane perpendicular to the axis of the bar to the product of the nominal circumference of the bar and the spacing of transverse ribs.

3.9

Rib height: The distance measured from the highest point of the rib to the core surface perpendicular to the axis of the bar.

3.10

Rib spacing: The distance between the centers of two adjacent transverse ribs measured parallel to the axis of the bar.

3.11

Characteristic value: The quantile value corresponding to a specified probability in an infinite number of tests.

3.12

Core: The cross-section of the bar excluding transverse and longitudinal ribs.

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