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Replacing GB/T 24595-2009

**Hot-rolled steel bars for quenched and tempered
automobile crankshafts**

汽车调质曲轴用热压钢棒

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Hot-rolled steel bars for quenched and tempered automobile crankshafts

1 Scope

This Standard specifies the order content, size, shape, weight, technical requirements, test methods, inspection rules, packaging, marking and quality certificates of hot-rolled steel bars for quenched and tempered automobile crankshafts.

This Standard applies to hot-rolled steel bars whose nominal diameter is not greater than 200 mm (hereinafter referred to as steel bars).

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 223.3, Methods for chemical analysis of iron, steel and alloy - The diantipyrylmethane phosphomolybdate gravimetric method for the determination of phosphorus content

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

GB/T 223.19, Methods for chemical analysis of iron, steel and alloy - The neocuproine-chloroform extraction photometric method for the determination of copper content

GB/T 223.23, Iron, steel and alloy - Determination of nickel content - The dimethylglyoxime spectrophotometric method

GB/T 223.26, Iron, steel and alloy - Determination of molybdenum content - The thiocyanate 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 11261, Steel and iron - Determination of oxygen content - The pulse heating inert gas fusion-infra-red absorption method

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 34474.1-2017, Determination of banded structure of steel - Part 1: Micrographic method using standards diagrams

3 Order content

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

- a) number of this Standard;
- b) product name;
- c) designation;
- d) specifications;
- e) weight (quantity);
- f) delivery status;
- g) other special requirements;

4 Size, shape, weight

4.1 Size and allowable deviation

4.1.1 The diameter of the steel bar and its allowable deviation shall meet the requirements of Group 2 in Table 1 of GB/T 702-2017.

4.1.2 Steel bars are delivered at a fixed length; the fixed length or multiple length is specified in the contract; the allowable deviation of the length is $^{+50}_0$ mm. The existence of short length is allowed; the length of the short length shall not be less than 2 000 mm; the delivery volume of the short length cannot exceed 10% of the total weight of the batch.

6	End hardenability	1 pc/ batch	Any steel bar	GB/T 225
7	Macro-structure	2 pcs/ batch	Different steel bars	GB/T 226, GB/T 1979
8	Non-metallic inclusions	2 pcs/ batch	Different steel bars	GB/T 10561-2005
9	Grain size	1 pc/ batch	Any steel bar	GB/T 6394
10	Banded structure	1 pc/ batch	Any steel bar	GB/T 34474.1-2017
11	Ultrasonic testing	Piece by piece	-	GB/T 4162-2008
12	Surface quality	Piece by piece	-	Visual inspection
13	Size, shape	Piece by piece	-	Caliper, micrometer

7 Inspection rules

7.1 Inspection and acceptance

7.1.1 The delivery inspection and acceptance of steel bars shall be carried out by the supplier's quality and technical supervision department.

7.1.2 The supplier shall ensure that the delivered steel bars meet the requirements of this Standard or the contract. If necessary, the buyer has the right to inspect and accept according to any inspection item that is specified in this Standard or the contract.

7.2 Batch rules

Steel bars shall be inspected and accepted in batches; each batch consists of steel bars of the same designation, the same furnace number, the same size and the same delivery status.

7.3 Sampling quantity and sampling position

The sampling quantity and sampling position of the steel bars shall comply with the requirements of Table 7.

7.4 Re-inspection and determination rules

The re-inspection and determination rules of the steel bars are performed according to the provisions of GB/T 17505.

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