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

YB/T 4090-2015

**Ultra high power graphite electrode
(English Translation)**

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1 Scope

This Standard specifies the terms and definitions, order content, dimensions, shape, weight and allowable deviation, technical requirements, test methods, inspection rules, packaging, marks and quality certificates of cold-formed section steel for automobile frame.

This Standard is applicable to the cold-formed section steel for automobile frame (hereinafter referred to as section steel) produced by hot-rolled steel plates or steel strips with a thickness of no less than 4mm through a continuous roll-bending cold-bending forming unit for passenger and freight vehicles.

2 Normative References

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this document.

GB/T 228.1 Metallic Materials - Tensile Testing - Part 1: Method of Test at Room

Temperature

GB/T 229 Metallic Materials - Charpy Pendulum Impact Test Method

GB/T 232 Metallic Materials - Bend Test

GB/T 709 Dimensions, Shape, Weight and Tolerances for Hot Rolled Steel Sheets and Strips

GB/T 2101 General Requirements of Acceptance, Packaging, Marking, and Certification for Section Steel

GB/T 2975 Steel and Steel Products - Location and Preparation of Test Pieces for Mechanical Testing

GB/T 3273 Hot-Rolled Steel Plates and Sheets for Automobile Frames

GB/T 20066 Steel and Iron-Sampling and Preparation of Samples for the Determination of Chemical Composition

YB/T 081 Rule for Rounding Off of Numerical Values and Judgement of Testing Values for Technical Standards of Metallurgy

3.1 Curve

Curve refers to the maximum up and down and lateral bending of a product along its length.

3.2 Twist

One surface of the section steel is placed on the same horizontal plane, and one end is pressed against the horizontal plane, and the diagonal height of the two opposite surfaces is measured along the horizontal plane.

4 Ordering Contents

The contract ordered according to this Standard shall contain the following technical contents:

- a) product name and specifications;
- b) standard number;
- c) material designation and furnace batch number;
- d) delivery quantity and weight;
- e) product length;
- f) Other special requirements put forward by the purchaser, such as: special specification requirements, special surface quality requirements, etc.

5 Dimension, Shape, Weight and Allowable Deviation

5.1

The cross-section of section steel is shown in Figure 1.

Figure 5 - Angle Deviation

6.1 Designation and chemical composition

The designation and chemical composition of section steel shall comply with the provisions of

GB/T 3273. After negotiation between the supplier and the purchaser, and indicated in the contract, other designations can be used.

6.2 Delivery state

Section steel shall be delivered in the cold-formed state. After negotiation between the supplier and the purchaser, and indicated in the contract, other states can be used for delivery.

6.3 Mechanical properties and process properties

The mechanical properties and process properties of the section steel shall comply with the provisions of GB/T 3273.

6.4 Surface quality

6.4.1

There shall be no cracks, bubbles, inclusions, scars, folds, delamination and obvious scratches on the surface of the section steel; the section steel is allowed to be cleaned, and the cleaning depth shall not exceed half of the allowable thickness tolerance.

6.4.2

Appropriate anti-rust treatment shall be applied to the section steel; and the surface of the section steel shall not be rusted in the delivery state.

6.4.3

The inner and outer arcs of the section steel shall be smooth, and there should be no burrs on the wing.

6.4.4

Saw burrs are allowed at both ends of the section steel; and the burr height is no more than 0.5mm.

6.4.5

The section steel with the special requirements for surface quality shall be determined through negotiation between the supplier and the purchaser.

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