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

GB/T 33241-2025

Replacing GB/T 33241-2016

Zinc-aluminium alloy coating section steel

锌铝合金镀层型钢

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1 Scope

This document specifies the code, model and example, ordering contents, technical requirements, inspection rules, packaging, marking, quality certificate, handling, stacking and storage of zinc-aluminum alloy coating section steel, and describes the corresponding test methods.

This document applies to hot-rolled section steel coated with zinc-aluminum alloy using a continuous hot-dip galvanizing process (hereinafter referred to as section steel).

2 Normative references

GB/T 470

GB/T 702

GB/T 706

GB/T 2101

GB/T 4956

GB/T 6462

GB/T 11263

GB/T 13825

3 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

3.1 continuous hot dip galvanized

The pre-treated section steel is continuously immersed in a molten zinc-aluminum alloy bath, by air knife application, a zinc-aluminum (or) zinc-aluminum-iron alloy coating is formed on its surface.

3.2 zinc-aluminum alloy coating

The pre-treated section steel is immersed in a molten zinc-aluminum alloy bath, forming a zinc-aluminum and/or zinc-aluminum-iron alloy coating on its surface.

3.3 coating thickness

The arithmetic mean of the measured thickness values of zinc-aluminum (iron) alloy layer on the section steel surface, or the converted thickness value of the coating mass obtained from a single measurement using the weighing method.

NOTE. The unit is micrometers (μm).

3.4 coating mass

The arithmetic mean of the local coating amount measured by the weighing method, or the converted value of the average coating thickness.

3.5 coating minimum value

The minimum value among the converted coating thickness values measured by the weighing method on the basic measuring surface, or the minimum value of the arithmetic mean of the coating thickness measured by the magnetic method for a specified number of times.

3.6 uncoated areas

Areas on the section steel surface that have not reacted with the molten zinc-aluminum alloy.

4.1 Code

The code for section steel is ZA (Z represents Zn, A represents Al).

4.2 Model

The model consists of the section steel category and specifications. It is represented as follows.

4.3 Example

A zinc-aluminum alloy coating angle steel with specifications of 50 mm x 50 mm x 5 mm is represented as. ZAngle 50x50x5.

5 Ordering contents

The order contract placed according to this document shall include at least the following main contents.

- a) product name;
- b) serial number of this document;
- c) section steel specifications;
- d) mass or quantity;
- e) special requirements.

6.1.1 Section steel base metal

The base metal shall comply with the provisions of GB/T 702, GB/T 706, or GB/T 11263, etc. If testing of the mechanical properties and processing properties of section steel is required, it shall be conducted before galvanizing.

6.1.2 Zinc-aluminum alloy ingot

The chemical composition of zinc-aluminum alloy ingot shall comply with the provisions of YS/T 310.

6.1.3 Zinc ingot

Zinc ingot shall comply with the provisions of GB/T 470.

6.2.1 Appearance

6.2.1.1 The coating surface shall be smooth and free from defects such as peeling, uncoating, zinc spikes, drips, and slag.

6.2.1.2 When the coating thickness exceeds the specified value, a small amount of white rust (white or gray corrosion products mainly composed of basic zinc oxide) on the surface of section steel shall not be a reason for rejection.

6.2.1.3 Section steel shall generally be passivated unless the purchaser specifies
otherwise at the time of ordering.

6.2.2 Coating mass and coating thickness

The coating mass and coating thickness of section steel shall comply with the provisions of Table 1. The coating mass and corresponding coating code are shown in Table 2. The specific coating mass shall be agreed upon by the supplier and the purchaser and specified in the contract. If not specified, the product with coating code 50 shall be delivered.