

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

## 中华人民共和国国家标准

GB/T 13912-2002

Replace GB/T 13912-1992

Metallic coatings—Hot dip galvanized coatings on fabricated iron and steel articles—Specifications and test methods

# 金属覆盖层 钢铁制件热浸镀锌层 技术要求及试验方法

(ISO 1461: 1999, Hot dip galvanized coatings on fabricated iron and steel articles-Specifications and test methods, MOD)

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#### **Foreword**

This national standard is modified in relation to ISO1461: 1999, Hot dip galvanized coatings on fabricated iron and steel articles-Specifications and test methods, MOD.

This national standard was re-drafted in accordance with ISO1461: 1999, while chapter and clause comparison table between this standard and ISO 1461 is listed in Annex A.

There have been some significant changes in this national standard over ISO1461: 1999 in the following technical aspects, while technical differences between this standard and ISO 1461: 1999 and reasons are listed in Annex B.

-In accordance with current domestic standards, the name of this standard is revised as Metallic Coatings-Hot Dip Galvanized Coatings on Fabricated Iron and Steel Articles-Specifications and Test Methods.

- -Foreword in ISO 1461 is canceled.
- -"This standard" is used instead of "this international standard".
- -Some domestic standard in which international standards are partly adopted are referred.
- 4.2 clause and Annex A of ISO1461: 1999 are combined into 4.1 clause of this standard
- -The  $6^{th}$  chapter in ISO1461: 1999 is divided into the  $6^{th}$  and  $7^{th}$  chapters of this standard.
- -Requirement on galvanized coating thickness of hot dip galvanized fabricated articles which are treated with zinc-explosion instead of centrifuge, or with zinc-explosion and centrifuge at meanwhile, is proposed in this standard.
- -Safety requirement is proposed in this standard on un-completely dried hot dip galvanized fabricated articles.

This standard will replace GB/T 13912-1992 Metallic Coatings-Hot Dip Galvanized Coatings on Fabricated Iron and Steel Articles-Specifications

The major difference between this national standard and GB/T 13912-1992 are as following:

- -If galvanized coating thickness is larger than specified value, dark or light grey uneven color is allowable on galvanized fabricated articles;
  - Safety requirement is proposed for hot dip galvanized process;
  - -It is required that each uncoated area shall not be larger than 10 cm<sup>2</sup>;
- -The thickness of repairing layer shall be 30  $\mu$  m thicker than the minimum required thickness of galvanized coating.

Annex D of this standard is a normative annex, while Annex A, Annex B, Annex C and Annex E are informative annexes.

This standard was proposed by China Mechanical Industry Administration.

This standard is under the jurisdiction of National Metallic and non-metallic coatings Standardization Technology Committee.

This national standard was drafted by Wuhan Material Protection Facility.

This national standard was jointly drafted by Haerbin Iron Tower Factory.

The main drafters of this national standard are Wu Yong and Li Chunyan.

## Metallic coatings-Hot dip galvanized coatings on Fabricated iron and steel articles-Specifications and test methods

#### 1 Scope

This national standard specifies specifications and test methods for hot dip galvanized coatings on fabricated iron and steel articles (total content of other alloy elements is no more than 2%).

This national standard is not applicable to following conditions:

- a) Plate, belt, wire, pipe and bar which are manufactured by means of continuous hot dip galvanized coating;
  - b) Hot dip galvanized products that special standard is adopted;
- c) Hot dip galvanized products that additional requirement or requirement different with those in this standard is adopted.

Note: Standard for some products can be formed through reference of this standard number or revising part clauses of this standard to specify hot dip galvanized coatings of products,

#### 2 Normative references

The following normative documents contain provision which, through reference in this text, constitute provisions of this national standard. For dated reference, subsequent amendments to, or revisions of (not include content for corrigenda), any of these publications do not apply. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. For undated references, the latest edition of the normative document referred to applies.

GB/T 470 Zinc ingots (eqv ISO 752)

GB/T 4955 Metallic coatings-Measuring of coating thickness-Anode solving Method (eqv ISO 2177)

GB/T 4956 Measuring of non-magnetic coating thickness on magnetic metal base-Magnetic method (eqv ISO 2178)

GB/T 6462 Metal and oxide coatings-Measuring method for cross sectional surface with microscope (eqv ISO 1463)

 $GB/T\ 9793$  Metal and other inorganic coatings-Hot spraying-Zinc, aluminum and other alloys (eqv ISO 2063)

GB/T 12334 Metal and other inorganic coatings-Definitions and generic regulations on thickness measurement (eqv ISO 2064)

GB/T 13825 Metallic coatings-Mass determination of hot dip galvanized coatings on black metallic materials-Weighing method (eqv ISO 1460)

GB/T 18253 Steel and steel products Types of inspections files (eqv ISO 10747)

GB/T 2859-1 Sampling procedure of characteristic inspection-Part 1: Inspection and sampling plan which is confirmed in accordance with acceptable quality level as per lot (eqv ISO)

GB/T 2859-3 Sampling procedure of characteristic inspection-Part 3: Sampling procedure of un-continuous lot (eqv ISO)

#### 3 Terms and definitions

The following terms and definitions are confirmed in GB/T 12334 and applicable in this standard.

#### 3.1 Hot dip galvanizing

A process and method with which pre-treated steel or cast iron fabricated articles are immersed into melt zinc bath to form a zinc or zinc-iron alloy coatings on their



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