ICS 77.140.50
CCS H46

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 15675-2020

Replacing GB/T 15675-2008

Continuously electrolytically zinc/zinc-nickel alloy coated steel sheet and strip

连续电镀锌、锌镍合金镀层钢板及钢带

Issued on: September 29, 2020 **Implemented on: April 1, 2021**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

1 Scope

GB/T 15675-2020 is the Chinese national standard on continuously electrolytically zinc/zinc-nickel alloy coated steel sheet and strip, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 29 September 2020 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2021. Classification: ICS 77.140.50, CCS H46. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies the terms and definitions, designation expression method, classification and code, size, shape, weight, technical requirements, test methods, inspection rules, packaging, marks and quality certificates for continuously electrolytically zinc/zinc-nickel alloy coated steel sheet and strip. This Standard is applicable to

electrolytically zinc/zinc-nickel alloy coated steel sheet and strip used in automobiles, home appliances, electronics and other industries (hereinafter referred to as steel sheet and strip).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 247, General rule of package mark and certification for steel plates (sheets) and strips

GB/T 708, Dimension, Shape, Weight, and Tolerance for Cold-Rolled Steel Plates

GB/T 1839-2008, Test method for gravimetric determination of the mass per unit area of galvanized coatings on steel products

GB/T 5213, Cold rolled low carbon steel sheet and strip

GB/T 8170, Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 10125, Corrosion tests in artificial atmospheres - Salt spray tests

GB/T 17505, Steel and steel products - General technical delivery requirements

3 Terms and definitions

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

3.1 electrolytic zinc coating; ZE a coating that is composed of pure zinc and produced by continuous electrolytically zinc production line through electroplating; the coating does not contain any trace elements that are harmful to the bonding force of the binder or the paint performance

3.3 anti-fingerprint treatment conduct electrolytic passivation treatment on the surface of steel sheet and strip and apply with anti-fingerprint film, so as to improve the stain resistance of electronic or electrical products

4 Designation expression method, classification and code

4.1 Designation expression method The designation of steel sheet and strip is composed of two parts. substrate designation and coating type. They are connected with "+" in the middle.

4.2 Classification and code

4.2.1 Steel sheet and strip are divided into three levels according to surface quality. The level code shall meet the requirements of Table 1.

4.2.2 Steel sheet and strip are divided into two types according to the type of coating. pure zinc coating (ZE) and zinc-nickel alloy coating (ZN).

4.2.3 Steel sheet and strip are divided into three forms according to coating form. equal-thickness coating, differential-thickness coating and single-sided coating.

4.2.5 The type and code of surface treatment shall meet the requirements of Table 2.

5 Order content

5.1 The contract or order for placing an order in accordance with this Standard shall include the following.

5.2 If the size and unevenness accuracy, surface quality level and packaging method are not specified in the order contract, then the normal size, unevenness accuracy, and surface quality level are high level surfaces.

6 Size, shape, weight

6.1 The nominal thickness of steel sheet and strip is the sum of the thickness of the substrate and the thickness of the coating.

6.2 The size, shape and allowable deviation of steel sheet and strip shall meet the requirements of GB/T 708.

7 Technical requirements

7.1 Substrate Steel sheet and strip can use products in GB/T 5213, GB/T 20564 (all parts) as substrates. According to the negotiation between the supplier and the purchaser, products other than the above-mentioned standards can also be used as the substrate.

7.3 Smelting method Steel shall be smelted by oxygen converter or electric furnace. Unless otherwise specified, the smelting method is chosen by the supplier.

7.4 Mechanical and technological properties

7.4.3 For electro-galvanized, zinc-nickel alloy coated steel sheet and strip on other substrates, the requirements for mechanical and technological properties shall be negotiated and determined at the time of order.

7.5 Coating weight

7.5.1 The available weight range of pure zinc coating and zinc-nickel alloy coating shall meet the requirements of Table 3.

7.5.2 The recommended coating weight codes are shown in Table

4.If the purchaser has special requirements, other coating weights can also be provided after negotiation between the supplier and the purchaser.

7.5.3 The weight of single-sided and single-point coatings of equal-thickness coatings shall meet the requirements of Table 4.

7.5.4 For unequal-thickness coating, single-sided coating and equal-thickness

7.6 Coating adhesion The adhesion of the coating shall be tested according to the test method specified in GB/T 39130.Unless otherwise specified, the test method is 180° bend test. The diameter of the bending indenter is selected by the supplier. If the purchaser has special requirements, it shall be negotiated when ordering.

7.8 Surface treatment

7.8.1 Overview When using this product, the user shall choose the appropriate surface treatment method according to its processing technology, painting method, painting equipment and try to shorten the storage time of this product.

7.8.2 Chromic acid passivation (C), trivalent chromium passivation (C3) and chromium-free passivation (CN)

7.8.3 Chromic acid passivation + oiling (CO), trivalent chromium passivation + oiling (CO3) and chromium-free passivation + oiling (CON) The surface treatment can further reduce the white rust or black rust on the surface of the product during transportation and storage.

7.8.4 Phosphating (including sealing treatment) (PC), phosphating (including trivalent chromium sealing) (PC3) and phosphating (including chromium-free sealing) (PC5)

7.8.5 Phosphating (including sealing treatment) + oiling (PCO), phosphating (including trivalent chromium sealing) + oiling (PCO3) and phosphating (including chromium-free sealing) + oiling (PCON) This surface treatment can reduce white rust or black rust on the surface of the product and can improve the forming performance of the steel sheet.

7.9 Corrosion resistance of coating

7.9.1 Agreed by the supplier and the purchaser and indicated in the contract, it may evaluate the corrosion resistance of steel sheets and strips. The test methods, rating standards and acceptance conditions for corrosion resistance evaluation shall be agreed upon when ordering.

7.9.2 Corrosion resistance is generally evaluated by neutral salt spray test. The rating standards and acceptance conditions of the salt spray test results shall be agreed upon by the supplier and the purchaser at the time of ordering.