

ICS 93.040
CCS P 28

JT

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

JT/T 1266-2019

**Technical conditions of cold sprayed zinc anticorrosive for
bridge steel structure
(English Translation)**

Issued on: January 1, 1970

Implemented on: September 1, 2019

Issued by: Ministry of Transport

Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Classification and structure
5 Technical requirements
6 Test method
7 Quality Inspection

Foreword

This standard is in accordance with GB/T Draft the rules given in 1-2009.

This standard is proposed and managed by the National Technical Committee for Traffic Engineering Facilities (Highway) Standardization (SAC/TC 223).

This standard was drafted. Wuxi Huadong Zinc Shield Technology Co., Ltd., China Railway Construction Bridge Design and Research Institute, China Railway Bridge Survey Design Group Co., Ltd., Shanghai Municipal Engineering Design and Research Institute (Group) Co., Ltd., Shanghai Lin Tongyan Li Guohao Civil Engineering Consulting Co., Ltd., China State Construction Engineering Corporation Design Group Co., Ltd., Zhejiang Transportation Planning and Design Research Institute, Anhui Transportation Planning and Design Research Institute, Suzhou Jiaotong Group Co., Ltd., China Railway Shanjiao Group Co., Ltd., China Railway Baoqiao Group Co., Ltd., Shanghai Jianye Technology Engineering Co., Ltd., Jiangsu China Mining Dazheng Surface Engineering Technology Co., Ltd., Xi'an Municipal Design & Research Institute Co., Ltd., Nanjing Third Yangtze River Bridge Co., Ltd., Jilin Provincial Highway Administration.

1 Scope

This standard specifies the classification, structure, technical requirements, test methods, and quality inspection of cold sprayed zinc anticorrosive coating on the surface of bridge steel structures.

Wait.

This standard is applicable to the cold sprayed zinc anticorrosive coating on the surface of bridge steel structures, and other steel structures can be used for reference.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article. For undated references, the latest version (including all amendments) applies to this document.

GB/T 1725 Determination of non-volatile content in paints, varnishes and plastics GB/T 1728 Determination of drying time of paint film and putty film GB/T 1731 Determination of film flexibility GB/T 1732 Determination of impact resistance of paint film GB/T 1766 Method for rating paint and varnish coatings GB/T 1771 Determination of resistance to neutral salt spray of paints and varnishes GB/T 6742 Paint and varnish bending test (cylindrical shaft) GB/T 8923. 1 Visual evaluation of surface cleanliness of steel surfaces before application of coatings Part 1. Uncoated steel Corrosion level and treatment level on the surface and steel surface after the original coating has been completely removed GB/T 9271 Standard Test Plate for Paints and Varnishes GB/T 9278 Temperature and humidity of paint sample condition adjustment and test GB/T 9286 Cross-cut test for paints and varnishes GB/T 10125 Artificial atmosphere corrosion test Salt spray test GB/T 13288 Surface treatment of steel before coating application Surface roughness of steel after spray cleaning GB/T 13452. 2 Determination of film thickness of paints and varnishes GB/T 16906 Method for determination of resistivity of electrostatic conductive coatings for petroleum tanks GB/T 18570. 3 Surface treatment of steel before coating application Test for evaluation of surface cleanliness Part 3. Steel before coating application Surface dust evaluation (pressure-sensitive adhesive tape method) GB 24409-2009 Limits of harmful substances in automotive coatings GB/T 30789. 3 Evaluation of the aging of colored paint and varnish coatings The number and size of defects and the standard of the degree of uniform change in appearance Part 3. Evaluation of Rust Levels GB/T 30790. 2 Corrosion protection of steel structures by protective paint systems of colored paints and varnishes. Part 2. Environmental classification GB/T 3156. 1. Evaluation of the adhesion/cohesion (breaking strength) of anticorrosive protective coatings of protective coating systems to steel structures and Acceptance criteria Part 1. Pull-open test GB 50205-2001 Code for Construction Quality Acceptance of Steel Structure Engineering HG/T 2454 solvent-based polyurethane coating (two-component) HG/T 3792 Crosslinked fluororesin coating HG/T 3952 Cathodic Electrophoretic Coating JT/T 1266-2019 HG/T 4755 Polysiloxane coating HG/T 4845 Cold Coating Zinc Coating ISO 12944-29.:2018 Corrosion protection of steel structures by protective paint systems for pigmented and varnished parts. Part 9. Offshore construction and construction Protective coating system and laboratory performance test method for related structures

3 Terms and definitions

The following terms and definitions apply to this document.

Cold sprayed zinc material spray zinc material it is suitable for normal temperature spraying construction, has good cathodic protection performance, and can form metal coatings with a dry film total zinc content of more than 95%.

Component materials.

Cold spray zinc sealant cold spray zinc seal it has the function of penetration, sealing, anti-corrosion, insulation and barrier. It is used for coating the rough pores on the surface of cold spray zinc metal coating.

material.

Cold sprayed zinc anticorrosion system cold spray zinc corrosion protection system
According to different corrosive environments and anti-corrosion requirements, various types of composite coatings are matched on the surface of cold sprayed zinc coating, and the cold sprayed zinc coating is cathodic protection and matching the coating barrier protects synergistically and forms a cold spray zinc high durability anticorrosive system.

Total zinc content of dry film total zinc content of dry film the mass fraction of all zinc elements including elemental zinc and zinc as a compound (such as zinc oxide) in nonvolatile matter.

4 Classification and structure

4.1

Classification

4.1.1

Cold spray zinc anticorrosive system is divided into.

- a) Single-layer self-sealing system. cold sprayed zinc metal coating alone, no additional coating, no. N;
- b) Composite coating system. cold sprayed zinc metal coatings are equipped with multiple coatings such as cold sprayed zinc sealant and weather-resistant topcoat.

Is L;

- c) Water-based composite coating system. water-based cold sprayed zinc (water-based) cold sprayed zinc sealant, (water-based) weather-resistant top coat and other coatings, codename is W.

4.1.2

Cold spray zinc composite coating system is divided into.

- a) Cold spray zinc base coat, codenamed P;
- b) cold spray zinc sealant intermediate coating, code M;

c) Weather-resistant topcoat, codenamed F.

4.2

Structure

4.2.1

Cold sprayed zinc single-layer self-sealing layer

Figure 1 shows the composition of the cold sprayed zinc single-layer self-sealing layer.

JT/T 1266-2019

Explanation.

1 --- steel; 2--single-layer self-sealing coating of cold sprayed zinc.

Figure 1 Schematic diagram of cold sprayed zinc single-layer self-sealing coating

4.2.2

Cold spray zinc composite coating system the cold sprayed zinc composite coating system consists of a cold sprayed zinc metal coating, a cold sprayed zinc sealant intermediate coating and a weather-resistant surface coating, as shown in Figure 2.

Explanation.

1 --- steel; 3 --- cold spray zinc sealant intermediate coating;

2 --- cold spray zinc metal coating; 4 --- weather-resistant surface coating.

Figure 2 Schematic of cold spray zinc composite coating

5 Technical requirements

5.1

Materials

5.1.1

Performance requirements of cold sprayed zinc materials the performance requirements of cold sprayed zinc materials shall meet the requirements in Table 1.

Table 1 Performance requirements of cold sprayed zinc materials

Performance requirements

1 No hard lumps in the container, even after stirring

2 No blistering, pinholes, sagging or cracking during construction

3 Non-volatile matter content (%) ≥ 80

4 Lead content (mg/kg) ≤ 30 Total zinc content in non-volatile matter (%) Oily 96 ± 1