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

GB 14907-2018

Replacing GB 14907-2002

Fire resistive coating for steel structures

钢结构防火涂料

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Foreword

5.2 and 7 of this standard are mandatory and the rest are recommended. This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB 14907-2002 "Steel Structure Fire Retardant Coatings". Compared with GB 14907-2002, the main technical changes of this standard except for editorial changes are as follows:

--- Increased terms and definitions of section coefficients (see 3.2);

--- Revised the classification and model of the product (see Chapter 4; Chapter 4 of the 2002 edition);

- Revised the general requirements of the product (see 5.1; 5.1 of the.2002 version);
- Increased insulation efficiency deviation requirements and test methods (see 5.2, 6.4.7);
- Increased pH requirements and test methods (see 5.2, 6.4.8);
- Modified water resistance, cold and heat cycle resistance, heat resistance, heat and humidity resistance, freeze-thaw resistance, acid resistance, alkali resistance, salt spray resistance Corrosion, fire resistance requirements and test methods (see 5.2, 6.4.9, 6.4.10, 6.4.11, 6.4.12, 6.4.13, 6.4.14, 6.4.15, 6.4.16, 6.5; 5.2, 6.4.8, 6.4.9, 6.4.10, 6.4.11, 6.4.12, 6.4.13, 6.4.14, 6.4.15, 6.5) of the.2002 edition;
- Revised the preparation of physical and chemical properties test pieces (see 6.3;.2002 version 6.3);
- Increased UV radiation resistance requirements and test methods (see 5.2, 6.4.17);
- Removed additional fire resistance (see 6.6 of the.2002 edition);
- Revised inspection rules (see Chapter 7; Chapter 7 of the.2002 edition);
- Increased insulation efficiency test for steel structure fire retardant coatings (see Appendix A);

1 Scope

China's mandatory standard for fire resistive coatings for steel structures - the intumescent and cementitious coatings sprayed or brushed onto steel columns and beams so that the frame keeps its strength long enough for a building to be evacuated. Steel does not burn, but it loses roughly half its yield strength by 550 degrees, and an unprotected frame in a developed fire reaches that in minutes; the coating is what buys the time that the fire code assumes. The standard specifies the terms and definitions, the classification and model designation, the technical requirements, the test methods, the inspection rules and the marking of fire resistive coatings for steel structures, and it applies to the coatings used to protect steel building structures. The classification separates the products by where they are used, indoors or outdoors, by the way they work - the thin intumescent coating that swells into an insulating char and the thick cementitious coating that insulates by its own mass - and by the fire resistance period they are supplied to achieve. The technical requirements cover the properties of the coating in the tin and on the steel: the appearance, the density, the drying time, the adhesion, the compressive and bond strength of the thick products, the resistance to water, to damp heat, to cold and to freeze-thaw, the salt spray and the accelerated weathering for the outdoor grades, and the limits on the harmful substances released. But the requirement the whole product exists for is the fire resistance

itself, determined on loaded steel members in a furnace following the standard time-temperature curve, and expressed as the period for which the member stays below its limiting temperature. Issued on 19 November 2018 and in force since 1 June 2019, it replaces GB 14907-2002.

This standard specifies the terms and definitions, classification and model, technical requirements, test methods, inspection rules and signs of steel structure fireproof coatings. Packaging, transportation and storage. This standard is applicable to all kinds of steel structure fireproof coatings used on the surface of steel structures.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 191 packaging storage and transportation icon

GB/T 706-2016 hot rolled steel

GB/T 1728-1979 Paint film, putty film drying time determination method

GB/T 3186-2006 Sampling of raw materials for paints, varnishes and paints and varnishes

GB/T 6388 transport packaging receipt and delivery mark

GB/T 9779-2015 multi-layer architectural coating

GB/T 9978.1-2008 Test methods for fire resistance of building components - Part 1. General requirements

GB/T 9978.6 Test methods for fire resistance of building components - Part 6. Particular requirements for beams

GB/T 11263-2017 hot rolled H-beam and split T-beam

GB/T 14522-2008 Artificial weathering test method for plastics, paints and rubber materials for machinery industry products

GB 15930-2007 Fire damper for building ventilation and smoke exhaust system

GB 50017-2003 steel structure design specification GA/T 714-2007 Test method for rapid heating and fire resistance of fire protection materials for components

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 A coating applied to the surface of a steel structure of a building (structure) to form a fire-resistant and heat-insulating protective layer to improve the fire resistance of the steel

structure.

3.2 Section factor sectionfactor The ratio of the outer surface area per unit length of the unprotected steel member to the corresponding volume per unit length.

4.1 Classification

4.1.1 According to the fire protection object is divided into.

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