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

GB/T 31586.1-2015

**Corrosion protection of steel structures by protective paint systems --
Assessment of, and acceptance criteria for, the adhesion/cohesion
(fracture strength) of a coating -- Part 1: Pull-off testing
(English Translation)**

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Foreword

GB/T 31586 Corrosion protection of steel structures by protective paint systems

- Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating consists of the following two parts.

- Part 1. Pull-off testing;

- Part 2. Cross-cut testing and X-cut testing.

This Part is the first part of GB/T 31586.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part uses translation method and identically adopts ISO 16276-1:2007

Corrosion protection of steel structures by protective paint systems -

Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a coating - Part 1. Pull-off testing.

The Chinese documents which have consistency with the international normative reference in this Part are as follows.

- GB/T 5210-2006 Paints and varnishes - Pull-off test for adhesion (ISO 4624:2002, IDT)

- GB/T 30790.7-2014 Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 7. Execution and supervision of paint work (ISO 12944-7.1998, MOD)

- GB/T 30790.8-2014 Paints and varnishes - Corrosion protection of steel structures by protective paint systems - Part 8. Development of specification for new work and maintenance (ISO 12944-8.1998, MOD)

This Part was proposed by China Petroleum and Chemical Industry Federation.

This Part shall be under the jurisdiction of National Technical Committee on Paints and Pigments of Standardization Administration of China (SAC/TC 5).

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Corrosion protection of steel structures by protective paint systems - Assessment of, and acceptance criteria for, the adhesion / cohesion (fracture strength) of a coating - Part 1. Pull-off testing

1 Scope

This Part of GB/T 31586 specifies procedures for assessing the fracture strength of a protective paint coating of any thickness on a steel substrate of thickness not less than 10 mm. The procedures given in this Part of GB/T 31586 are based on methods used with different types of pull-off test equipment. The results obtained using such different types of equipment are not comparable.

NOTE 1 Substrates of less than 10 mm in thickness can be tested if they are

strengthened by the sandwich technique (see ISO 4624) or by the nature of the structure (e.g. I-beam or backing-plate). Otherwise, test panels with a thickness of at least 10 mm coated in the same way as the structure can be used, or the method specified GB/T

31586.2 can be used.

This Part is only applicable if a fracture strength value is specified, together with the type of test equipment and the manufacturer of the equipment. Usually, this information is included in contract documentation.

NOTE 2 A value for the fracture strength is only meaningful if the requirements concerning the ambient conditions (see 6.4.2) are met.

This Part also specifies suitable equipment and defines inspection areas, sampling plans and acceptance/rejection criteria.

It does not give any values of the fracture strength of different protective paint coatings.

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.

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