NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 19292.1-2018

Corrosion of metals and alloys -- Corrosivity of atmospheres -- Part 1: Classification, determination and estimation

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Foreword

GB/T 19292 "Corrosion of Atmospheric Corrosion of Metals and Alloys" has been or is planned to be released as follows.

--- Part 1. Classification, determination and evaluation;

--- Part 2. Guidance values for corrosion levels;

--- Part 3. Measurement of environmental parameters affecting atmospheric corrosivity;

--- Part 4. Determination of corrosion rate of standard samples for evaluation of corrosivity.

This part is the first part of GB/T 19292.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 19292.1-2003 "Classification of Corrosive Atmospheric Corrosion of Metals and Alloys". And GB/T 19292.1-

The main technical changes in.2003 are as follows.

--- Based on the characteristics of specific marine and marine/industrial environments, a first-class CX is added on the basis of C1, C2, C3, C4, C5;

--- Established the corrosion rate and pollutant concentration (sulphur dioxide deposition rate and chloride deposition rate) of carbon steel, zinc, copper and aluminum in the first year,

Relative humidity and temperature as a function of temperature. Calculate the corrosion rate of the material in the first year based on environmental parameters, and accordingly

Corrosive grading.

This section uses the translation method equivalent to ISO 9223.2012 "Corrosion of metals and alloys, atmospheric corrosion classification, determination and

Evaluation.

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

GB/T 10123-2001 Basic terms and definitions for corrosion of metals and alloys (eqvISO 8044.1999);

GB/T 19292.2-2018 Corrosion of metals and alloys - Part 2. Guide to corrosion grades

(ISO 9224.2012, MOD);

GB/T 24513.1-2009 Corrosion of metals and alloys - Part 2

Determination and evaluation (ISO 11844-1.2006, IDT);

GB/T 24513.2-2010 Corrosion of metals and alloys - Part 2

Determination (ISO 11844-2.2005, IDT);

GB/T 24513.3-2012 Corrosion of metals and alloys - Part 2

Determination of environmental parameters of eclipse (ISO 11844-3.2006, IDT).

This section has made the following editorial changes.

--- Modified the standard name.

This part was proposed by the China Iron and Steel Association.

This part is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC183).

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introduction

When the surfaces of metals, alloys, and metal coatings are wet, they are subject to atmospheric corrosion. The nature and rate of erosion depends on the table

The nature of the surface to form an electrolyte depends, inter alia, on the type and amount of suspended contaminants in the atmosphere and on the time at which they act on the metal surface.

Corrosion patterns and corrosion rates are a combination of corrosion systems (including metallic materials, atmospheric environments, process parameters, and operating conditions).

result.

Corrosion grade is a technical feature that is used in special applications, especially in relation to service life, in atmospheric environments.

The choice of materials and protective measures provides the basis.

Atmospheric corrosivity data is critical to the development and specification of the best corrosion protection measures for a product.

Corrosion classification is determined according to the corrosion effect of the first year on the standard specimen specified in GB/T 19292.1. Corrosive classification can also be based on

The most important atmospheric factors affecting the corrosion of metals and alloys are evaluated.

GB/T 19292.3 specifies the measurement standards for relevant environmental parameters.

Figure 1 lists the corrosive classification methods for determining and evaluating a given location and their interrelationships according to this standard. It is used to distinguish corrosion measurements

Determination of corrosiveness is important. It distinguishes the corrosive assessment based on the application of the dose-response function and compares the typical atmosphere

Corrosion assessments of the environment are equally important.

This section does not consider the impact of product design and operating mode on corrosion resistance, as these factors are extremely special and cannot be used as usual.

Treated. GB/T 20852 specifies the selection steps for the best corrosion protection measures in the atmospheric environment.

Figure 1 Atmospheric Corrosion Classification