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

GB/T 38269-2019

Corrosion of metals and alloys - Accelerated cyclic corrosion tests with exposure to synthetic ocean water salt-deposition process - Dry and wet conditions at constant absolute humidity

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1 --- Atomizer;	
2 --- drying box;	
5 --- sample;	
6 --- Sample roller/Sample drive;	
7 --- filter;	
8 --- nozzle transmission;	
9 --- host door;	
10 --- exposure box;	

- 11 --- blast motor;
- 12 --- air heater;
- 13 --- cooling device;
- 14 --- freezer;
- 15 --- flush nozzle;
- 16 --- blower (remove water droplets);
- 17 --- exhaust gas treatment device;
- 18 --- Exhaust.
- 1 --- blower (remove water droplets);
- 5 --- solution pump;
- 6 --- blast motor;
- 7 --- flush nozzle;
- 8 --- control panel;
- 9 --- freezer;
- 10 --- air heater;
- 11 --- cooling device.

Foreword

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

This standard uses the translation method equivalent to ISO 16539..2013, "Corrosion of metals and alloys, the cycle of salt deposition in artificial seawater

Accelerated corrosion test Dry/wet at constant absolute humidity.

For documents in China that have a consistent correspondence with the international documents referenced normatively in this standard, see Appendix NA.

The following editorial changes have been made to this standard.

--- Added informative appendix NA.

This standard is proposed by China Iron and Steel Industry Association.

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

This standard was drafted. Institute of Metal Research, Chinese Academy of Sciences, Institute of Information Standards of Metallurgical Industry.

Introduction

With or without a protective metal material, it will be affected by many environmental factors, and its importance depends on the type of metal material and the environmental

Different types. Therefore, it is impossible to consider all environmental factors affecting corrosion resistance when designing an accelerated corrosion test in a laboratory. So, real

Accelerated laboratory tests are often used to simulate the most important factors that can accelerate the corrosion of metallic materials.

The accelerated corrosion test described in this standard is intended to simulate and enhance the environmental impact of metal materials when exposed outdoors.

Corrosion is accelerated in salt environments.

The two test methods in this standard are faster than traditional accelerated tests [such as the neutral salt spray test (NSS) and

The accelerated test of cyclic exposure to salt spray, dry and humid conditions as specified in ISO 14993 has unique advantages, and its advantages are reflected in two

All of them can better reproduce the corrosion behavior of metallic materials in the atmospheric environment containing a large amount of sea salt particles.

The accelerated corrosion tests that simulate atmospheric corrosion in these environments are expected to include the following.

a) Constant Absolute Humidity. In an outdoor environment, the temperature and relative humidity change under the condition that the constant absolute humidity is maintained.

Suction of deposited salts

Water is an important factor affecting atmospheric corrosion behavior. Similarly, in the dry/wet cycle, the constant absolute humidity is also the temperature and relative

The purpose/expected presence of humidity in an actual environment.

b) Control of salt deposition. Determine the amount of salt deposited on the surface of the sample according to the corrosive properties of the metal materials used in the atmosphere. by

Dilute the concentration of the salt solution or adjust the spraying time to provide the same annual average salt deposition as the actual environment.

Therefore, the test methods described in this standard include salt deposition and drying/wetting cycles under constant absolute humidity.

The obtained results should not provide more in-depth conclusions on the corrosion resistance of the tested metal materials in various atmospheric environmental conditions.

But for research

Investigating the performance of materials exposed to salty media similar to the test environment provides useful information.

Corrosion of metals and alloys containing artificial seawater deposits

Cyclic accelerated corrosion test of process

Dry/wet under humidity

1 Scope

This standard specifies two accelerated corrosion test methods, Method A and Method B, for the evaluation of metals and alloys with or without a coating on the surface.

Corrosive behavior in the atmospheric environment and specifies the equipment selected. Both tests include salt deposition and drying at constant absolute humidity

Dry/wet circulation environment.

Method A applies to metals and their alloys (including corrosion-resistant alloys).

Method B works for.

--- Metals and their alloys;

--- Covered metal and its alloy [including metal cover (cathode or anode), organic coating and conversion film].

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

Pieces. For undated references, the latest version (including all amendments) applies to this document.

ISO 4628-1 Evaluation of paint and varnish coatings for ageing. Identification of the number and size of defects and the degree of uniform change in appearance.

Part 1. General identification system

(Paintsandvarnishes-Evaluationofdegradationofcoatings-Designation

ofquantityandsizeofdefects, andofintensityofuniformchangesinappearance-Part 1.

Generalin-

roductionanddesignationsystem)

ISO 4628-2 Evaluation of aging of paint and varnish coatings. Identification of the number and size of defects and the degree of uniform change in appearance.