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

GB/T 14165-2026

Replacing GB/T 14165-2008

**Metals and alloys - Atmospheric corrosion testing - General
requirements for field tests**

金属和合金 大气腐蚀试验 现场试验的一般要求

(English Translation)

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

This document supersedes GB/T 14165-2008 "General Requirements for Field Testing of Atmospheric Corrosion of Metals and Alloys", and is consistent with GB/T 14165-Compared to 2008, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2008 edition);
- c) Changes were made to the content that should be included in the original data record of component or part specimens and the requirements for the test site location (see 4.8, 2008).
Version 3.8);
- d) The protection requirements for the exposure test rack materials, the material requirements for the fasteners, and the minimum height of the exposure test rack have been changed (see 5.4.1).
(4.4.1 of the 2008 edition).
- e) Increased the general requirements for coverings to conceal exposure (see 5.4.2);
- f) Added general requirements for enclosed exposure test sheds (see 5.4.3);
- g) The method for determining the characteristics of atmospheric corrosion test sites has been modified, and environmental factor measurements describing the characteristics of atmospheric corrosion test sites have been added.

The general requirements have been expanded to include the environmental factors that need to be measured to describe the characteristics of atmospheric corrosion test sites

(see Chapter 6, 2008).

Chapter 5 of the edition);

h) The placement of the specimens has been changed (see Chapter 7, Chapter 6 in the 2008 edition);

i) The recommended test cycle for atmospheric exposure tests has been changed (see 8.1, 7.1 in the 2008 edition).

j) The duration of the season with the highest corrosiveness has been increased (see 8.1);

k) The evaluation of corrosion results has been expanded to include a weight gain measurement method (see 8.3);

l) The standard method for evaluating corrosion results of metallic and inorganic coatings has been changed (see 8.3, 7.3 of the 2008 edition).

m) Added a method for treating metal specimens before weight loss evaluation (see 8.3);

n) Added content that can be included in the test report (see Chapter 9);

o) Environmental factors characterizing atmospheric exposure conditions have been added and categorized (see Appendix A).

This document is equivalent to ISO 8565:2011 "Metals and alloys - Atmospheric corrosion testing - General requirements".

This document includes a new chapter on "Terms and Definitions".

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

This document is under the jurisdiction of the National Steel Standardization Technical Committee (SAC/TC 183).

Introduction

The purpose of conducting corrosion tests under atmospheric exposure conditions is to.

--Obtain data on the corrosion resistance of metals, alloys, metals and other inorganic coatings in atmospheric environments;

--Assess the corrosion type of a specific metal;

--To provide data support for corrosion determination and assessment.

This test requires exposing the samples to the atmospheric environment of the test site and inspecting the samples periodically. This document does not cover corrosion during use.

Erosion test.

The corrosion rate of a specific metal depends on the environmental conditions of the

atmospheric corrosion testing site. The relationship between metal corrosion rate and atmospheric variables...

Atmospheric corrosion test of metals and alloys General requirements for field testing

1 Scope

This document specifies the static corrosion tests for metals and metal/other inorganic coatings under atmospheric conditions, in both open and shaded conditions.

General requirements.

This document also applies to corrosion testing of complex samples and assemblies of metallic materials.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ISO 4226 Air quality - General aspects - Units of measurement
ISO 8044 Corrosion of metals and alloys (Vocabulary) Note. GB/T 10123-2022 Corrosion terminology for metals and alloys (ISO 8044:2020, IDT)
ISO 8407 Corrosion of metals and alloys - Removal of corrosion products from corroded specimens removal of corrosion products from corrosion test specimens) Note. GB/T 16545-2025 Corrosion of metals and alloys - Removal of corrosion products from corrosion specimens (ISO 8407:2021, IDT)
ISO 9169 Definition and determination of performance characteristics of automatic air quality measurement systems nation of performance characteristics of an automatic measuring system)
ISO 9223 Corrosion of metals and alloys-Classification, determination and assessment of atmospheric corrosivity Note. GB/T 19292.1-2018 Corrosion of metals and alloys - Atmospheric corrosivity - Part 1: Classification, determination and evaluation (ISO 9223:2012, IDT)
ISO 9225 Corrosion of metals and alloys - Measurement of atmospheric corrosive environmental parameters affecting atmospheric corrosion.

als and alloys-Corrosivity of atmospheres-Measurement of environmental parameters affecting corrosiv-(city of atmospheres) Note. GB/T 19292.3-2018 Corrosion of metals and alloys - Atmospheric corrosivity - Part 3: Measurement of environmental parameters affecting atmospheric corrosivity (ISO 9225.

2012, IDT)

ISO 9226 Corrosion of metals and alloys - Atmospheric corrosivity - Determination of the

corrosion rate of standard specimens for assessing atmospheric corrosion (Cor-) rosion of metals and alloys-Corrosivity of atmospheres-Determination of corrosion rate of standard specimens for the evaluation of corrosivity) Note. GB/T 19292.4-2018 Corrosion of metals and alloys - Atmospheric Corrosion - Part 4: Corrosion Rates of Standard Specimens Used for Evaluation of Corrosion Determination (ISO 9226:2012, IDT) ISO 10289 Rating of specimens and test pieces after corrosion testing of metallic and other inorganic coatings on a metallic substrate (Methods) for corrosion testing of metallic and other inorganic coatings on metallic substrates-Rating of test speci-mens and manufactured articles subjected to corrosion tests) Note. GB/T 6461-2002 Rating of specimens and test pieces after corrosion testing of metallic and other inorganic coatings on a metallic matrix (ISO 10289.

1999, IDT)