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

GB/T 24513.2-2026

Replacing GB/T 24513.2-2010

**Corrosion of metals and alloys - Classification of low
corrosivity of indoor atmospheres - Part 2: Determination of
corrosion attack in indoor atmospheres**

金属和合金的腐蚀 室内大气低腐蚀性分类 第2部分：室内大气腐蚀性的测定
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2 of GB/T 24513 "Corrosion Classification of Metals and Alloys by Indoor Atmosphere (Low Corrosion)". GB/T 24513 the following sections have been released.

---Part 1: Determination and Evaluation of Indoor Atmospheric Corrosivity;

---Part 2: Determination of Indoor Atmospheric Corrosivity;

---Part 3: Determination of environmental parameters affecting indoor atmospheric corrosivity.

This document is equivalent to ISO 11844-2:2020 "Corrosion of metals and alloys - Classification of indoor atmospheres for low corrosivity - Part 2: Indoor atmospheres".

Determination of atmospheric corrosivity.

This document replaces GB/T 24513.2-2010 "Corrosion of Metals and Alloys - Classification of Low Corrosion in Indoor Atmospheres - Part 2: Indoor..." the main technical changes in "Determination of Atmospheric Corrosivity" compared to GB/T 24513.2-2010, apart from structural adjustments and editorial modifications, are as follows.

---Added the quartz crystal microbalance method for determining corrosion rate (see Chapter 5).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

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/TC183).

Introduction

GB/T 24513 "Corrosion of Metals and Alloys - Classification of Low Corrosion in Indoor Atmosphere" consists of three parts.

---Part 1: Determination and Evaluation of Indoor Atmospheric Corrosivity. The aim is to establish a classification system for low-corrosivity indoor atmospheres and define the basic...

The low-corrosiveness indoor atmospheric corrosion rating is determined by referencing the degree of corrosion of the metal after the exposure period, and a rating that can be used as a measure of indoor corrosivity is provided.

The key indoor atmospheric parameters used as the basis for evaluation.

---Part 2: Determination of Indoor Atmospheric Corrosion. The purpose is to specify the methods for determining the degree of corrosion, the description of standard specimens, and the exposure conditions.

Components and evaluation methods.

---Part 3: Determination of Environmental Parameters Affecting Indoor Atmospheric Corrosivity. The purpose is to specify the environmental parameters affecting indoor corrosivity.

Measurement methods.

This document describes the standard specimens, exposure conditions, and evaluation methods used for indoor corrosion rating determination.

Given the current level of understanding, determining the degree of corrosion is the most reliable and usually most economical method for assessing corrosivity. This method comprehensively considers...

The influence of all major local environmental factors.

Corrosion of Metals and Alloys. Classification of Low Corrosion in Indoor Atmosphere Part 2: Determination of Indoor Atmospheric Corrosivity

1 Scope

This document specifies a method for determining corrosion rates using metallic standard specimens in low-corrosion indoor air environments. This direct method...

This method assesses corrosion resistance and can be used to test standard metal samples with varying corrosion susceptibility, such as copper, silver, zinc, steel, and lead. The measured values...

As a basis for determining the level of indoor atmospheric corrosivity.

2 Normative references

This document has no normative references.

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4 Principles

The corrosivity of indoor local environments (such as control rooms, electrical boxes, storage rooms, transfer rooms, museums, etc.) is assessed by exposing metal standard samples to...

The corrosion rate is determined by calculating the change in mass or electrical resistance per unit area after a certain period in this environment. Different materials are affected by different corrosion rates.

The sensitivity varies depending on the environmental parameters or combinations thereof.

5 Methods

Methods for assessing the degree of corrosion are given in Appendix A and Appendix B.

---Determination of corrosion rate by mass change method (see Appendix A);

---The corrosion rate was determined by electrolytic cathodic reduction method (see Appendix B).

The methods described in Appendices C and D are applicable to continuous or periodic monitoring of corrosion levels.

---Determination of corrosion rate by electrical resistance method (see Appendix C);

---Determination of corrosion rate by quartz crystal microbalance method (see Appendix D).

When selecting a suitable method, its characteristics should be considered, such as sensitivity, the possibility of continuous or periodic assessment of corrosion, and available space.

Examples of suitable specimen exposure frames are shown in Figures 1 and 2.