

ICS 77.060
CCS H 25



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

GB/T 43666-2024

**Corrosion of metals and alloys - Guidelines for corrosion test
by electrochemical noise measurements**

金属和合金的腐蚀 电化学噪声测量腐蚀试验导则

(English Translation)

Issued on: March 15, 2024

Implemented on: October 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and definitions

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to ISO 17093:2015 "Corrosion testing guide for the measurement of electrochemical noise for corrosion of metals and alloys".

The following minimal editorial changes were made to this document.

---5.1.3 Added Note 1 and Note 2.

1 Scope

This document is intended to assist corrosion testing by means of electrochemical noise measurements.

This document specifies test procedures and analytical methods for valid testing of electrochemical noise of uncoated and organically coated metals.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

and definitions)

Note: GB/T 10123-2022 Corrosion terminology for metals and alloys (ISO 8044:2020, IDT) ISO 17475 Corrosion of metals and alloys - Electrochemical test methods - Guide for potentiostatic and potentiodynamic polarization measurements Note. GB/T 24196-2009 Electrochemical test methods for corrosion of metals and alloys - Guide for constant potential and dynamic potential polarization

measurements (ISO 17475:2005, IDT)

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in ISO 8044 and the following apply.

Electrochemical reactions and other processes (such as bubble initiation) generate low-frequency (≤ 1 Hz) and low-amplitude currents and the fluctuation phenomenon of position.

Fluctuations in the potential of an electrode relative to a reference electrode (usually in the range of μV to mV) or between two similar electrodes.

The current fluctuations between a single electrode or two electrodes (usually in the range of nA to μA).

The resistance is obtained by dividing the standard deviation of the potential noise during the test by the standard deviation of the current noise.

PSDE

The power obtained as a function of frequency expressed as potential noise.