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

GB/T 17848-2026

Replacing GB/T 17848-1999

**Test methods for the electrochemical properties of sacrificial
anodes**

牺牲阳极电化学性能试验方法

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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 replaces GB/T 17848-1999 "Test Methods for Electrochemical Performance of Sacrificial Anodes". Compared with GB/T 17848-1999, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The classification and applicable conditions of the test methods in the scope have been added (see Chapter 1);
- b) Added terms and definitions (see Chapter 3);
- c) The descriptions of the standard and accelerated testing methods have been revised (see 2.1 of the.1999 edition);
- d) A long-cycle testing method has been added (see 4.3);
- e) The requirements for the auxiliary cathode have been changed (see 5.2, 3.1 of the.1999 edition);
- f) The requirements for containers tested using conventional and accelerated methods have been changed (see 5.3, 3.2 of the.1999 edition);

- g) Requirements for containers used in long-cycle testing methods, power supply requirements, and types of fuel gauges have been added (see 5.3, 5.6, and 5.7);
- h) The types of reference electrodes have been increased (see 5.9);
- i) The dimensional deviations of specimens tested using both conventional and accelerated testing methods have been added (see 6.1);

1 Scope

GB/T 17848-2026 is the Chinese national standard covering how a sacrificial anode is tested - the closed-circuit potential it holds, the current capacity it delivers per kilogram and the uniformity with which it dissolves, which together decide how long a ship's hull or a buried tank stays protected. It replaces GB/T 17848-1999, and it belongs with the anode composition standard GB/T 4949-2026 of the same batch. It was issued on 28 January 2026 and has been in force since 1 August 2026, replacing GB/T 17848-1999. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the test apparatus for testing the electrochemical performance of sacrificial anodes using conventional test methods, accelerated test methods, and long-cycle test methods. Placement, sample preparation, test conditions, test procedure, method of expressing test results, and precautions. This document applies to testing the electrochemical performance of zinc alloy, aluminum alloy, and magnesium alloy sacrificial anodes in seawater, as well as testing magnesium alloy sacrificial anodes. The electrochemical performance of the anode in simulated soil is used as a reference for testing the electrochemical performance of the sacrificial anode in other media.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. 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.

GB/T 33373 Terminology for Corrosion Protection Electrochemical Protection

3 Terms and Definitions

The terms and definitions defined in GB/T 33373 and the following terms and definitions apply to this document.

3.1 The actual measured amount of electricity generated per unit mass of sacrificial anode consumed.

3.2 Calculate the amount of electricity generated per unit mass of sacrificial anode by using Faraday's law.

3.3 Current efficiency The ratio of the actual capacitance to the theoretical capacitance of the sacrificial anode.

3.4 Open circuit potential The potential measured at the sacrificial anode relative to the reference electrode when there is no current output.

3.5 working potential When there is a protective current output, the potential of the sacrificial anode is reduced.

Note. Also known as closed-circuit potential.

4 Classification of Test Methods

4.1 Conventional Test Method During the specified test period, a constant current was applied to the anode sample, and the working potential of the anode sample was measured daily. After the test, the...