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

GB/T 17435-2025

Replacing GB/T 17435-1998

**Design and installation of electrolysis of seawater anti-fouling
system for ship**

船用电解海水防污装置设计和安装

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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 replaces GB/T 17435-1998 "Design and installation of marine electrolytic seawater antifouling equipment" and is consistent with GB/T 17435-1998. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The definition of residual chlorine has been changed (see 3.5, 3.5 of the.1998 edition);
- b) The design indicators have been changed (see 4.1, 4.1 of the.1998 edition);
- c) The calculation formula for electrolysis current has been changed (see 4.5, 4.5 of the.1998 edition);
- d) Added the requirements for the seawater temperature at the inlet of the electrolyzer (see Chapter 5);
- e) The flow chart of the marine electrolytic seawater anti-fouling device has been changed (see Figure 1, Figure 1 of the.1998 edition);
- f) The conditions of use have been changed (see 6.1, 6.1 of the.1998 edition);

g) The technical requirements for electrolytic cells have been changed (see 6.2, 6.2 of the 1998 edition);

1 Scope

GB/T 17435-2025 is the Chinese national standard on design and installation of electrolysis of seawater anti-fouling system for ship, in the field of shipbuilding and marine structures. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 25 April 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 August 2025. Classification: ICS 47.020.05, CCS U05. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the design, composition and process, technical requirements, installation requirements, chlorine concentration detection and Testing and acceptance rules. This document is applicable to electrolytic tank type marine electrolytic seawater anti-fouling devices used in seagoing vessels, floating docks, offshore facilities, etc. In situations where biological fouling occurs, an electrolytic cell type seawater electrolysis anti-fouling device shall be used as a reference.

2 Normative references

The contents of the following documents constitute 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.

GB/T 3783-2019 Basic requirements for marine low-voltage electrical appliances

GB/T 22839-2010 Technical requirements for sodium hypochlorite generation equipment for electrolysis of seawater

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Biofouling Biological growth on the surface or inside of the bottom of the ship and all other facilities in contact with seawater, causing damage to their functions. [Source: GB/T 15919-2010, 5.24, modified]

3.2 Direct current is passed between the specially made anode and cathode, and the effective chlorine produced by electrolysis of seawater is used to prevent biological fouling.

3.3 Electrolytic cell A device in which seawater electrolysis reaction and solution reaction occur in the seawater electrolysis system to produce effective chlorine.

3.4 Available chlorine A general term for hypochlorous acid and hypochlorite ions that are toxic to attached marine organisms and can inhibit the attachment and growth of marine organism larvae or spores.

3.5 Residual chlorine The available chlorine in the cooling water outlet water of the protected equipment.

4 Device design

4.1 The design indicators are as follows: