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

GB/T 34430.4-2024

**Ships and marine technology - Protective coatings and
inspection method - Part 4: Automated measuring method for
the total amount of water-soluble salts**

船舶与海上技术 保护涂层和检查方法 第4部分：水溶性盐总含量的自动化测量方法

(English Translation)

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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 is required.

This document is Part 4 of GB/T 34430 "Ships and marine technology - Protective coatings and inspection methods". GB/T 34430 has been the following parts were published.

Part 1: Dedicated seawater ballast tanks; -Part 2: Void spaces of bulk carriers and oil tankers; -Part 3: Cargo tanks of crude oil tankers;

Part 4: Automated method for the determination of total water-soluble salt content;

Part 5: Methods for the assessment of coating damage. -this document is equivalent to ISO 16145-4:2013 "Ships and offshore technology - Protective coatings and inspection methods - Part 4: Water-soluble Automated measurement method for total salt content.

Introduction

The Maritime Safety Committee (MSC) of the International Maritime Organization (IMO) formally adopted the "Performance Standard for Protective Coatings" in December.2006.

As a mandatory regulation, it can take ship painting to a higher level and also have a positive impact on the improvement of shipbuilding processes and procedures.

The coating quality itself depends largely on the surface preparation and coating application, so it is important to properly prepare the surface according to the coating manufacturer's recommendations.

Treatment, painting and inspection are crucial.

This document is developed for use by shipowners, shipyards, coating manufacturers, coating inspectors and coating applicators during the new shipbuilding phase.

PSPC provides standards.

GB/T 34430 "Protective coatings and inspection methods for ships and offshore technology" is planned to consist of 5 parts.

Part 1: Dedicated seawater ballast tanks. This section provides for the protective coating and its application in dedicated seawater ballast tanks of ships built after the specified time.

Inspection method.

Part 2: Empty spaces for bulk carriers and oil tankers. This section provides requirements for protective coatings and their empty spaces for bulk carriers and oil tankers built after a specified time.

Gap inspection method.

Part 3: Cargo oil tanks of crude oil tankers. This part provides for cargo oil tanks of crude oil tankers with a deadweight of not less than 5,000 t built after the specified time.

Protective coatings and methods of their inspection.

Part 4: Automated determination of the total content of water-soluble salts. This method describes a method for measuring the water content of a coating surface using an automated instrument.

The detection method of total soluble salt content is aimed at improving detection efficiency.

Part 5: Method for evaluating coating damage. Describes the method for evaluating coating damage in ship ballast tanks and cargo ship oil tanks that meet PSPC requirements.

The purpose of this paper is to standardize the evaluation of coating breakage.

Ships and offshore technology Protective coatings and inspection methods Part 4: Total content of water-soluble salts Automated measurement methods

1 Scope

This document describes a method for servicing dedicated seawater ballast tanks, void spaces on bulk carriers and oil tankers, and cargo tanks on crude oil tankers in accordance with PSPC requirements.

An automated method for measuring the total surface density of various water-soluble salts on steel surfaces using a conductivity meter before coating. PSPC requirements come from IMO Res.MSC.215 (82), IMO Res.MSC.244 (83) and IMO Res.MSC.288 (87).

This method determines the total concentration of water-soluble ionic contaminants through conductivity testing, thereby quickly assessing the presence of ions on the steel surface.

pollute.

The measurement results of this method are equivalent to those of GB/T 18570.9-2005.

NOTE 1: This method cannot be used to determine the individual surface densities of chlorides, sulfates, etc. This method evaluates only ionic contaminants. Ionic contaminants account for the absolute Most, therefore ionic pollutants are considered as single pollutants.

NOTE 2: This method can be used as an alternative measurement method to PSPC when compliance with NACE SP0508-2010 is demonstrated as described in the PSPC footnote.

Seawater ballast tanks of this type of ship and related compartments of bulk carriers and cargo oil tanks.

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.

in this document.

GB/T 18570.9-2005 Surface preparation of steel before coating - Tests for evaluation of surface cleanliness - Part 9: Water-soluble salts on-site conductivity measurement method (ISO 8502-9:1998, IDT) ISO 3696 Water for analytical laboratory use - Specification and test methods and test methods) IMO Res.MSC 215 (82) Performance standard for protective coatings for dedicated seawater ballast tanks of all types of ships and double side skin spaces of bulk carriers (Performance standard for protective coatings for dedicated seawater ballast tanks in all types of ships and double side skin spaces of bulk carriers). International Maritime Organization (IMO) IMO Res.MSC 244 (83) Performance standard for protective coatings for void spaces of bulk carriers and oil tankers Protective coatings for void spaces on bulk carriers and oil tankers). International Maritime Organization (IMO) IMO Res.MSC 288 (87) Performance standard for protective coatings for cargo oil tanks of crude oil tankers ive coatings for cargo oil tanks of crude oil tankers). International Maritime Organization (IMO)

3 Terms and definitions

The following terms and definitions apply to this document.

Conductivity

Under specific conditions, the reciprocal of the resistance of a unit aqueous solution between opposing surfaces.