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Cathodic protection of offshore wind structures (ISO 24656:2022)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/22

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 24656

June 2022

ICS 47.020.99; 77.060

English Version

Cathodic protection of offshore wind structures (ISO 24656:2022)

Protection cathodique des structures éoliennes offshore (ISO 24656:2022)

Kathodischer Korrosionsschutz von Offshore-Windparkstrukturen (ISO 24656:2022)

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European foreword

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This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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The text of ISO 24656:2022 has been approved by CEN as EN ISO 24656:2022 without any modification.

INTERNATIONAL STANDARD

ISO 24656

First edition
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Cathodic protection of offshore wind structures

Protection cathodique des structures éoliennes en mer

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Foreword

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This document was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 219, *Cathodic protection,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Introduction

Cathodic protection (CP), possibly together with protective coating, is applied to protect the immersed external surfaces of offshore wind farm structures and appurtenances from corrosion due to seawater or seabed environments.

CP, possibly together with protective coating, can be applied to protect the internal flooded and seabed and sediment exposed surfaces from corrosion.

The general principles of CP in seawater are detailed in ISO 12473.

CP involves the supply of sufficient direct current to the surfaces of the structure in order to reduce the steel to electrolyte potential to values where corrosion is considered insignificant or acceptably low.

CP is designed to protect the submerged and buried areas of the structure from corrosion. The parts that are not permanently immersed will not be permanently protected by the CP system.

This document introduces guidance for the use of available metocean data to

— assess the CP demand of immersed and frequently wetted areas

— determine seawater flow velocities to assess the CP design parameters

This is in addition to the primary use of the metocean data in structural design.

This document does not require the CP designer to be expert in metocean data; it gives guidance on data which should be available from metocean specialists and which is required in the CP design process.

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INTERNATIONAL STANDARD **ISO 24656:2022(E)**

Cathodic protection of offshore wind structures

1 Scope

This document specifies the requirements for the external and internal cathodic protection for offshore wind farm structures. It is applicable for structures and appurtenances in contact with seawater or seabed environments. This document addresses:

— design and implementation of cathodic protection systems for new steel structures;

— assessment of residual life of existing cathodic protection systems;

— design and implementation of retrofit cathodic protection systems for improvement of the protection level or for life extension of the protection;

— inspection and performance monitoring of cathodic protection systems installed on existing structures, and

— guidance on cathodic protection of reinforced concrete structures.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8501-1, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings*

ISO 12473, *General principles of cathodic protection in seawater*

EN 12496, *Galvanic anodes for cathodic protection in seawater and saline mud*

ISO 12696, *Cathodic protection of steel in concrete*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

EN 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61000-1-2, *Electromagnetic compatibility (EMC) — Part 1-2: General — Methodology for the achievement of functional safety of electrical and electronic systems including equipment with regard to electromagnetic phenomena*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN

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