General principles of cathodic protection in seawater

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 12473:2014 sisaldab Euroopa standardi EN 12473:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 12473:2014 consists of the English text of the European standard EN 12473:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.02.2014.	Date of Availability of the European standard is 12.02.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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English Version

General principles of cathodic protection in seawater

Principes généraux de la protection cathodique en eau de mer

Allgemeine Grundsätze des kathodischen Korrosionsschutzes in Meerwasser

This European Standard was approved by CEN on 16 November 2013.

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Foreword

This document (EN 12473:2014) has been prepared by Technical Committee CEN/TC 219 “Cathodic protection”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by August 2014, and conflicting national standards shall be withdrawn at the latest by August 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12473:2000.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard covers the general principles of cathodic protection when applied in seawater, brackish waters and marine mud. It is intended to be an introduction, to provide a link between the theoretical aspects and the practical applications, and to constitute a support to the other European Standards devoted to cathodic protection of steel structures in seawater.

This European Standard specifies the criteria required for cathodic protection. It provides recommendations and information on reference electrodes, design considerations and prevention of the secondary effects of cathodic protection.

The practical applications of cathodic protection in seawater are covered by the following standards:

— EN 12495, *Cathodic protection for fixed steel offshore structures*;

— EN ISO 13174, *Cathodic protection of harbour installations (ISO 13174);*

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

— EN 13173, *Cathodic protection for steel offshore floating structures*;

— EN 16222, *Cathodic protection of ship hulls*;

— EN 12474, *Cathodic protection of submarine pipelines*;

— ISO 15589-2, *Petroleum, petrochemical and natural gas industries — Cathodic protection of pipeline transportation systems — Part 2: Offshore pipelines*.

For cathodic protection of steel reinforced concrete whether exposed to seawater or to the atmosphere, EN ISO 12696 applies.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50162, *Protection against corrosion by stray current from direct current systems*

EN ISO 8044, *Corrosion of metals and alloys — Basic terms and definitions (ISO 8044)*

3 Terms, definitions, abbreviations and symbols

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

NOTE The definitions given below prevail on their versions in EN ISO 8044.

3.1
acidity
presence of an excess of hydrogen ions over hydroxyl ions (pH < 7)

3.2
alkalinity
presence of an excess of hydroxyl ions over hydrogen ions (pH > 7)