

Cathodic protection for harbour installations

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13174:2001 sisaldab Euroopa standardi EN 13174:2001 ingliskeelset teksti. Käesolev dokument on jõustatud 18.06.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13174:2001 consists of the English text of the European standard EN 13174:2001. This document is endorsed on 18.06.2001 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This European Standard defines the means to be used to cathodically protect the immersed and buried metallic external surface of steel harbour installations and appurtenances in sea water and saline mud.	Scope: This European Standard defines the means to be used to cathodically protect the immersed and buried metallic external surface of steel harbour installations and appurtenances in sea water and saline mud.
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Võtmesõnad: buildings, cathodic protection, construction works, corrosion protection, definition, definitions, harbour construction, harbour facilities, harbours, seawater, steel construction, steels, structural steel work, surface protection

English version

Cathodic protection for harbour installations

Protection cathodique des
installations portuaires

Kathodischer Korrosionsschutz für
Hafenbauten

This European Standard was approved by CEN on 2000-07-06.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard 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 July 2001, and conflicting national standards shall be withdrawn at the latest by July 2001.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Cathodic protection, is usually applied, together with protective coatings or paint to protect the external surfaces of steel harbour installations and appurtenances from corrosion due to sea water or saline mud.

Cathodic protection works by supplying sufficient direct current to the immersed external surface of the structure in order to change the steel to electrolyte potential to values where corrosion is insignificant.

The general principles of cathodic protection are detailed in EN 12473.

1 Scope

This European Standard defines the means to be used to cathodically protect the immersed and buried metallic external surfaces of steel harbour installations and appurtenances in sea water and saline mud.

1.1 Structures

This European Standard covers the cathodic protection of fixed and floating structures. This essentially includes piers, jetties, dolphins (mooring and berthing), sheet or tubular piling, pontoons, buoys, floating docks, lock and sluice gates.

It also covers the submerged areas of appurtenances, such as chains attached to the structure, when these are not electrically isolated from the structure.

It does not cover the cathodic protection of fixed or floating offshore structures, submarine pipelines or ships.

This European Standard does not include the internal protection of surfaces of any components such as ballast tanks and internals of floating structures or the internals or back faces of sheet steel piling which is in contact with backfill.

1.2 Materials

This European Standard covers the cathodic protection of structures fabricated principally from bare or coated carbon manganese steels.

As some parts of the structure may be made of metallic materials other than carbon manganese steels, the cathodic protection system should be designed to ensure that there is a complete control over any galvanic coupling and minimise risks due to hydrogen embrittlement or hydrogen induced cracking (see EN 12473).

This European Standard does not cover concrete structures.

1.3 Environment

This European Standard is applicable to the whole submerged zone in sea water, brackish waters and saline mud which can normally be found in harbour installations wherever these structures are fixed or floating.

For surfaces which are alternately immersed and exposed to the atmosphere, the cathodic protection is only effective when the immersion time is sufficiently long for the steel to become polarised.

1.4 Safety and environment protection

This European Standard does not cover safety and environmental protection aspects associated with cathodic protection. The relevant national or international regulations shall apply.

2 Normative references

This European Standard incorporates, by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 12473, *General principles of cathodic protection in sea water*.

prEN 12496, *Galvanic anodes for cathodic protection in sea water*.

3 Terms and definitions

For the purposes of this European Standard the terms and definitions in EN 12473 and the following apply:

3.1

atmospheric zone

zone located above the splash zone, ie. above the level reached by the normal swell, whether the structure is moving or not

3.2

buried zone

zone located under the mud line

3.3

Cathodic protection zone

that part of the structure which can be considered independently with respect to cathodic protection design

3.4

extended tidal zone

zone including the tidal zone, the splash zone and the transition zone

3.5

H.A.T.

level of highest astronomical tide

3.6

immersed zone

zone located above the mud line and below the extended tidal zone or the water line at a draught corresponding to the normal working conditions

3.7

L.A.T.

level of lowest astronomical tide

3.8

M.T.L.

mean tide level (also known as M.S.L. or M.W.L.)

3.9

R.O.V.

remotely operated vehicle