



# SLOVENSKI STANDARD SIST EN ISO 13174:2013

01-maj-2013

Nadomešča:  
SIST EN 13174:2003

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**Katodna zaščita za pristaniške napeljave (ISO 13174:2012)**

Cathodic protection of harbour installations (ISO 13174:2012)

Kathodischer Korrosionsschutz für Hafengebauten (ISO 13174:2012)

Protection cathodique des installations portuaires (ISO 13174:2012)

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**Ta slovenski standard je istoveten z: EN ISO 13174:2012**

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**ICS:**

25.220.40	Kovinske prevleke	Metallic coatings
47.020.01	Splošni standardi v zvezi z ladjedelništvom in konstrukcijami na morju	General standards related to shipbuilding and marine structures

**SIST EN ISO 13174:2013**

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EUROPEAN STANDARD

EN ISO 13174

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2012

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## Cathodic protection of harbour installations (ISO 13174:2012)

Protection cathodique des installations portuaires (ISO  
13174:2012)Kathodischer Korrosionsschutz für Hafengebäude (ISO  
13174:2012)

This European Standard was approved by CEN on 18 December 2012.

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 CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

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## Foreword

This document (EN ISO 13174:2012) has been prepared by Technical Committee CEN/TC 219 "Cathodic protection", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 156 "Corrosion of metals and alloys".

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of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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 13174:2001.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

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**Cathodic protection of harbour  
installations**

*Protection cathodique des installations portuaires*

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**ISO 13174:2012(E)****Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 13174 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 219, *Cathodic protection*, in collaboration with Technical Committee ISO/TC 156, *Corrosion of metals and alloys*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 13174 cancels and replaces EN 13174:2001, which has been technically revised.

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## Introduction

Cathodic protection is applied, sometimes in conjunction with protective coatings, to protect the external surfaces of steel harbour installations and appurtenances from corrosion due to seawater, brackish water, saline mud or soil fill.

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

The general principles of cathodic protection in seawater are detailed in ISO 12473. The general principles of cathodic protection in soils are detailed in EN 12954.

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# Cathodic protection of harbour installations

## 1 Scope

### 1.1 General

This International Standard defines the means to be used to ensure that cathodic protection is efficiently applied to the immersed and driven/buried metallic external surfaces of steel port, harbour, coastal and flood defence installations and appurtenances in seawater and saline mud to provide protection from corrosion.

### 1.2 Structures

This International Standard specifies cathodic protection of fixed and floating port and harbour structures. This includes piers, jetties, dolphins (mooring and berthing), sheet or tubular piling, pontoons, buoys, floating docks, lock and sluice gates. It also specifies cathodic protection of the submerged areas of appurtenances, such as chains attached to the structure, when these are not electrically isolated from the structure.

This International Standard is to be used in respect of cathodic protection systems where the anodes are exposed to water or saline mud. For buried areas, typically in soil or sand filled areas behind piled walls or within filled caissons, which may be significantly affected by corrosion, specific cathodic protection design and operation requirements are defined in EN 12954, the anodes being exposed to soils.

This International Standard does not cover the cathodic protection of fixed or floating offshore structures (including offshore loading buoys), submarine pipelines or ships.

This International Standard does not include the internal protection of surfaces of any components such as ballast tanks, internals of floating structures flooded compartments of lock and sluice gates or the internals of tubular steel piles.

### 1.3 Materials

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

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

This International Standard does not address steel reinforced concrete structures (see ISO 12696).

### 1.4 Environment

This International Standard is applicable to the whole submerged zone in seawater, brackish waters and saline mud and related buried areas which can normally be found in port, harbour, coastal and flood defence 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 long enough for the steel to become polarized. Typically, effective cathodic protection is achieved for all surfaces below mid tide.

For structures such as sheet steel and tubular steel piles that are driven into the sea bed or those that are partially buried or covered in mud, this International Standard is also applicable to the surfaces buried, driven and exposed to mud which are intended to receive cathodic protection along with surfaces immersed in water.