Irish Standard
I.S. EN 16222:2012

Cathodic protection of ship hulls

I.S. EN 16222:2012

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English Version

Cathodic protection of ship hulls

Protection cathodique des coques de bateaux

Kathodischer Korrosionsschutz von Schiffen

This European Standard was approved by CEN on 25 August 2012.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 16222:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.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.

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.

Introduction

Cathodic protection is usually applied, mostly as a complement to protective coatings, to protect the external surfaces of ship hulls and immersed appurtenances from corrosion due to seawater.

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

1.1 General

This European Standard defines the general criteria and recommendations for cathodic protection of immersed external ship hulls and appurtenances.

This European Standard does not cover safety and environmental protection aspects associated with cathodic protection. Relevant national or international regulations and classification society requirements apply.

1.2 Structures

This European Standard covers the cathodic protection of the underwater hulls of ships, boats and other self propelled floating vessels generally used in seawater together with their appurtenances such as rudders, propellers, shafts and stabilisers.

It also covers the cathodic protection of thrusters, sea chests and water intakes (up to the first valve).

It does not cover the protection of internal surfaces such as ballast tanks.

It does not cover steel offshore floating structures which are covered in EN 13173.

1.3 Materials

This European Standard covers the cathodic protection of ship hulls fabricated principally from carbon manganese steels including appurtenances of other ferrous or non-ferrous alloys such as stainless steels and copper alloys, etc.

This European Standard applies to both coated and bare hulls; most hulls are coated.

The cathodic protection system should be designed to ensure that there is a complete control over any galvanic coupling.

This European Standard does not cover the cathodic protection of hulls principally made of other materials such as aluminium alloys, stainless steels or concrete.

1.4 Environment

This European Standard is applicable to the hull and appurtenances in seawater and all waters which could be found during a ship’s world-wide deployment.

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

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

EN 13509, *Cathodic protection measurement techniques*

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