

## **Paints and varnishes - Determination of resistance to cathodic disbonding of coatings exposed to sea water**

Paints and varnishes - Determination of resistance to cathodic disbonding of coatings exposed to sea water

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15711:2005 sisaldab Euroopa standardi EN ISO 15711:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.02.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15711:2005 consists of the English text of the European standard EN ISO 15711:2004.</p> <p>This document is endorsed on 22.02.2005 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This International Standard describes two methods for determining the ability of paint, or other organic coatings, applied to metallic substrates to withstand cathodic disbonding when the surface coating may contain or develop discontinuities. The methods are applicable to coatings that are exposed to sea water, such as those applied to ships or marine structures. They are not suitable for the assessment of the ability of coatings to withstand cathodic disbonding on land-based structures.</p>	<p><b>Scope:</b></p> <p>This International Standard describes two methods for determining the ability of paint, or other organic coatings, applied to metallic substrates to withstand cathodic disbonding when the surface coating may contain or develop discontinuities. The methods are applicable to coatings that are exposed to sea water, such as those applied to ships or marine structures. They are not suitable for the assessment of the ability of coatings to withstand cathodic disbonding on land-based structures.</p>
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ICS 87.040

Võtmesõnad:

ICS 87.040

English version

Paints and varnishes - Determination of resistance to cathodic  
disbonding of coatings exposed to sea water (ISO 15711:2003)

Peintures et vernis - Détermination de la résistance au  
décollement cathodique des revêtements exposés à l'eau  
de mer (ISO 15711:2003)

Beschichtungsstoffe - Bestimmung des Widerstandes  
gegen kathodische Enthftung von Beschichtungen in  
Meerwasser (ISO 15711:2003)

This European Standard was approved by CEN on 21 December 2004.

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## Foreword

The text of ISO 15711:2003 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 15711:2004 by Technical Committee CEN/TC 139 "Paints and varnishes", the secretariat of which is held by DIN.

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 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

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

### Endorsement notice

The text of ISO 15711:2003 has been approved by CEN as EN ISO 15711:2004 without any modifications.

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**Paints and varnishes — Determination of  
resistance to cathodic disbonding of  
coatings exposed to sea water**

*Peintures et vernis — Détermination de la résistance au décollement  
cathodique des revêtements exposés à l'eau de mer*



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# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Principle</b> .....	<b>2</b>
<b>5 Required supplementary information</b> .....	<b>2</b>
<b>6 Test solutions</b> .....	<b>2</b>
<b>7 Apparatus</b> .....	<b>3</b>
<b>8 Sampling</b> .....	<b>5</b>
<b>9 Test panels</b> .....	<b>5</b>
<b>10 Procedure</b> .....	<b>9</b>
<b>11 Expression of results</b> .....	<b>11</b>
<b>12 Precision</b> .....	<b>12</b>
<b>13 Test report</b> .....	<b>12</b>
<b>Annex A (normative) Required supplementary information</b> .....	<b>13</b>
<b>Annex B (normative) Sacrificial anodes — Composition of zinc alloy</b> .....	<b>14</b>

## 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 15711 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.



## Introduction

This International Standard describes two methods for determining the ability of paint or other organic coatings applied to metallic substrates to withstand cathodic disbonding. These methods may also afford a basis for the comparison of particular coatings. The conditions of test are more severe than those likely to be encountered normally and so coating failure may be accelerated. It is recommended that the test be carried out for a period of at least 26 weeks and hence these methods are not suitable as a means of achieving quality control.

The methods are suitable for coatings used for the protection of ships and structures exposed to sea water. Method A is based on the procedure developed and evaluated by COIPM (Comité International Permanent pour la Protection des Matériaux en Milieu Marin).

The test result may be influenced not only by the properties of the coating system under test, but also by the nature and preparation of the substrate, the method of application of the coating system and other factors.

# Paints and varnishes — Determination of resistance to cathodic disbonding of coatings exposed to sea water

## 1 Scope

This International Standard describes two methods for determining the ability of paint, or other organic coatings, applied to metallic substrates to withstand cathodic disbonding when the surface coating may contain or develop discontinuities. The methods are applicable to coatings that are exposed to sea water, such as those applied to ships or marine structures. They are not suitable for the assessment of the ability of coatings to withstand cathodic disbonding on land-based structures.

Method A involves the use of a cathodic protection circuit, whereby the electrode potential of the test substrates is controlled potentiostatically.

Method B involves the use of sacrificial anodes attached to the test substrates. This reflects the practical method of cathodic protection commonly used on ships.

## 2 Normative references

The following referenced documents are indispensable for the application 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 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 1513, *Paints and varnishes — Examination and preparation of samples for testing*

ISO 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 3696, *Water for analytical laboratory use — Specification and test method*

ISO 4624, *Paints and varnishes — Pull-off test for adhesion*

ISO 4628-2, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 2: Assessment of degree of blistering*

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 12944-6, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 6: Laboratory performance test methods*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*