SLOVENSKI STANDARD
SIST EN ISO 10270:2008

01-julij-2008

Korozija kovin in zlitin - Preskušanje vodne korozije cirkonijevih zlitin za uporabo v jedrskih reaktorjih (ISO 10270:1995)

Corrosion of metals and alloys - Aqueous corrosion testing of zirconium alloys for use in nuclear power reactors (ISO 10270:1995)

Korrosion von Metallen und Legierungen - Korrosionsprüfung in wässrigen Lösungen für in Kernreaktoren angewendete Zirkoniumlegierungen (ISO 10270:1995)

Corrosion des métaux et alliages - Essais de corrosion aqueuse des alliages de zirconium utilisés dans les réacteurs nucléaires (ISO 10270:1995)

Ta slovenski standard je istoveten z: **EN ISO 10270:2008**

ICS:

27.120.99	Drugi standardi v zvezi z jedrsko energijo	Other standards related to nuclear energy
77.060	Korozija kovin	Corrosion of metals

SIST EN ISO 10270:2008 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Corrosion of metals and alloys - Aqueous corrosion testing of zirconium alloys for use in nuclear power reactors (ISO 10270:1995/Cor 1:1997)

Corrosion des métaux et alliages - Essais de corrosion aqueuse des alliages de zirconium utilisés dans les réacteurs nucléaires (ISO 10270:1995/Cor 1:1997)

Korrosion von Metallen und Legierungen - Korrosionsprüfung in wässrigen Lösungen für in Kernreaktoren angewendete Zirkoniumlegierungen (ISO 10270:1995/Cor 1:1997)

This European Standard was approved by CEN on 21 March 2008.

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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 Management Centre has the same status as the official versions.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Page

Foreword.....3

Foreword

The text of ISO 10270:1995/Cor 1:1997 has been prepared by Technical Committee ISO/TC 156 “Corrosion of metals and alloys” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 10270:2008 by Technical Committee CEN/TC 262 “Metallic and other inorganic coatings” 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 October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.

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Endorsement notice

The text of ISO 10270:1995/Cor 1:1997 has been approved by CEN as a EN ISO 10270:2008 without any modification.

INTERNATIONAL STANDARD

ISO 10270

First edition
1995-12-01

Corrosion of metals and alloys — Aqueous corrosion testing of zirconium alloys for use in nuclear power reactors

Corrosion des métaux et alliages — Essais de corrosion aqueuse des alliages de zirconium utilisés dans les réacteurs nucléaires

Reference number
ISO 10270:1995(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.

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.

International Standard ISO 10270 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

Annexes A and B of this International Standard are for information only.

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Case Postale 56 • CH-1211 Genève 20 • Switzerland

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Corrosion of metals and alloys — Aqueous corrosion testing of zirconium alloys for use in nuclear power reactors

WARNING — This International Standard may involve the use of hazardous materials, operations and equipment (see clause 9). It is the responsibility of whoever uses this International Standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies:

a) the determination of mass gain;

b) the surface inspection of products of zirconium and its alloys when corrosion tested in water at 360 °C or in steam at or above 400 °C;

c) that the tests in steam shall be performed at 10,3 MPa (1 500 psi).

This International Standard is applicable to wrought products, castings, powder metallurgy products and weld metals.

This method has been widely used in the development of new alloys, heat treating practices and for the evaluation of welding techniques, and should be utilized in its entirety to the extent specified for a product acceptance test, rather than merely a means of assessing performance in service.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5813:1983, *Water quality — Determination of dissolved oxygen — Iodometric method.*

ISO 5814:1990, *Water quality — Determination of dissolved oxygen — Electrochemical probe method.*

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 etching: A process for removal of surface metal by action of acids in water.

3.2 control coupons: Zirconium alloy specimens of known performance used to monitor the validity of the test.

3.3 high mass gain coupons: Zirconium alloy specimens that have been specially heat-treated to produce a mass gain higher than the maximum given in materials acceptance specifications and which are used for verifying the severity of the test procedure.

4 Principle

Specimens of zirconium or its alloys are exposed to high-pressure water or steam at elevated temperatures for 72 h or 336 h. The corrosion is normally measured by the gain in mass of the specimens and