SLOVENSKI STANDARD
SIST EN ISO 16784-2:2008

01-julij-2008

Korozija kovin in zlitin - Korozija in obraġļ anje v industrijskih vodnih hladilnih sistemih - 2. del: Vrednotenje uļ inkovitosti programov obdelovanja s hladilno tekoļ ino z uporabo opreme za preskuġevaliġļ a pilotne serije (ISO 16784-2:2006)

Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig (ISO 16784-2:2006)

Corrosion des métaux et alliages - Corrosion et entartrage des circuits de refroidissement a eau industriels - Partie 2: Évaluation des performances des programmes de traitement d'eau de refroidissement sur banc d'essai pilote (ISO 16784-2:2006)

Ta slovenski standard je istoveten z: **EN ISO 16784-2:2008**

ICS:

77.060	Korozija kovin	Corrosion of metals

SIST EN ISO 16784-2:2008 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 16784-2

April 2008

ICS 77.060

English Version

Corrosion of metals and alloys - Corrosion and fouling in industrial cooling water systems - Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig (ISO 16784-2:2006)

Corrosion des métaux et alliages - Corrosion et entartrage des circuits de refroidissement à eau industriels - Partie 2: Évaluation des performances des programmes de traitement d'eau de refroidissement sur banc d'essai pilote (ISO 16784-2:2006)

Korrosion von Metallen und Legierungen - Korrosion und Fouling in industriellen Kühlwassersystemen - Teil 2: Bewertung der Leistung von Kühlwasser-Behandlungsprogrammen unter Anwendung eines Modell-Prüfstands (ISO 16784-2:2006)

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

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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

Ref. No. EN ISO 16784-2:2008: E

Contents

Page

Foreword.....3

Foreword

The text of ISO 16784-2:2006 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 16784-2:2008 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.

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

Endorsement notice

The text of ISO 16784-2:2006 has been approved by CEN as a EN ISO 16784-2:2008 without any modification.

INTERNATIONAL STANDARD

ISO 16784-2

First edition
2006-01-15

Corrosion of metals and alloys — Corrosion and fouling in industrial cooling water systems —

Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig

Corrosion des métaux et alliages — Corrosion et entartrage des circuits de refroidissement à eau industriels —
Partie 2: Évaluation des performances des programmes de traitement d'eau de refroidissement sur banc d'essai pilote

Reference number
ISO 16784-2:2006(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword ... iv

Introduction ... v

1 Scope ... 1

2 Normative references ... 1

3 Terms and definitions ... 1

4 Principle ... 3

5 Reagents and materials ... 3
5.1 Water characteristics ... 4
5.2 Preparation of synthetic test waters using mother solutions ... 4

6 Apparatus ... 5
6.1 Temperature measurement ... 5
6.2 Circulation-rate monitor ... 5
6.3 Make-up, evaporation and blow-down measurement ... 5
6.4 Cooling tower ... 5

7 Test method ... 6
7.1 Procedure ... 6
7.1.1 Cleaning of the test assembly ... 6
7.1.2 Test tube preparation and pre-treatment ... 6
7.1.3 System water content ... 6
7.1.4 Procedure to fill the cooling water system ... 6
7.1.5 Heating the test tubes ... 7
7.1.6 Flow rate ... 7
7.1.7 Blow-down and half-life ... 8
7.1.8 Biocide treatment ... 8
7.1.9 Make-up water for cooling-tower use ... 8
7.2 Determination of analytical and control parameters ... 8
7.3 Test data reporting ... 9
7.4 Test termination ... 9

8 Assessment of results ... 9
8.1 Recording of cooling water quality ... 9
8.2 Treatment of the test tubes ... 9
8.3 Assessment of results on deposition and fouling ... 9
8.4 Assessment of results on corrosion ... 10

9 Test report ... 11

Annex A (informative) Test data sheet on the performance of cooling water treatment programmes ... 12

Annex B (informative) Further information on some methods of measurement and test ... 15

Bibliography ... 19

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 16784-2 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

ISO 16784 consists of the following parts, under the general title *Corrosion of metals and alloys — Corrosion and fouling in industrial cooling water systems*:

— *Part 1: Guidelines for conducting pilot-scale evaluation of corrosion and fouling control additives for open recirculating cooling water systems*

— *Part 2: Evaluation of the performance of cooling water treatment programmes using a pilot-scale test rig*

Introduction

Due to more stringent environmental requirements and escalating costs of water, there is an industrial need to improve the safety, reliability and cost-effectiveness of open recirculating cooling water systems. Correspondingly, it is important to establish a standard framework for evaluating the performance of cooling water treatment programmes. The aim is to provide users of cooling systems and vendors of treatment materials for those systems with a procedure to make consistent evaluations of cooling water treatment programmes on a pilot scale.