



SLOVENSKI STANDARD SIST EN ISO 10271:2011

01-december-2011

Nadomešča:

SIST EN ISO 10271:2002

SIST EN ISO 10271:2002/AC:2006

**Zobozdravstvo - Preskusne metode ugotavljanja korozije za kovinske materiale
(ISO 10271:2011)**

Dentistry - Corrosion test methods for metallic materials (ISO 10271:2011)

Zahnheilkunde - Korrosionsprüfverfahren für metallische Werkstoffe (ISO 10271:2011)
(standards.iteh.ai)

Médecine bucco-dentaire - Méthodes d'essai de corrosion des matériaux métalliques
(ISO 10271:2011)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

Ta slovenski standard je istoveten z: EN ISO 10271:2011

ICS:

11.060.10 Zobotehnični materiali Dental materials

SIST EN ISO 10271:2011 en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10271:2011](#)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

EUROPEAN STANDARD

EN ISO 10271

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2011

ICS 11.060.10

Supersedes EN ISO 10271:2001

English Version

Dentistry - Corrosion test methods for metallic materials (ISO 10271:2011)

Médecine bucco-dentaire - Méthodes d'essai de corrosion
des matériaux métalliques (ISO 10271:2011)

Zahnheilkunde - Korrosionsprüfverfahren für metallische
Werkstoffe (ISO 10271:2011)

This European Standard was approved by CEN on 29 July 2011.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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.

SIST EN ISO 10271:2011

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....3

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[SIST EN ISO 10271:2011](https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

Foreword

This document (EN ISO 10271:2011) has been prepared by Technical Committee ISO/TC 106 "Dentistry" in collaboration with Technical Committee CEN/TC 55 "Dentistry", 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 February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

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 ISO 10271:2001.

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, Croatia, 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.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of ISO 10271:2011 has been approved by CEN as a EN ISO 10271:2011 without any modification.

[SIST EN ISO 10271:2011](https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10271:2011](#)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

INTERNATIONAL
STANDARD

ISO
10271

Second edition
2011-08-01

**Dentistry — Corrosion test methods for
metallic materials**

*Médecine bucco-dentaire — Méthodes d'essai de corrosion des
matériaux métalliques*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10271:2011](https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>



Reference number
ISO 10271:2011(E)

© ISO 2011

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 10271:2011

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2011

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

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 Test methods | 3 |
| 4.1 Static immersion test | 3 |
| 4.2 Electrochemical test..... | 6 |
| 4.3 Sulfide tarnish test (cyclic immersion) | 12 |
| 4.4 Sulfide tarnish test (static immersion) | 14 |
| 4.5 Static immersion test with periodic analysis..... | 16 |
| Annex A (informative) Corrosion test method development..... | 20 |
| Bibliography..... | 26 |

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10271:2011](https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

ISO 10271:2011(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 10271 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 2, *Prosthetic materials*.

This second edition cancels and replaces the first edition (ISO 10271:2001), which has been technically revised, in particular by the inclusion of two additional test methods. It also incorporates Technical Corrigendum ISO 10271:2001/Cor.1:2005.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 10271:2011
<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>

Introduction

This International Standard was developed from the original Technical Report (ISO/TR 10271) as a result of worldwide demand for standard test methods to determine acceptability of metallic materials for oral restorations in relation to corrosion.

Specific qualitative and quantitative requirements for freedom from biological hazard are not included in this International Standard, but it is recommended that reference be made to ISO 10993-1 and ISO 7405 for assessing possible biological or toxicological hazards.

The testing of the corrosion behavior of metallic materials in dentistry is complicated by the diversity of the materials themselves, their applications and the environment to which they are exposed. Variation occurs between devices and within the same device during the exposure time. The type of corrosion behavior or effect can also vary with exposure time. Accordingly, it is not possible to specify a single test capable of covering all situations, nor is it a practical proposition to define a test for each situation. This International Standard, therefore, gives detailed procedures for test methods that have been found to be of merit as evidenced by considerable use.

This second edition differs from the first edition by the addition of two new test methods. To supplement the existing static immersion test, a static immersion test with periodic analysis has been added. A major reason for the addition of this test is that the rate of corrosion of most dental metallic materials varies over time. Thus, the aim of this supplementary test is to provide information on this variation in the corrosion of a dental metallic material. A classification scheme to interpret the rate of corrosion of a tested material with time (i.e. steady, decreasing, increasing) was not included as part of the static immersion test with periodic analysis. It is intended to monitor the use of the test through appropriate working groups of ISO/TC 106 to ascertain whether a classification scheme is needed in a future revision of this International Standard.

To supplement the sulfide tarnish test (cyclic immersion), a sulfide tarnish test (static immersion) has also been added to this second edition of ISO 10271. This test has been used successfully for many years to evaluate the corrosion of silver alloys.

In addition, an informative annex (Annex A) is provided that sets out a procedure for each element of the test system such that a consistent approach can be taken for the development of further test methods. Equally, it is recognized that any element can represent only the current recommendation, but changes in the future are unlikely to change the framework.

It is not the purpose of this International Standard to propose corrosion test methods for specific applications or to set limits as precise as those in the standard relating to the type of product and its application.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 10271:2011](#)

<https://standards.iteh.ai/catalog/standards/sist/ff67c230-50b7-4e1a-9ecb-1e36041f513a/sist-en-iso-10271-2011>