



**SLOVENSKI STANDARD
SIST EN ISO 7539-7:2005**

01-april-2005

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SIST EN ISO 7539-7:1999**

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Corrosion of metals and alloys - Stress corrosion testing - Part 7: Method for slow strain rate testing (ISO 7539-7:2005)

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Korrosion von Metallen und Legierungen - Prüfung der Spannungsrisskorrosion - Teil 7: Prüfung mit langsamer Dehngeschwindigkeit (ISO 7539-7:2005)

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Corrosion des métaux et alliages - Essais de corrosion sous contrainte - Partie 7: Méthode d'essai a faible vitesse de déformation (ISO 7539-7:2005)

Ta slovenski standard je istoveten z: EN ISO 7539-7:2005

ICS:

77.060

Korozija kovin

Corrosion of metals

SIST EN ISO 7539-7:2005

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 7539-7

February 2005

ICS 77.060

Supersedes EN ISO 7539-7:1995

English version

Corrosion of metals and alloys - Stress corrosion testing - Part 7: Method for slow strain rate testing (ISO 7539-7:2005)

Corrosion des métaux et alliages - Essais de corrosion
sous contrainte - Partie 7: Méthode d'essai à faible vitesse
de déformation (ISO 7539-7:2005)

Korrosion von Metallen und Legierungen - Prüfung der
Spannungsrissskorrosion - Teil 7: Prüfung mit langsamer
Dehngeschwindigkeit (ISO 7539-7:2005)

This European Standard was approved by CEN on 17 January 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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.

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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

EN ISO 7539-7:2005 (E)**Foreword**

This document (EN ISO 7539-7:2005) has been prepared by Technical Committee ISO/TC 156 "Corrosion of metals and alloys" in collaboration with 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 August 2005, and conflicting national standards shall be withdrawn at the latest by August 2005.

This document supersedes EN ISO 7539-7:1995.

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 7539-7:2005 has been approved by CEN as EN ISO 7539-7:2005 without any modifications.

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INTERNATIONAL STANDARD

ISO
7539-7

Second edition
2005-02-01

Corrosion of metals and alloys — Stress corrosion testing —

Part 7: Method for slow strain rate testing

*Corrosion des métaux et alliages — Essais de corrosion sous
contrainte —*
Partie 7: Méthode d'essai à faible vitesse de déformation

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Reference number
ISO 7539-7:2005(E)

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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 7539-7 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

This second edition cancels and replaces the first edition (ISO 7539-7:1989), Clauses 1, 3, 4, 6, 7 and 8 of which have been technically revised.

ISO 7539 consists of the following parts, under the general title *Corrosion of metals and alloys — Stress corrosion testing*:

- SIST EN ISO 7539-7:2005
<https://standards.iteh.ai/catalog/standards/sist/00e7b2f7-196a-44c6-a7c5-93951d1e9c53/sist-en-iso-7539-7-2005>
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- *Part 1: General guidance on testing procedures*
 - *Part 2: Preparation and use of bent-beam specimens*
 - *Part 3: Preparation and use of U-bend specimens*
 - *Part 4: Preparation and use of uniaxially loaded tension specimens*
 - *Part 5: Preparation and use of C-ring specimens*
 - *Part 6: Preparation and use of pre-cracked specimens for tests under constant load or constant displacement*
 - *Part 7: Method for slow strain rate testing*
 - *Part 8: Preparation and use of specimens to evaluate weldments*
 - *Part 9: Preparation and use of pre-cracked specimens for tests under rising load or rising displacement*

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Corrosion of metals and alloys — Stress corrosion testing —

Part 7: Method for slow strain rate testing

1 Scope

This part of ISO 7539 covers procedures for conducting slow strain rate tests for investigating susceptibility of a metal to stress corrosion cracking, including hydrogen-induced failure.

The term “metal” as used in this part of ISO 7539 includes alloys.

Slow strain rate tests are adaptable for testing a wide variety of product forms, including plate, rod, wire, sheet and tubes, as well as composites of these and parts joined by welding. Notched specimens may be used, as well as initially plain specimens.

The principal advantage of the test is the rapidity with which susceptibility to stress corrosion cracking of a particular metal/environment combination can be assessed.

2 Normative references

[SIST EN ISO 7539-7:2005](https://standards.iteh.ai/catalog/standards/sist/00e7b2f7-196a-44c6-a7c5-9395f11e9c53/sist-en-iso-7539-7-2005)

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[9395f11e9c53/sist-en-iso-7539-7-2005](https://standards.iteh.ai/catalog/standards/sist/00e7b2f7-196a-44c6-a7c5-9395f11e9c53/sist-en-iso-7539-7-2005)

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 7539-1:1987, *Corrosion of metals and alloys — Stress corrosion testing — Part 1: General guidance on testing procedures*

ISO 7539-4:1989, *Corrosion of metals and alloys — Stress corrosion testing — Part 4: Preparation and use of uniaxially loaded tension specimens*

ISO 7539-6:2003, *Corrosion of metal and alloys — Stress corrosion testing — Part 6: Preparation and use of pre-cracked specimens for tests under constant load or constant displacement*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7539-1 and the following apply.

3.1

creep

time-dependent mechanical deformation of a specimen after application of the initial load

3.2

elongation to fracture

ratio, of the increase in gauge length which has occurred during a test, to the original gauge length, expressed as a percentage