

Corrosion of metals and alloys - Stress corrosion testing - Part 6: Preparation and use of precracked specimens for tests under constant load or constant displacement (ISO 7539-6:2011)

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 7539-6:2011 sisaldab Euroopa standardi EN ISO 7539-6:2011 ingliskeelset teksti.

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English Version

Corrosion of metals and alloys - Stress corrosion testing - Part 6: Preparation and use of precracked specimens for tests under constant load or constant displacement (ISO 7539-6:2011)

Corrosion des métaux et alliages - Essais de corrosion sous contrainte - Partie 6: Préparation et utilisation des éprouvettes préfissurées pour essais sous charge constante ou sous déplacement constant (ISO 7539-6:2011)

Korrosion der Metalle und Legierungen - Prüfung der Spannungsrisskorrosion - Teil 6: Vorbereitung und Anwendung von angerissenen Proben für die Prüfung unter konstanter Kraft oder konstanter Verformung (ISO 7539-6:2011)

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Foreword

This document (EN ISO 7539-6:2011) 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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Endorsement notice

The text of ISO 7539-6:2011 has been approved by CEN as a EN ISO 7539-6:2011 without any modification.

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Corrosion of metals and alloys — Stress corrosion testing —

Part 6:

Preparation and use of precracked specimens for tests under constant load or constant displacement

1 Scope

1.1 This part of ISO 7539 covers procedures for designing, preparing and using precracked specimens for investigating susceptibility to stress corrosion. It gives recommendations for the design, preparation and use of precracked specimens for investigating susceptibility to stress corrosion. Recommendations concerning notched specimens are given in Annex A.

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

1.2 Because of the need to confine plasticity at the crack tip, precracked specimens are not suitable for the evaluation of thin products, such as sheet or wire, and are generally used for thicker products including plate bar and forgings. They can also be used for parts joined by welding.

1.3 Precracked specimens can be loaded with equipment for application of a constant load or can incorporate a device to produce a constant displacement at the loading points. Tests conducted under increasing displacement or increasing load are dealt with in ISO 7539-9.

1.4 A particular advantage of precracked specimens is that they allow data to be acquired from which critical defect sizes, above which stress corrosion cracking can occur, can be estimated for components of known geometry subjected to known stresses. They also enable rates of stress corrosion crack propagation to be determined. The latter data can be taken into account when monitoring parts containing defects during service.

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

ISO 11782-2:1998, *Corrosion of metals and alloys — Corrosion fatigue testing — Part 2: Crack propagation testing using precracked specimens*