

Corrosion of metals and alloys — Stress corrosion testing —

Part 8: Preparation and use of specimens to evaluate weldments

ICS 77.060

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The UK participation in its preparation was entrusted to Technical Committee ISE/NFE/8, Corrosion of metals and alloys.

A list of organizations represented on this committee can be obtained on request to its secretary.

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This British Standard, having been prepared under the direction of the Engineering Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 September 2000

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31 October 2009	This corrigendum renumbers BS ISO 7539-8:2000 as BS EN ISO 7539-8:2008

English Version

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8: Preparation and use of specimens to evaluate weldments
(ISO 7539-8:2000)

Corrosion des métaux et alliages - Essais de corrosion
sous contrainte - Partie 8: Préparation et utilisation des
éprouvettes pour évaluer les assemblages soudés (ISO
7539-8:2000)

Korrosion der Metalle und Legierungen - Prüfung der
Spannungsrissskorrosion - Teil 8: Vorbereitung und
Anwendung von Proben zur Bewertung von
Schweißverbindungen (ISO 7539-8:2000)

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Foreword

The text of ISO 7539-8:2000 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 7539-8:2008 by Technical Committee CEN/TC 262 “Metallic and other inorganic coatings” the secretariat of which is held by BSI.

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The text of ISO 7539-8:2000 has been approved by CEN as a EN ISO 7539-8:2008 without any modification.

Contents		Page
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Special considerations for weldments	3
5	Specimen types.....	4
6	Preparation of weldments and test specimens	8
7	Testing Procedures	10
8	Assessment.....	11
9	Test report	11
Annex A (informative) Terms and definitions which have not been internationally agreed		13
Bibliography		18

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Corrosion of metals and alloys — Stress corrosion testing —

Part 8:

Preparation and use of specimens to evaluate weldments

1 Scope

This part of ISO 7539 covers the procedures available for stress corrosion testing of welded specimens and examines the additional factors which must be taken into account when conducting tests on welded specimens. In particular this part of ISO 7539 gives recommendations for the choice of specimens and test procedures to determine the resistance of a metal to stress corrosion when it is welded.

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

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 7539. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 7539 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 857-1:1998, *Welding and allied processes — Vocabulary — Part 1: Metal welding processes*.

ISO 7539-2:1989, *Corrosion of metals and alloys — Stress corrosion testing — Part 2: Preparation and use of bent-beam specimens*.

ISO 7539-3:1989, *Corrosion of metals and alloys — Stress corrosion testing — Part 3: Preparation and use of U-bend specimens*.

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

ISO 7539-5:1989, *Corrosion of metals and alloys — Stress corrosion testing — Part 5: Preparation and use of C-ring specimens*.

ISO 7539-6:—¹⁾, *Corrosion of metals and alloys — Stress corrosion testing — Part 6: Preparation and use of pre-cracked specimens*.

ISO 7539-7:1989, *Corrosion of metals and alloys — Stress corrosion testing — Part 7: Slow strain rate testing*.

IEC 60050-851 (1991-08), *International Electrotechnical Vocabulary — Chapter 851: Electric Welding*.

1) To be published. (Revision of ISO 7539-6:1989)

3 Terms and definitions

For the purposes of this part of ISO 7539 the following terms and definitions apply.

3.1 welding

operation which unites materials by means of heat or pressure, or both, in such a way that there is continuity in the nature of the materials which have been joined and in which filler metal, the melting temperature of which is of the same order as that of the parent metal(s), may or may not be used

NOTE This definition also includes surfacing.

[ISO 857-1]

3.1.1 fusion welding

welding involving localized melting without the application of force and with or without the addition of filler metal

[ISO 857-1]

3.1.2 arc welding

fusion welding in which heat for welding is obtained from an electric arc or arcs

[ISO 857-1; IEC 60050-851]

3.1.3 diffusion welding

pressure welding in which the workpieces are kept in contact under a specified continual pressure and are heated, either on their faying surfaces or in their entirety, at a defined temperature for a controlled time

NOTE 1 This process results in local plastic deformation and also, owing to the very close contact between the surfaces, the diffusion of the atoms through the interface. The end result is thus complete continuity of the material.

NOTE 2 The operation may take place in a vacuum, under a gas shield or in a fluid, preferably without the addition of a filler metal.

See Figure 1.

[ISO 857-1]