

Corrosion of metals and alloys — Electrochemical potentiokinetic reactivation measurement using the double loop method (based on Čihal's method)

ICS 77.060

National foreword

This British Standard is the UK implementation of EN ISO 12732:2008. It is identical with ISO 12732:2006. It supersedes BS ISO 12732:2006 which is withdrawn.

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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29 August 2008	This corrigendum renumbers BS ISO 12732:2006 as BS EN ISO 12732:2008

English Version

Corrosion of metals and alloys - Electrochemical potentiokinetic reactivation measurement using the double loop method (based on Cihal's method) (ISO 12732:2006)

Corrosion des métaux et alliages - Mesurage de la réactivation électrochimique potentiocinétique par la méthode de la double boucle (dérivée de la méthode de Cihal) (ISO 12732:2006)

Korrosion von Metallen und Legierungen - Verfahren für die elektrochemische potentiodynamische Reaktivierungsmessung mit dem Double-loop-Verfahren (Cihal-Verfahren) (ISO 12732:2006)

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Foreword

The text of ISO 12732:2006 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 12732:2008 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of an identical text or by endorsement, at the latest by October 2008, and conflicting national standards shall be withdrawn at the latest by October 2008.

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Endorsement notice

The text of ISO 12732:2006 has been approved by CEN as a EN ISO 12732:2008 without any modification.

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WARNING — This International Standard may involve hazardous materials, operations and equipment. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices, and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies the method for measuring the degree of sensitization (DOS) in stainless steel and nickel-based alloys using the Double Loop Electrochemical Potentiokinetic Reactivation (DL-EPR) test (based on Čihal's method).

The method may be used for the quantitative assessment of deleterious thermal effects resulting in the formation of alloy-element-depleted zones at grain boundaries or in the matrix. However, attention should be paid when testing heat-affected weld zones, due to possible non-uniform distribution of sensitized zones along the fusion lines.

The results of the test can be used as an index to identify the potential susceptibility of stainless steel and nickel-based alloys to intergranular corrosion, pitting corrosion, and intergranular-stress corrosion cracking, but prediction of these corrosion modes depends on complementary specific testing.

This International Standard describes the general methodology and, in Annex C, gives examples of suitable test exposure conditions for specific alloys.

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 8044:1999, *Corrosion of metals and alloys — Basic terms and definitions*

ISO 643:2003, *Steels — Micrographic determination of the apparent grain size*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 8044 and the following apply.

3.1 integrated charge

Q

charge measured during passivation (Q_p) and reactivation (Q_r), given by the time integral of current below the passivation and reactivation peak of the curve