
**Corrosion of metals and alloys —
Evaluation of stress corrosion cracking by
the drop evaporation test**

*Corrosion des métaux et alliages — Évaluation de la résistance à la
fissuration par corrosion sous contrainte par essai d'évaporation goutte à
goutte*



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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15324 was prepared by Technical Committee ISO/TC 156, *Corrosion of metals and alloys*.

Annexes A, B and C of this International Standard are for information only.

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Corrosion of metals and alloys — Evaluation of stress corrosion cracking by the drop evaporation test

1 Scope

1.1 This International Standard specifies the procedure for determining the relative resistance of stainless steels and nickel-base alloys to stress corrosion cracking in a sodium chloride drop evaporation system.

1.2 The method results in a threshold stress to fracture, the magnitude of which can be used to rank the relative performance of different alloys for this environment.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 4287:1997, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*.

ISO 4288:1996, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Rules and procedures for the assessment of surface texture*.

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

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

3.1

threshold stress

stress below which no fracture in 500 h is observed (see also 8.8)

3.2

time-to-fracture

elapsed time from start of test until fracture of the specimen

4 Principle

4.1 A dilute salt solution is dripped on to a heated tensile specimen of the material under test which is held horizontally and subjected to a uniaxial load.

4.2 Tests are carried out at different applied stresses and the time to specimen fracture is recorded. A threshold stress is defined based on the principle of no observed fracture in 500 h.