
**Plastics — Determination of resistance to
environmental stress cracking (ESC) —**

**Part 2:
Constant tensile load method**

*Plastiques — Détermination de la fissuration sous contrainte dans un
environnement donné (ESC) —*

Partie 2: Méthode sous contrainte de traction constante



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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 22088-2 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

It cancels and replaces ISO 6252:1992, which has been technically revised.

ISO 22088 consists of the following parts, under the general title *Plastics — Determination of resistance to environmental stress cracking (ESC)*:

- *Part 1: General guidance*
- *Part 2: Constant tensile load method* (replacement of ISO 6252:1992)
- *Part 3: Bent strip method* (replacement of ISO 4599:1986)
- *Part 4: Ball or pin impression method* (replacement of ISO 4600:1992)
- *Part 5: Constant tensile deformation method* (new test method)
- *Part 6: Slow strain rate method* (new test method)

Plastics — Determination of resistance to environmental stress cracking (ESC) —

Part 2: Constant tensile load method

1 Scope

This part of ISO 22088 specifies methods for the determination of environmental stress cracking (ESC) of thermoplastics when they are subjected to a constant tensile load in the presence of chemical agents.

It is applicable to test specimens prepared by moulding and/or machining and can be used both for the assessment of ESC of plastic materials exposed to different environments, and for the determination of ESC of different plastic materials exposed to a specific environment.

This is essentially a ranking test and is not intended to provide data to be used for design or performance prediction.

NOTE Methods for the determination of environmental stress cracking by means of a constant-strain test are specified in ISO 22088-3, ISO 22088-4 and ISO 22088-5.

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 293, *Plastics — Compression moulding of test specimens of thermoplastic materials*

ISO 294-1, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 1: General principles, and moulding of multipurpose and bar test specimens*

ISO 527-2:1993, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

ISO 2818, *Plastics — Preparation of test specimens by machining*

ISO 3167, *Plastics — Multipurpose test specimens*

ISO 22088-1:2006, *Plastics — Determination of resistance to environmental stress cracking (ESC) — Part 1: General guidance*