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Standards

Irish Standard
I.S. EN ISO 22088-6:2009

Plastics - Determination of resistance to environmental stress cracking (ESC) - Part 6: Slow strain rate method (ISO 22088-6:2006)

I.S. EN ISO 22088-6:2009

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NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
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English Version

**Plastics - Determination of resistance to environmental stress
cracking (ESC) - Part 6: Slow strain rate method (ISO 22088-
6:2006)**

Plastiques - Détermination de la fissuration sous contrainte
dans un environnement donné (ESC) - Partie 6: Méthode à
vitesse de déformation lente (ISO 22088-6:2006)

Kunststoffe - Bestimmung der Beständigkeit gegen
umgebungsbedingte Spannungsrissbildung (ESC) - Teil 6:
Verfahren mit langsamer Dehnrage (ISO 22088-6:2006)

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Foreword

The text of ISO 22088-6:2006 has been prepared by Technical Committee ISO/TC 61 “Plastics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22088-6:2009 by Technical Committee CEN/TC 249 “Plastics” the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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The text of ISO 22088-6:2006 has been approved by CEN as a EN ISO 22088-6:2009 without any modification.

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I.S. EN ISO 22088-6:2009

INTERNATIONAL STANDARD

ISO
22088-6

First edition
2006-08-01

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

Part 6: Slow strain rate method

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

Partie 6: Méthode à vitesse de déformation lente



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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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.

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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.

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

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 6: Slow strain rate method

1 Scope

This part of ISO 22088 describes a procedure for assessing the environmental stress cracking (ESC) susceptibility of polymeric materials in chemical environments by slowly increasing the strain applied to a tensile specimen at a constant rate.

It is applicable to test specimens prepared by moulding and/or machining and can be used to assess the relative ESC susceptibility of a material exposed to different environments or the relative ESC susceptibility of different plastics exposed to a specific environment.

This is essentially a ranking test and is not intended for the provision of design data.

The principle advantage of the test compared with the test methods described in Parts 2 to 5 of ISO 22088 is the rapidity with which the ESC susceptibility of a particular polymer/environment combination can be assessed.

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22088-1 and the following apply.

3.1

crosshead displacement

CHD

distance the crosshead has moved from the start of the test

3.2

crosshead speed

CHS

distance travelled by the crosshead, CHD, divided by the time from the start of the test

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