EESTI STANDARD EVS-EN ISO 22088-3:2006

Plastid. Vastupidavuse määramine keskkonna pingetest põhjustatud pragunemisele (ESC). Paindribameetod

Plastics - Determination of resistance to environmental stress cracking (ESC) - Part 3: Bent strip method

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 22088-3:2006 sisaldab Euroopa standardi EN ISO 22088-3:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 20.09.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 22088-3:2006 consists of the English text of the European standard EN ISO 22088-3:2006. This document is endorsed on 20.09.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: Käesolev standard määrab kindlaks meetodi plastide vastupidavuse määramiseks keskkonna pingest tekitatud pragunemisele (environmental stress cracking) (ESC) konstantse eelpingestamise testi abil. See testimismeetod sobib lehtmaterjali ja lamedate proovikehade vastupidavuse määramiseks keskkonna pingest tekitatud pragunemisele. Meetod on eriti sobiv proovikehade lokaliseeritud pinnaosade vastupidavuse määramiseks keskkonna pingest tekitatud pragunemisele.	**Scope:** This part of ISO 22088 specifies a method for the determination of the environmental stress cracking (ESC) resistance of thermoplastics when they are subjected to a fixed flexural strain in the presence of chemical agents. ESC is indicated by the change of a suitably chosen indicative property of specimens that have been strained for a defined time in the environment. The method of test is suitable for determining the resistance of sheets and of flat test specimens, especially the sensitivity of localized surface regions of specimens, to ESC. The bent strip method is suitable for the determination of ESC caused by gases and liquids as well as solids containing migrating substances (e.g. polymeric adhesives and materials containing plasticizers) in contact with a specific polymer.

ICS 83.080.01

Võtmesõnad: keskkonnatestid, määramine, pingetegur, plastid, pragunemistestid, testimine, vastupidavus juuspragude tekkimisele

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN ISO 22088-3

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Supersedes EN ISO 4599:1996

English Version

Plastics - Determination of resistance to environmental stress cracking (ESC) - Part 3: Bent strip method (ISO 22088-3:2006)

Plastiques - Détermination de la fissuration sous contrainte dans un environnement donné (ESC) - Partie 3: Méthode de l'éprouvette courbée (ISO 22088-3:2006)

Kunststoffe - Bestimmung der Beständigkeit gegen umgebungsbedingte Spannungsrissbildung (ESC) - Teil 3: Biegestreifenverfahren (ISO 22088-3:2006)

This European Standard was approved by CEN on 21 July 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 22088-3:2006: E

Foreword

This document (EN ISO 22088-3:2006) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

This document supersedes EN ISO 4599:1996.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 22088-3:2006 has been approved by CEN as EN ISO 22088-3:2006 without any modifications.

INTERNATIONAL STANDARD

ISO 22088-3

First edition
2006-08-15

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

Part 3: Bent strip method

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

Partie 3: Méthode de l'éprouvette courbée

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Contents

Page

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 22088-3 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 6, *Ageing, chemical and environmental resistance*.

It cancels and replaces ISO 4599:1986, 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 3: Bent strip method

1 Scope

This part of ISO 22088 specifies a method for the determination of the environmental stress cracking (ESC) resistance of thermoplastics when they are subjected to a fixed flexural strain in the presence of chemical agents.

ESC is indicated by the change of a suitably chosen indicative property of specimens that have been strained for a defined time in the environment. The method of test is suitable for determining the resistance of sheets and of flat test specimens, especially the sensitivity of localized surface regions of specimens, to ESC.

The bent strip method is suitable for the determination of ESC caused by gases and liquids as well as solids containing migrating substances (e.g. polymeric adhesives and materials containing plasticizers) in contact with a specific polymer.

Preferably, this method is used to determine the ESC resistance of rigid plastics that exhibit only moderate stress relaxation during the time of the test.

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

NOTE For a constant-strain test, refer to ISO 22088-5. For a constant-load test, refer to ISO 22088-2.

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 178, *Plastics — Determination of flexural properties*

ISO 179-1, *Plastics — Determination of Charpy impact properties — Part 1: Non-instrumented impact test*

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

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

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