SVENSK STANDARD
SS-EN ISO 846:2019

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Plast – Utvärdering av mikroorganismers inverkan (ISO 846:2019)

Plastics – Evaluation of the action of microorganisms (ISO 846:2019)

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Europastandarden EN ISO 846:2019 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 846:2019.

Denna standard ersätter SS-EN ISO 846, utgåva 1

The European Standard EN ISO 846:2019 has the status of a Swedish Standard. This document contains the official version of EN ISO 846:2019.

This standard supersedes the SS-EN ISO 846, edition 1

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Plast, SIS/TK 156.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 846

April 2019

ICS 07.100.99; 83.080.01

Supersedes EN ISO 846:1997

English Version

Plastics - Evaluation of the action of microorganisms (ISO 846:2019)

Plastiques - Évaluation de l'action des micro-organismes (ISO 846:2019)

Kunststoffe - Bestimmung der Einwirkung von Mikroorganismen auf Kunststoffe (ISO 846:2019)

This European Standard was approved by CEN on 5 March 2019.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 846:2019: E

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European foreword

This document (EN ISO 846:2019) 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 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 October 2019, and conflicting national standards shall be withdrawn at the latest by October 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 846:1997.

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

Endorsement notice

The text of ISO 846:2019 has been approved by CEN as EN ISO 846:2019 without any modification.

Introduction

Under certain climatic and environmental conditions, microorganisms can settle on and colonize the surface of plastics or plastics products. Their presence and/or their metabolic products might not only damage the plastic itself, but can also affect the serviceability of building materials and systems containing plastic parts.

The tests and test conditions specified in this document are empirical and cover most but not all potential applications.

For specific applications and for long-term tests, procedures which reflect performance under actual conditions are agreed upon.

The actions of microorganisms on plastics are influenced by two different processes.

a) Direct action: the deterioration of plastics which serve as a nutritive substance for the growth of the microorganisms.

b) Indirect action: the influence of metabolic products of the microorganisms, e.g. discolouration or further deterioration.

This document deals with both processes as well as their combined action.

Changes to the method are based on discussions among laboratories that have performed the test for at least 5 years. On an international level, discussions have taken place within the Plastic Group of the International Biodeterioration Research Group (IBRG) between scientists with extensive experience with this document as well as the testing of the interaction between microorganisms and plastics.

Plastics — Evaluation of the action of microorganisms

WARNING — Handling and manipulation of microorganisms which are potentially hazardous requires a high degree of technical competence. Only personnel trained in microbiological techniques should carry out such tests. Codes of practice for disinfection, sterilization and personal hygiene shall be strictly observed. It is recommended that workers consult IEC 60068-2-10 and ISO 7218.

1 Scope

This document specifies methods for determining the deterioration of plastics due to the action of fungi and bacteria and soil microorganisms. The aim is not to determine the biodegradability of plastics or the deterioration of natural fibre composites.

The type and extent of deterioration can be determined by

a) visual examination and/or

b) changes in mass and/or

c) changes in other physical properties.

The tests are applicable to all plastics that have an even surface and that can thus be easily cleaned. The exceptions are porous materials, such as plastic foams.

This document uses the same test fungi as IEC 60068-2-10. The IEC method, which uses so-called "assembled specimens", calls for inoculation of the specimens with a spore suspension, incubation of the inoculated specimens and assessment of the fungal growth as well as any physical attack on the specimens.

The volume of testing and the test strains used depend on the application envisaged for the plastic.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13934-1:2013, *Textiles — Tensile properties of fabrics — Part 1: Determination of maximum force and elongation at maximum force using the strip method*

EN 10088-1, *Stainless steels — Part 1: List of stainless steels*

EN 10088-2, *Stainless steels — Part 2: Technical delivery conditions for sheet/plate and strip corrosion resisting steels for general purposes*

EN 13697:2015, *Chemical disinfectants and antiseptics — Quantitative non-porous surface test for the evaluation of bactericidal and/or fungicidal activity of chemical disinfectants used in food, industrial, domestic and institutional areas — Test method and requirements without mechanical action (phase 2, step 2)*

IEC 60068-2-10, *Environmental testing — Part 2-10: Tests — Test J and guidance: Mould growth*

3 Terms and definitions

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