

Paints and varnishes - Natural weathering of coatings - Exposure and assessment

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 2810:2004 sisaldab Euroopa standardi EN ISO 2810:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 2810:2004 consists of the English text of the European standard EN ISO 2810:2004.</p> <p>This document is endorsed on 26.10.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>This International Standard specifies the conditions which need to be taken into consideration in the selection of the type of natural weathering and the natural weathering procedure to be used to determine the resistance of coatings or coating systems (direct weathering or weathering behind window glass). Natural weathering is used to determine the resistance of coatings or coating systems (denoted in the following text simply by coatings) to the sun's radiation and the atmosphere. Special atmospheric influences, e.g. industrial pollution, are not taken into account in this International Standard.</p>	<p>Scope:</p> <p>This International Standard specifies the conditions which need to be taken into consideration in the selection of the type of natural weathering and the natural weathering procedure to be used to determine the resistance of coatings or coating systems (direct weathering or weathering behind window glass). Natural weathering is used to determine the resistance of coatings or coating systems (denoted in the following text simply by coatings) to the sun's radiation and the atmosphere. Special atmospheric influences, e.g. industrial pollution, are not taken into account in this International Standard.</p>
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ICS 87.040

Võtmesõnad:

English version

Paints and varnishes

Natural weathering of coatings

Exposure and assessment

(ISO 2810 : 2004)

Peintures et vernis – Vieillessement
naturel des revêtements – Exposition
et évaluation (ISO 2810 : 2004)

Beschichtungsstoffe – Freibewitte-
rung von Beschichtungen – Bewitte-
rung und Bewertung
(ISO 2810 : 2004)

This European Standard was approved by CEN on 2004-06-07.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 2810 : 2004 Paints and varnishes – Natural weathering of coatings – Exposure and assessment, which was prepared by ISO/TC 35 'Paints and varnishes' of the International Organization for Standardization, has been adopted by Technical Committee CEN/139 'Paints and varnishes', the Secretariat of which is held by DIN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by January 2005 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

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

Endorsement notice

The text of the International Standard ISO 2810 : 2004 was approved by CEN as a European Standard without any modification.

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1 Scope

This International Standard specifies the conditions which need to be taken into consideration in the selection of the type of natural weathering and the natural weathering procedure to be used to determine the resistance of coatings or coating systems (direct weathering or weathering behind window glass).

Natural weathering is used to determine the resistance of coatings or coating systems (denoted in the following text simply by coatings) to the sun's radiation and the atmosphere.

Special atmospheric influences, e.g. industrial pollution, are not taken into account in this International Standard.

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 1514, *Paints and varnishes — Standard panels for testing*

ISO 2808, *Paints and varnishes — Determination of film thickness*

ISO 2813, *Paints and varnishes — Determination of specular gloss of non-metallic paint films at 20°, 60° and 85°*

ISO 3668, *Paints and varnishes — Visual comparison of the colour of paints*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 4628-1, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 1: General introduction and designation system*

ISO 4628-2, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 2: Assessment of degree of blistering*

ISO 4628-3, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 3: Assessment of degree of rusting*

ISO 4628-4, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 4: Assessment of degree of cracking*

ISO 4628-5, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 5: Assessment of degree of flaking*

ISO 4628-6, *Paints and varnishes — Evaluation of degradation of paint coatings — Designation of intensity, quantity and size of common types of defect — Part 6: Rating of degree of chalking by tape method*

ISO 4628-7, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 7: Assessment of degree of chalking by velvet method*

ISO 4628-8, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 8: Assessment of degree of delamination and corrosion around a scribe*

ISO 4628-10, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 10: Assessment of degree of filiform corrosion*

ISO 7724-1, *Paints and varnishes — Colorimetry — Part 1: Principles*

ISO 7724-2, *Paints and varnishes — Colorimetry — Part 2: Colour measurement*

ISO 7724-3, *Paints and varnishes — Colorimetry — Part 3: Calculation of colour differences*

ISO 8565:1992, *Metals and alloys — Atmospheric corrosion testing — General requirements for field tests*

ISO 12944-2, *Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 2: Classification of environments*

EN 13523-19, *Coil coated metals — Test methods — Part 19: Panel design and method of atmospheric exposure testing*

SAE J1976:2002, *Outdoor weathering of exterior materials*

WMO, *Guide to meteorological instruments and methods of observation*, WMO Publication No. 8, sixth edition, World Meteorological Organization, Geneva, 1996

3 Terms and definitions

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

3.1

durability

ability of a coating to resist the deleterious effect of its environment

3.2

time of wetness

period during which an exposed coating has visible water present on it

4 General

The durability of a coating during natural weathering depends on how, where and when the coating is weathered. Therefore, these parameters and the intended use of the coating shall be taken into account when exposures are carried out.

In particular, the following parameters shall be considered:

- The location of the exposure site, for example industrial, marine, rural. In choosing sites, those which differ markedly in the type or level of pollution from the normal shall be avoided, unless they are appropriate to the intended end use of the coating under test.
- The height, angle and orientation of the exposure rack. These parameters will govern the extent to which the specimens are affected, for example by dew, frost and atmospheric pollutants.
- The nature of the terrain on which the rack is constructed (for example concrete, grass, gravel). The terrain may affect the climatic conditions around the specimen under test. It would rarely be feasible to select an