Malinger og lakker – Coatingmaterialer og -systemer til udendørs træ – Del 6: Kunstig vejring af træbelægninger med fluorescerende UV-lamper og vand

Paints and varnishes – Coating materials and coating systems for exterior wood – Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water

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EUROPEAN STANDARD EN 927-6

NORME EUROPÉENNE

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English Version

Paints and varnishes - Coating materials and coating systems for exterior wood - Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water

Peintures et vernis - Produits de peinture et systèmes de peinture pour bois en extérieur - Partie 6 : Vieillissement artificiel des revêtements pour bois par exposition à des lampes UV fluorescentes et à de l'eau

Beschichtungsstoffe - Beschichtungsstoffe und Beschichtungssysteme für Holz im Außenbereich - Teil 6: Künstliche Bewitterung von Holzbeschichtungen mit fluoreszierenden UV-Lampen und Wasser

This European Standard was approved by CEN on 9 April 2018.

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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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European foreword

This document (EN 927-6:2018) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019.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 927-6:2006.

The main technical changes are:

a) update of Normative references;

b) introduction of a new clause on precision (8);

c) new informative Annex G for the determination of the adhesive strength of the tape on test surface.

EN 927 consists of the following parts under the general title *“Paints and varnishes — Coating materials and coating systems for exterior wood”:*

— *Part 1: Classification and selection;*

— *Part 2: Performance specification;*

— *Part 3: Natural weathering test;*

— *Part 5: Assessment of the liquid water permeability;*

— *Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water.*

The following Technical Specifications are published in this context:

CEN/TS 16358, *Paints and varnishes — Coating materials and coating systems for exterior wood — Assessment of air inclusions/microfoam in coating films*

CEN/TS 16359, *Paints and varnishes — Coating materials and coating systems for exterior wood — Assessment of knot staining resistance of wood coatings*

CEN/TS 16360, *Paints and varnishes — Coating materials and coating systems for exterior wood — Assessment of film extensibility by indentation of a coating on a wooden substrate*

CEN/TS 16498, *Paints and varnishes — Coating materials and coating systems for exterior wood — Assessment of tannin staining*

CEN/TS 16499, *Paints and varnishes — Coating materials and coating systems for exterior wood — Resistance to blocking of paints and varnishes on wood*

CEN/TS 16700, *Paints and varnishes — Coating materials and coating systems for exterior wood — Assessment of resistance to impact of a coating on a wooden substrate*

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

Introduction

Coatings from paints, varnishes and similar materials are weathered in a laboratory in order to accelerate ageing processes (caused by temperature, wetness and irradiation) which occur during natural weathering. Generally, a simple accelerating ratio between ageing during artificial and natural weathering cannot be expected due to the influencing factors having different effects according to the nature of the coating and substrate. Predictable relationships can only be expected if the effect of the important parameters (spectral distribution of the irradiance in the photochemically relevant range, temperature of the specimen, type of wetting, wetting cycle relative humidity) on the coating is known. Moreover acceleration of the coating chemistry can cause alternative degradation pathways to be followed. However, unlike natural weathering, testing in the laboratory can be controlled by the operator and therefore the results are more repeatable and reproducible. This revision of EN 927-6 incorporates the results of a precision investigation that quantifies the capability of the test in terms of repeatability and reproducibility.

Paints and varnishes – Coating materials and coating systems for exterior wood –

Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water

1 Scope

This part of EN 927 specifies a method for determining the resistance of wood coatings to artificial weathering performed in an apparatus equipped with fluorescent UV lamps, condensation and water spray devices.

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.

EN 927-1, *Paints and varnishes - Coating materials and coating systems for exterior wood - Part 1: Classification and selection*

EN ISO 2409, *Paints and varnishes - Cross-cut test (ISO 2409)*

EN ISO 2813, *Paints and varnishes - Determination of gloss value at 20°, 60° and 85° (ISO 2813)*

EN ISO 4628-1:2016, *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 4628-1:2016)*

EN 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 4628-2)*

EN 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 4628-4)*

EN 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 4628-5)*

EN ISO 4628-6, *Paints and varnishes - Evaluation of degradation of coatings - Designation of quantity and size of defects, and of intensity of uniform changes in appearance - Part 6: Assessment of degree of chalking by tape method (ISO 4628-6)*

EN ISO 16474-3, *Paints and varnishes - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (ISO 16474-3)*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 18314-1, *Analytical colorimetry — Part 1: Practical colour measurement*