



International
Standard

ISO 16053-2

**Paints and varnishes — Coating
materials and coating systems for
exterior wood —**

Part 2:

**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 2: Vieillissement artificiel des revêtements pour bois par
exposition à des lampes UV fluorescentes et à de l'eau*

**First edition
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Contents

Page

Foreword	iv
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Principle	2
5 Apparatus	2
5.1 Test chamber	2
5.2 Lamps	2
5.3 Device for wetting the test panels	2
5.4 Black panel thermometer	2
5.5 Irradiance control	3
6 Test panels	3
6.1 Wood	3
6.2 Preparation and selection of wood panels	4
6.3 Preparation of coated panels	4
6.3.1 Wood conditioning	4
6.3.2 Preparation of panels for the test coating	4
6.3.3 Conditioning	5
7 Procedure	5
7.1 Examination before exposure	5
7.2 Mounting the test panels	5
7.3 Exposure	5
7.3.1 Exposure cycle	5
7.3.2 Sample rotation and maintenance	6
7.3.3 Duration of test	6
7.4 Examination of test panels	6
8 Precision	6
9 Expression of results and test report	9
Annex A (normative) Details of the test methods	10
Annex B (informative) Explanatory notes	12
Annex C (normative) Test for heartwood in pine	13
Annex D (informative) Water purification	14
Annex E (normative) Test for abnormally porous wood	15
Annex F (informative) Alternative procedure for preparation and coating of panels	16
Annex G (informative) Determination of adhesive strength of tape on test surface	17
Bibliography	18

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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This document was prepared by the European Committee for Standardization (CEN) (as EN 927-6:2018) and was adopted, without modification other than those given below. It was assigned to Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes* and adopted under the "fast-track procedure".

- added CIE 1964 and CIE 1976 as normative references in [Clause 2](#);
- removed redundant UVA-340 peak emission specification from [5.2](#);
- citation of [Annex E](#) added in [6.1](#);
- text below [Figure 1](#) has been made into a Note;
- changed “mesh” to “grit” in [6.3.2](#);
- added a bibliography reference to the SERVOWOOD project in [Clause 8](#);
- changed “may” to “can” in [Clause 8](#) to indicate the possibility of the test precision to vary, rather than a permission;
- updated symbols and units and added a Note in [Table 2](#);
- updated symbols in [A.1](#);
- changed “guidance” to “instructions” in [A.8.2.2](#);
- updated grammar in [B.2](#) to improve clarity;
- removed hypothetical statement for testing other wood species from [B.4](#);
- changed the status of [Annex C](#) from informative to normative;
- updated the title of [Annex D](#);
- clarified the tape strength procedure in [Annex G](#).

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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 document 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 2: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water

1 Scope

This document 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.

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

ISO 2409, *Paints and varnishes — Cross-cut test*

ISO 2813, *Paints and varnishes — Determination of gloss value at 20°, 60° and 85°*

ISO 4618, *Paints and varnishes — Vocabulary*

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 4628-2, *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 4628-4, *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 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 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 16474-3, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 3: Fluorescent UV lamps*

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

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

CIE 1964, *(U^* , V^* , W^*) color space (CIEUVW)*

CIE 1976, *(L^* , a^* , b^*) color space (CIELUV)*