INTERNATIONAL STANDARD

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Paints and varnishes — Exposure of coatings to artificial weathering — Exposure to fluorescent UV lamps and water

Peintures et vernis — Exposition des revêtements au vieillissement artificiel — Exposition au rayonnement de lampes à fluorescence UV et à l'eau

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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 11507 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 11507:1997), which has been technically revised. The main changes are:

— the data on the lamps (tables in 5.1.2) have been harmonized with the data given in ISO 4892-3;

— the purity of the water for wetting the test panels has been changed from grade 2 to grade 3;

— conditioning of the coated test panels prior to testing has been deleted.

Introduction

Coatings from paints, varnishes and similar materials are weathered in the laboratory, in order to simulate ageing processes occurring during natural weathering. Generally, valid correlations between ageing during artificial and natural weathering cannot be expected because of the large number of influencing factors. Certain relationships can only be expected if the effect of the important parameters (spectral distribution of the irradiance in their photochemically relevant range, temperature of the specimen, type of wetting, wetting cycle relative humidity) on the coating is known. However, unlike natural weathering, testing in the laboratory is carried out taking into consideration a limited number of variables which can be controlled and therefore the results are more reproducible.

Paints and varnishes — Exposure of coatings to artificial weathering — Exposure to fluorescent UV lamps and water

1 Scope

This International Standard specifies exposure conditions for paint coatings exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray. The effects of weathering are evaluated separately by comparative testing of chosen parameters.

NOTE The ultraviolet light produced by fluorescent lamps simulates only part of the UV region of natural sunlight and, consequently, the test pieces are subjected to a small but destructive portion of the spectrum.

Due to the lack of visible and infra-red energy in the light from such UV lamps compared to sunlight, the test pieces are not heated above the temperature of the surrounding air in the way in which they would be in practical use.

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 1513, *Paints and varnishes — Examination and preparation of samples for testing*

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

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

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 4892-1:1999, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

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

3.1
ageing criterion
given degree of change in a selected property of the coating under test

NOTE The ageing criterion is specified or agreed upon.

[ISO 11341:2004]