

<b>STN</b>	<b>Náterové látky</b> <b>Metódy vystavovania účinkom laboratórnych</b> <b>svetelných zdrojov</b> <b>Časť 3: Fluorescenčné UV lampy (ISO 16474-3:</b> <b>2021)</b>	<b>STN</b> <b>EN ISO 16474-3</b>  67 3100
------------	---	--

Paints and varnishes - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps (ISO 16474-3:2021)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/21

Obsahuje: EN ISO 16474-3:2021, ISO 16474-3:2021

Oznámením tejto normy sa ruší  
STN EN ISO 16474-3 (67 3100) z mája 2014

**132520**

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 16474-3**

January 2021

ICS 87.040

Supersedes EN ISO 16474-3:2013

English Version

**Paints and varnishes - Methods of exposure to laboratory  
light sources - Part 3: Fluorescent UV lamps (ISO 16474-  
3:2021)**

Peintures et vernis - Méthodes d'exposition à des  
sources lumineuses de laboratoire - Partie 3: Lampes  
fluorescentes UV (ISO 16474-3:2021)

Beschichtungsstoffe - Künstliches Bestrahlen oder  
Bewittern in Geräten - Teil 3: UV-Fluoreszenzlampen  
(ISO 16474-3:2021)

This European Standard was approved by CEN on 17 October 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN ISO 16474-3:2021 (E)****Contents**

Page

<b>European foreword.....</b>	<b>3</b>
-------------------------------	----------

## **European foreword**

This document (EN ISO 16474-3:2021) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with 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 July 2021, and conflicting national standards shall be withdrawn at the latest by July 2021.

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 16474-3:2013.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 16474-3:2021 has been approved by CEN as EN ISO 16474-3:2021 without any modification.

# INTERNATIONAL STANDARD

**ISO**  
**16474-3**

Second edition  
2021-01

---

---

## **Paints and varnishes — Methods of exposure to laboratory light sources —**

### **Part 3: Fluorescent UV lamps**

*Peintures et vernis — Méthodes d'exposition à des sources lumineuses  
de laboratoire —*

*Partie 3: Lampes fluorescentes UV*



Reference number  
ISO 16474-3:2021(E)

© ISO 2021

**ISO 16474-3:2021(E)****COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b>	<b>iv</b>
<b>Introduction</b>	<b>v</b>
<b>1 Scope</b>	<b>1</b>
<b>2 Normative references</b>	<b>1</b>
<b>3 Terms and definitions</b>	<b>1</b>
<b>4 Principle</b>	<b>2</b>
<b>5 Apparatus</b>	<b>3</b>
5.1 Laboratory light source	3
5.2 Test chamber	6
5.3 Radiometer	6
5.4 Black-standard/black-panel thermometer	6
5.5 Wetting and humidity	7
5.5.1 General	7
5.5.2 Spray and condensation system	7
5.6 Specimen holders	7
5.7 Apparatus to assess changes in properties	7
<b>6 Test specimens (panels)</b>	<b>7</b>
6.1 General	7
6.2 Preparation and coating	8
6.3 Drying and conditioning	8
6.4 Thickness of coating	8
6.5 Number of test panels	8
<b>7 Test conditions</b>	<b>8</b>
7.1 General	8
7.2 Radiation	8
7.3 Temperature	8
7.4 Relative humidity of chamber air	9
7.5 Condensation and spray cycles	9
7.6 Complex cycles with dark periods	9
7.7 Sets of exposure conditions	9
<b>8 Procedure and mounting of the test specimens</b>	<b>10</b>
8.1 General	10
8.2 Exposure	10
8.3 Measurement of radiant exposure	11
8.4 Determination of changes in properties after exposure	11
<b>9 Test report</b>	<b>11</b>
<b>Annex A (informative) Spectral distribution of radiation for typical fluorescent UV lamps</b>	<b>12</b>
<b>Bibliography</b>	<b>16</b>

# ISO 16474-3:2021(E)

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 139, *Paints and varnishes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 16474-3:2013) which has been technically revised. The main changes compared to the previous edition are as follows:

- in [7.2](#) the difference between the temperature of a black panel sensor and a black standard sensor has been corrected;
- in [Table 4](#) it has been changed that the black-panel temperature is not controlled during water spray;
- the text has been editorially revised and the normative references have been updated.

A list of all parts in the ISO 16474 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).



## Introduction

Coatings of paints, varnishes and similar materials (subsequently referred to simply as coatings) are exposed to laboratory light sources, in order to simulate in the laboratory the ageing processes which occur during natural weathering or behind window glass.



# Paints and varnishes — Methods of exposure to laboratory light sources —

## Part 3: Fluorescent UV lamps

### 1 Scope

This document specifies methods for exposing coatings to fluorescent UV lamps, heat and water in apparatus designed to reproduce the weathering effects that occur when materials are exposed in actual end-use environments to daylight, or to daylight through window glass.

The coatings are exposed to different types of fluorescent UV lamps under controlled environmental conditions (temperature, humidity and/or water). Different types of fluorescent UV lamp can be used to meet all the requirements for testing different materials.

Specimen preparation and evaluation of the results are covered in other ISO documents for specific materials.

General guidance is given in ISO 16474-1.

NOTE Fluorescent UV lamp exposures for plastics are described in ISO 4892-3.

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

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

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO 9370, *Plastics — Instrumental determination of radiant exposure in weathering tests — General guidance and basic test method*

ISO 16474-1:2013, *Paints and varnishes — Methods of exposure to laboratory light sources — Part 1: General guidance*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**