

Paints and varnishes - Determination of resistance to humidity - Part 1: Condensation (single-sided exposure) (ISO 6270-1:2017)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 6270-1:2018 sisaldab Euroopa standardi EN ISO 6270-1:2018 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 6270-1:2018 consists of the English text of the European standard EN ISO 6270-1:2018.
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English Version

Paints and varnishes - Determination of resistance to  
humidity - Part 1: Condensation (single-sided exposure)  
(ISO 6270-1:2017)

Peintures et vernis - Détermination de la résistance à  
l'humidité - Partie 1: Condensation (exposition sur une  
seule face) (ISO 6270-1:2017)

Beschichtungsstoffe - Bestimmung der Beständigkeit  
gegen Feuchtigkeit - Teil 1: Kondensation (einseitige  
Beanspruchung) (ISO 6270-1:2017)

This European Standard was approved by CEN on 30 October 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 6270-1:2018) has been prepared by Technical Committee ISO/TC 35/SC 9 "General test methods for 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of an identical text or by endorsement, at the latest by July 2018, and conflicting national standards shall be withdrawn at the latest by July 2018.

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 6270-1:2001.

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, 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.

### Endorsement notice

The text of ISO 6270-1:2017 has been approved by CEN as EN ISO 6270-1:2018 without any modification.

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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.

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)).

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

For an explanation on 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 the following URL: [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*.

This second edition cancels and replaces the first edition (ISO 6270-1:1998), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the title has been changed;
- the terms and definitions clause has been added;
- a limitations clause concerning the use of other than standard test conditions has been added;
- the preparation of test specimens from liquid paints has been deleted, so only the exposure of coated specimens is described;
- the normative requirement on evaluation in accordance with ISO 4628 has been deleted; information has been moved to the introduction, as it is in ISO 6270-2;
- the size of the test specimens has been changed;
- the requirement to use water of grade 3 purity in accordance with ISO 3696<sup>[1]</sup> was deleted;
- a clause on installation of the apparatus has been added;
- the precision has been clarified;
- the normative references have been updated;
- the supplementary test conditions previously in [Clause 4](#) and Annex A have been integrated in the test report, as appropriate, or deleted.

A list of all the parts in the ISO 6270 series can be found on the ISO website.

## Introduction

This document is intended to give consistent conditions and procedures for the conditioning of pre-prepared test specimens which are to be evaluated for defects, which may develop when they are subjected to humid ambient atmospheres such as constant condensation-water atmospheres or alternating condensation-water atmospheres.

The tests are designed to clarify the behaviour of the test specimens in humid ambient atmospheres, and to pinpoint any defects in the protection of the test specimens against corrosion. The testing of coatings in these atmospheres does not necessarily give lifetime prediction data.

After conditioning, the test specimens are evaluated either in accordance with agreed documents, such as the appropriate part(s) of ISO 4628[2], or by procedures agreed between the interested parties.

# Paints and varnishes — Determination of resistance to humidity —

## Part 1: Condensation (single-sided exposure)

### 1 Scope

This document specifies a method for determining the resistance of paint films, paint systems and related products to conditions of condensation in accordance with the requirements of coating or product specifications.

The method is applicable to coatings, both on porous substrates such as wood, plaster and plasterboard and on non-porous substrates such as metal. It provides an indication of the performance likely to be obtained under severe conditions of exposure where continuous condensation occurs on the surface.

The procedure can reveal failures of the coating (including blistering, staining, softening, wrinkling and embrittlement) and deterioration of the substrate.

**NOTE** The shape and preparation of the test specimens, the duration of the test and the assessment of the test results are not covered by this document.

### 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 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

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

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 4 Limitations

Temperature and humidity are important parameters affecting test results. Deviations from the requirements specified can lead to results that are not comparable. However, the interested parties may agree upon alternative parameters and these parameters shall be reported.