

---

---

## Paints and varnishes — Visual comparison of colour of paints

*Peintures et vernis — Comparaison visuelle de la couleur des  
peintures*

# Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)



Reference number  
ISO 3668:2017(E)

© ISO 2017

# Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
[copyright@iso.org](mailto:copyright@iso.org)  
[www.iso.org](http://www.iso.org)

# Contents

Page

|                                                                      |           |
|----------------------------------------------------------------------|-----------|
| <b>Foreword</b> .....                                                | <b>iv</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>1</b>  |
| <b>5 Illumination for colour matching</b> .....                      | <b>2</b>  |
| 5.1 General.....                                                     | 2         |
| 5.2 Artificial illumination by means of a colour matching booth..... | 2         |
| <b>6 Observer</b> .....                                              | <b>2</b>  |
| <b>7 Test panels and reference standards</b> .....                   | <b>3</b>  |
| 7.1 General.....                                                     | 3         |
| 7.2 Reference standards.....                                         | 3         |
| 7.3 Preparation and coating.....                                     | 3         |
| 7.4 Drying.....                                                      | 4         |
| <b>8 Procedure for colour comparison</b> .....                       | <b>4</b>  |
| 8.1 General.....                                                     | 4         |
| 8.2 Colour comparison.....                                           | 4         |
| <b>9 Assessment of metamerism</b> .....                              | <b>4</b>  |
| <b>10 Test report</b> .....                                          | <b>5</b>  |
| <b>Annex A (normative) Colour difference rating scheme</b> .....     | <b>6</b>  |
| <b>Annex B (informative) Metameric matches</b> .....                 | <b>7</b>  |
| <b>Bibliography</b> .....                                            | <b>8</b>  |

## 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 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 third edition cancels and replaces the second edition (ISO 3668:1998), which has been technically revised with the following changes:

- testing using natural daylight has been deleted;
- CIE illuminant FL 11 has been added as third type of artificial light source;
- determination of the film thickness has been deleted because it is irrelevant for the assessment of colour (the paint layer needs to be sufficient in hiding; the hiding power is more important);
- the normative references have been updated;
- the supplementary test conditions previously in Annex A have been integrated in the test report.

# Paints and varnishes — Visual comparison of colour of paints

## 1 Scope

This document specifies a method for the visual comparison of the colour of films of paints or related products against a standard (either a reference standard or a freshly prepared standard) using artificial light sources in a standard booth.

It is not applicable to coatings containing special-effect pigments, e.g. metallic, without previous agreement on all details of illuminating and viewing conditions

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

ISO 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

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

ISO 23603, *Standard method of assessing the spectral quality of daylight simulators for visual appraisal and measurement of colour*

CIE 15.3, *Colorimetry*

CIE 51.2, *A method for assessing the quality of daylight simulators for colorimetry*

## 3 Terms and definitions

No terms and definitions are listed in this document.

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 Principle

The colours of the paint films to be compared are observed under specified illumination and viewing conditions, using a colour matching booth. For the expression of colour difference components (hue, chroma and lightness) a procedure is described, i.e. description by using a particular rating scheme. Assessment of metamerism is also taken into account.