SS 5 : Part E3 : 2019
ISO 3668:2017, MOD
(ICS 87.040)

SINGAPORE STANDARD

Methods of test for paints, varnishes and related materials

– Part E3 : Visual comparison of the colour of paints

Singapore Standards Council

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The content of this Singapore Standard was approved on 30 July 2019 by the Chemical Standards Committee (CSC) under the purview of the Singapore Standards Council.

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CSC consists of the following members:

		Name	Representation
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Co-opted Members	:	Ms Christina Loh	*Individual Capacity*
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CSC sets up the Technical Committee on Surface Coatings to oversee the preparation of this standard. The Technical Committee consists of the following members:

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Secretary	:	Ms Wendy Chai	*Standards Development Organisation@Singapore Chemical Industry Council*
Members	:	Mrs Grace Cheok-Chan	*Green Mark Department, Building and Construction Authority*
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		Mr Salim Suwignjo	*Setsco Services Pte Ltd*
		Mr Yap Chu Ing	*Housing & Development Board*
		Dr Yin Xi Jiang	*Singapore Surface Engineering Association*

The Technical Committee sets up the Working Group on Methods of Test for Paints, Varnishes and Related Materials to prepare this standard. The Working Group consists of the following experts who contribute in their *individual capacity:*

		Name
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Secretary	:	Ms Elane Ng
Members	:	Ms Guo Yilin
		Dr K.A. Khider Mohamed
		Ms Calista Lee
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		Ms Shirley Lim
		Mr Simplicio Sala Escano

The organisations in which the experts of the Working Group are involved are:

AdMaterials Technologies Pte Ltd
Akzo Nobels Paints (Asia Pacific)
Haruna Paint Pte Ltd
Nippon Paint (Singapore) Co. Pte Ltd
Pidilite Innovation Centre Pte Ltd
Setsco Services Pte Ltd
TüV SüD PSB Pte Ltd

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National Foreword

This Singapore Standard was prepared by the Working Group on Methods of Test for Paints, Varnishes and Related Materials set up by the Technical Committee on Surface Coatings under the purview of CSC.

It is a revision of SS 5 : Part E3 : 2003 (2013) "Methods of test for paints, varnishes and related materials – Part E3: Visual comparison of the colour of paints".

This standard is a modified adoption of ISO 3668:2017, "Paints and varnishes – Visual comparison of colour of paints", published by the International Organization for Standardization. The deviation is as follows:

Clauses	Modification
7.2	*Replace* "(23 ± 5) °C" with "(27 ± 2) °C". *Explanation: To reflect the local climatic conditions.*

To facilitate identification, the affected text of the International Standard which is to be changed is indicated by a left margin bar adjacent to it.

For an overview of other parts to Singapore Standard 5, it is recommended to read the information in SS 5 : Part 0 "General introduction" which is issued separately.

NOTE – Reference to International Standards are replaced by applicable Singapore Standards / Technical References.

This standard is expected to be used by paint, coatings and inks manufacturers, materials suppliers, test laboratories and related government agencies.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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).

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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.

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.

Methods of test for paints, varnishes and related materials – Part E3 : Visual comparison of the 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 referenced documents are indispensable for the application of this standard. 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*