SS 150:2021+A1:2024

(ICS 87.040)

SINGAPORE STANDARD

Specification for emulsion paint for decorative purposes

Incorporating Amendment No. 1

Singapore Standards Council

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Specification for emulsion paint for decorative purposes

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Contents

Foreword

This Singapore Standard was prepared by the Technical Committee on Surface Coatings under the purview of the Chemical Standards Committee.

This standard is a revision of SS 150 : 2015. The main changes in the revised edition are as follows:

a) Deleted classification of Type 1 paint which is suitable for interior and exterior use;

b) Amended scope to cover suitability of SS 150 for interior use on walls and ceilings only and deleted the dilution of paint for first coat application as this can be stated in the agreement between paint manufacturer and the contractor;

c) Updated the normative references;

d) Reduced the hard-drying time, lead content requirement and VOC; and

e) Inserted new testing clause and emissions limits requirement for formaldehyde and total volatile organic compound (TVOC).

This standard incorporates Amendment No. 1, January 2024 denoted by A1 .

A1 It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore shall not be responsible for identifying all of such legal obligations.

In preparing this standard, reference was made to the following publications:

1. Federal Test Method Standard No. 141 C, Method No. 6271.2 – 'Mildew resistance'
2. EN 16516:2017, Construction products: Assessment of release of dangerous substances – Determination of emissions into indoor air

Permission has been sought from the International Organization for Standardization for the reproduction and adaptation of materials from their following publications into this standard:

1. Clause 3.1 and Annex E from ISO 16000-9:2006, Indoor air — Part 9: Determination of the emission of volatile organic compounds from building products and furnishing — Emission test chamber method
2. Clause 3.2 from ISO 11890-2:2013, Paints and varnishes — Determination of volatile organic compounds(VOC) and/or semi volatile organic compounds (SVOC) content — Part 2: Gas-chromatographic method
3. Annex D.2 from ISO 16000-11:2006, Indoor air — Part 11: Determination of the emission of volatile organic compounds from building products and furnishing — Sampling, storage of samples and preparation of test specimens. A1

Acknowledgement is made for the use of information from this reference.

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.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "mature standards". Mature standards will not be subject to further review, unless there are requests to review such standards.*

2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*

3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

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1 Scope

[A1] This standard applies to a ready-for-use, air drying emulsion, flat finish for interior walls and ceilings, applied on masonry surfaces including concrete, bricks, stucco, concrete block, cement sheets sidings, skimmed coats, plastered walls, and dry wall boards. [A1] The recoating of previously painted surfaces which are in a sound condition and suitable for receiving such a coating is also covered by this standard.

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.

ASTM D5116	Standard guide for small-scale environmental chamber determinations of organic emissions from indoor materials/products
BS 4800	Schedule of [A1] paint [A1] colours for building purposes
IEC 62321-7-2	Determination of certain substances in electrotechnical products – Part 7-2: Hexavalent chromium – Determination of hexavalent chromium (Cr(VI)) in polymers and electronics by the colorimetric method
ISO 11890-1	Paints and varnishes – Determination of volatile organic compound (VOC) content – Part 1 : Difference method
ISO 11890-2	Paints and varnishes – Determination of volatile organic compounds (VOC) and/or semi volatile organic compounds (SVOC) content – Part 2 : Gas-chromatographic method
[A1] ISO 16000-3	Indoor air – Part 3: Determination of formaldehyde and other carbonyl compounds in indoor and test chamber air – Active sampling method
ISO 16000-6	Indoor air – Part 6: Determination of organic compounds (VVOC, VOC, SVOC) in indoor and test chamber air by active sampling on sorbent tubes, thermal desorption and gas chromatography using MS or MS FID [A1]
ISO 16000-9	Indoor air – Part 9: Determination of the emission of volatile organic compounds from building products and furnishing – Emission test chamber method
SS 5	Methods of test for paints, varnishes and related materials
	Part A1 : Sampling
	Part A2 : Examination and preparation of samples for testing
	Part B2 : Determination of non-volatile matter content
	Part B4 : Condition in container
	Part B7 : Density
	Part B9 : Brushing properties
	Part B12 : Consistency of paints using the Stormer viscometer

Part B13 : Fineness of grind

Part C4 : Determination of low concentrations of mercury in paint by atomic absorption spectroscopy

Part C6 : Determination of low concentrations of lead, cadmium and cobalt in paint by atomic absorption spectroscopy

Part D6 : Hard dry time – Test using a mechanical recorder

Part E1 : Determination of gloss value at 20°, 60°, and 85°

Part E2 : Determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate

Part E3 : Visual comparison of the colours of paints

Part F6 : Determination of wet-scrub resistance

Part G2 : Alkali resistance (spotting method)

Part G11 : Methods of exposure to laboratory light sources – General guidance

Part G12 : Methods of exposure to laboratory light sources – Xenon-arc lamps

NOTE – IEC 62321-7-2 is used for the evaluation of Cr(VI) content in electrotechnical products and can also be used for coatings.