Singapore Standards Council

SS 345 : 2015
(ICS 87.040)

SINGAPORE STANDARD

Specification for algae resistant emulsion paint for decorative purposes

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Foreword

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

The specification of the Housing and Development Board, HB 001 : 1987, was used as the initial draft for the 1990 edition of SS 345.

This HDB specification was prepared for use in its works contracts since August 1987. It was based on a research project undertaken by SISIR for developing an emulsion paint suitable for use under the climatic conditions of Singapore, which is situated in the humid tropics. In particular, the specification addresses the problem of disfigurements of painted wall on local buildings by algal infestation. In conjunction with the product development, a test method for algal resistance was also developed jointly with the Department of Botany, National University of Singapore.

SS 345 : 1990 was first amended in April 1999 and the latest amendment was made in September 2014 to include the new performance criteria for wet scrub resistance as described in SS 5 : Part F6 'Determination of wet-scrub resistance'.

This standard is a revision of SS 345 : 1990. The main changes in the revised edition are as follows:

a) Inclusion of quantitative requirements on heavy metals and VOCs;

b) Inclusion of qualitative requirements on solvents and specific hazardous substances.

This standard is expected to be used by paint manufacturers, suppliers, test laboratories, contractors, applicators, architectural associations, consultants, facilities/property managers, land surveyors 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.

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.*

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 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.*

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

Specification for algae resistant emulsion paint for decorative purposes

1 Scope

This standard applies to a ready-for-use, air-drying emulsion paint for both exterior and interior use on masonry surfaces and on suitably primed metal and wood surfaces. The recoating of previously painted surfaces which are in a sound condition and suitable for receiving such a coating is also covered by the 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 G154	Standard practice for operating fluorescent ultraviolet (UV) lamp apparatus for exposure of non-metallic materials
BS 4800	Schedule of paints colours for building purposes
IEC 62321 : 2008	Electrotechnical products - Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)
ISO 11890 Part 1	Paints and varnishes – Determination of volatile organic compound (VOC) content – Part 1 : Difference method
ISO 11890 Part 2	Paints and varnishes – Determination of volatile organic compound (VOC) content – Part 2 : Gas-chromatographic 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 A3 : Standard panels 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 D3 : Hard-drying time
	Part E1 : Measurement of specular gloss of non-metallic paint films at 20^{o}, 60^{o} and 85^{o}

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

Part E3 : Visual comparison of the colour of paints

Part F6 : Determination of wet-scrub resistance

Part G2 : Alkali resistance (spotting method)

Part G9 : Artificial weathering and exposure to artificial radiation – Exposure to filtered xenon-arc radiation

NOTE –
1 The review of the SS 5 series was completed in 2013.
2 IEC 62321 : 2008 is used for the evaluation of Cr(VI) content in electrotechnical products and can also be used for coatings.