Singapore Standards Council

SS 624 : 2016
(ICS 87.040)

SINGAPORE STANDARD

Specification for water-based acrylic road marking paint

Published by
Enterprise Singapore

SS 624 : 2016
(ICS 87.040)

SINGAPORE STANDARD

Specification for water-based acrylic road marking paint

ISBN 978-981-4726-91-7

This Singapore Standard was approved by the Chemical Standards Committee on behalf of the Singapore Standards Council on 29 December 2016.

First published, 2017

The Chemical Standards Committee, appointed by the Standards Council, consists of the following members:

		Name	Capacity
Chairman	:	Dr Keith Carpenter	*Member, Standards Council*
Deputy Chairman	:	Dr Tay Kin Bee	*Individual Capacity*
Secretary 1	:	Ms Elane Ng	*Standards Development Organisation@Singapore Chemical Industry Council*
Secretary 2	:	Ms Jillian Chin	*Standards Development Organisation@Singapore Chemical Industry Council*
Members	:	Mr Goh Tiak Boon	*Individual Capacity*
		Mr Khong Beng Wee	*Individual Capacity*
		Mr Terence Koh	*Singapore Chemical Industry Council Limited*
		Prof Lee Hian Kee	*National University of Singapore*
		Ms Lee Hiok Hoong	*SPRING Singapore*
		Dr Lee Tong Kooi	*Chemical Metrology Division, Health Sciences Authority*
		Dr Leong Kwai Yin	*Individual Capacity*
		Prof Leung Pak Hing	*Nanyang Technological University*
		Assoc Prof Thomas Liew	*National Metrology Centre*
		Mr Lim Eng Kiat	*Individual Capacity*
		Mr Lim Kian Chye / Mr Ng Eng Fu	*Housing & Development Board*
		Dr Lim Mong Hoo	*Individual Capacity*
		Dr Jerry Liu Jian Lin	*Singapore Water Association*
		Dr Loh Wah Sing	*Individual Capacity*
		Dr Ng Sek Yeo	*Singapore Polytechnic*
		Dr Parry Oei	*Maritime and Port Authority of Singapore*
		Ms Pamela Phua	*Singapore Paint Industry Association*
		Mr Seah Khen Hee	*Individual Capacity*
		Mr Tan Nguan Sen	*PUB, the National Water Agency*
		Ms Suzanna Yap	*National Environment Agency*
Co-opted Members	:	Mr Nee Pai How	*Individual Capacity*
		Mr Pitt Kuan Wah	*Individual Capacity*

The Technical Committee on Surface Coatings, appointed by the Chemical Standards Committee and responsible for the preparation of this standard, consists of representatives from the following organisations:

		Name	Capacity
Chairman	:	Mr Lim Eng Kiat	*Individual Capacity*
Secretary	:	Ms Elane Ng	*Standards Development Organisation@Singapore Chemical Industry Council*
Members	:	Ms Grace Cheok-Chan	*Green Mark Department, Building and Construction Authority*
		Mr Chong Khai Sin	*Singapore Environment Council*
		Dr K A Khider Mohamed	*Haruna Paint Pte Ltd*
		Mr Richard Lai	*Singapore Institute of Architects*
		Mr Eddy Lau	*Singapore Green Building Council*
		Mr Lim Kian Chye	*Housing & Development Board*
		Mr Lu Jin Ping	*AdMaterials Technologies Pte Ltd*
		Dr Dien Pandiman / Ms Guo Yilin	*Pidilite Innovation Centre Pte Ltd*
		Ms Jayanthi Peariahsamy	*Building and Construction Authority*
		Ms Pamela Phua	*Singapore Paint Industry Association*
		Mr Salim Suwignjo	*Setsco Services Pte Ltd*
		Mrs Wong-Lin Tai Hoe	*TUV SUD PSB Pte Ltd*
		Dr Yin Xi Jiang	*Singapore Surface Engineering Association*

The Working Group on Road Marking Paints, appointed by the Technical Committee to assist in the preparation of this standard, comprises the following experts who contribute in their *individual capacities*:

		Name
Convenor	:	Mr Lim Kian Chye
Secretary	:	Ms Elane Ng
Members	:	Dr Bao HongQian
		Mr Chang Swee Heng
		Mr John Chia
		Mr Lim Chong Teik
		Ms Shirley Lim
		Ms Wan Siew Fung
		Mr Edwin Yun

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

3M Singapore
AkzoNobel Paints (Singapore) Pte Ltd
Chin Wah Paints Pte Ltd
Housing & Development Board
Land Transport Authority
Nippon Paint (S) Co Pte Ltd
Setsco Services Pte Ltd
Singapore Institute of Architects

Contents

Foreword

This Singapore Standard was prepared by the Working Group on Road Marking Paints appointed by the Technical Committee on Surface Coatings under the direction of the Chemical Standards Committee.

SS 624 was developed as a result of the review of SS 221 : 2002 – "Specification for road marking paint". It replaces SS 221.

This standard applies to a water-based acrylic paint for application to bituminous surfaces, concrete surfaces and interlocking concrete paving blocks. The paint is intended to be supplied in a ready-for-use condition.

This standard includes requirements on skid resistance and no pick up time, which are important when the road marking paint is applied on roads and driveways. The volatile organic compounds (VOCs) limits and accelerated weathering test have also been incorporated in this standard. The colour codes for road marking including that for accessible parking lots have been specified.

This standard is expected to be used by paint manufacturers, suppliers, test laboratories, contractors, applicators, 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.

Specification for water-based acrylic road marking paint

1 Scope

This specification applies to paint for water-based acrylic binder formulated to adhere to bituminous surfaces, concrete as well as other surfaces commonly used in driveways and car parks, such as interlocking concrete paving blocks.

The water-based acrylic road marking paint is available in white, yellow, red, black and blue colour. It is recommended that an airless spray be used for its application.

This standard does not cover retroreflective road marking paints.

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 E303	Standard test method for measuring surface frictional properties using the British pendulum tester
BS 381 C	Specification for colours for identification, coding and special purposes
ISO 105-A02	Textiles – Tests for colour fastness – Part A02 : Grey scale for assessing change in colour
ISO 105-A03	Textiles – Tests for colour fastness – Part A03 : Grey scale for assessing staining
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 B2 : Determination of volatile and non-volatile matter
	Part B4 : Condition in container
	Part B5 : Skinning (partially filled container)
	Part B7 : Density
	Part B10 : Spraying properties
	Part B12 : Consistency of paints using the Stormer viscometer

Part B13 : Fineness of grind

Part B14 : Pigment content (centrifuge)

Part D4 : No pick-up time

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 F3 : Abrasion resistance (Taber abrader)

Part G8 : Determination of bleeding for road marking paint

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