

SS 5 : Part B16 : 2013 (ICS 87.040)

SINGAPORE STANDARD Methods of test for paints, varnishes and related materials

Part B16 : Determination of viscosity by the Brookfield viscometer

(This Singapore Standard is a modified adoption of ASTM D2196-10 'Standard test method for rheological properties of non-newtonian materials by rotational (Brookfield type) viscometer', Copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, USA.)

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This Singapore Standard was approved by the Chemical Standards Committee on behalf of the Singapore Standards Council on 15 April 2013.

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

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National Foreword

This Singapore Standard was prepared by the Working Group on the Review of Singapore Standard SS 5 Methods of Test for Paints, Varnishes and Related Materials appointed by the Technical Committee on Surface Coatings under the direction of the Chemical Standards Committee.

This is a revision of SS 5 : Part B16 : 1987 (2003) 'Methods of test for paints, varnishes and related materials - Determination of viscosity by the Brookfield viscometer'. It is a modified adoption of ASTM D2196-10 'Standard test method for rheological properties of non-newtonian materials by rotational (Brookfield type) viscometer', Copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, USA. Reprinted by permission of ASTM International.

To facilitate identification, the modified text is indicated in a text box.

The deviations are as follows:

Omission of Clauses/Subclauses in ASTM D2196 -10	Explanation
1.1	"and the shear thinning and thixotropic properties" is omitted as it is not applicable.
1.2	SI units are used in Singapore Standard.
1.3	It is covered in the Note under Foreword of the Singapore Standard.
2	The specified thermometer is required to be graduated in divisions of 0.1°C and accurate to 0.2°C in the Singapore Standard.
3.2, 4.2, 13, 14, 15, 17, 18, 19, 20, 21 and 22	The scope of this standard covers the determination of viscosity, the information on shear thinning and thixotropic properties of non-Newtonian materials are omitted.
5.4	Shaking is replaced by stirring.
24	Used for ASTM keyword search. Not applicable.

Modification and explanation
Replaced with "Graduated in divisions of 0.1°C and accurate to 0.2 $^{\circ}\text{C}"$
Explanation: In this Singapore Standard, the specified thermometer is required to be graduated in divisions of 0.1°C and accurate to 0.2°C.
Replaced "85 mm" with "87 \pm 3 mm" and "100 mm" with "112 \pm 3 mm"
Explanation: Containers with diameter of 87 ± 3 mm and 112 ± 3 mm are common dimensions of paint containers in Singapore. This test can be done directly on the paint in original container.
Replaced "85 mm" with "87 ± 3 mm"
Explanation: Same as 5.3 above.

Subclauses in ASTM D2196 -10	Modification and explanation
8.2	Replaced with "When the temperature of the sample has reached equilibrium, stir it carefully where appropriate, to avoid entrapping air."
	Explanation: Careful stirring can reduce the likelihood of entrapment of air and also provide a homogeneous sample.

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.

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.

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

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.
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Methods of test for paints, varnishes and related materials – Part B16 : Determination of viscosity by the Brookfield viscometer

1 Scope

This standard covers the determination of the apparent viscosity of non-Newtonian materials in the shear rate range from 0.1 to 50 s⁻¹.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

SS 5 Methods of test for paints, varnishes and related materials

- Part A1: Sampling
- Part A2: Examination and preparation of samples for testing