STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF
AS/NZS 1580.214.1:1997
Paints and related materials—Methods of test
Method 214.1: Consistency—Stormer viscometer

RECONFIRMATION NOTICE

Technical Committee CH-003 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 30 May 2013.

Approved for reconfirmation in New Zealand on behalf of the Standards Council of New Zealand on 26 August 2013.

The following are represented on Technical Committee CH-003:

Australasian Corrosion Association
Australian Paint Approval Scheme
Australian Paint Manufactures' Federation
Australian Pipeline Industry Association
Institution of Professional Engineers New Zealand
Master Painters New Zealand Association
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Australian/New Zealand Standard®

Paints and related materials—Methods of test

Method 214.1: Consistency—Stormer viscometer

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CH/3, Paints and Related Materials to supersede AS 1580.214.1—1990.

The objective of this Standard is to provide a procedure for determining consistency using a Stormer-type viscometer. This edition varies from the previous edition in that the thermometer description has been changed, an additional method (Method 3) utilizing a digital display viscometer has been included. A note referring to extrapolation of Figure A1 has been added to Appendix A.

This Standard is part of the AS/NZS 1580.214 series of methods for determining the rheological properties of paints and related materials.

The term normative has been used in this Standard to define the application of the appendix. A 'normative' appendix is an integral part of the Standard.

METHOD

1 SCOPE This Standard sets out three equivalent methods for determining the consistency of paints and related materials using a Stormer-type viscometer—one method using a timing device, one using a stroboscope and another using a digital display. These methods are useful for comparing the consistency of paints of a similar type or as control methods.

NOTE: The suitability and applicability of the methods are discussed in AS/NZS 1580.214.0.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS	
2854	Tinplate cans for general use
AS/NZS	
1580	Paints and related materials—Methods of test
1580.214.0	Part 214.0: Rheological properties—Guide to test methods
ISO	
5725	Precision of test methods—Determination of repeatability and reproducibility by inter-laboratory tests (Superseded by ISO 5725, Parts 1–6)

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BS
2000 Methods of test for petroleum and its products
2000.71 Part 71: Kinematic viscosity

3 PRINCIPLE A paddle of specified nominal dimensions is immersed to a prescribed depth in the test liquid, and caused to rotate uniformly through 100 revolutions in a specified time interval. The consistency may be read directly from the instrument or is determined by reference to the manufacturer's chart which relates the applied force to the consistency of the test material.

NOTE: It is assumed that the test apparatus has been calibrated with oils of certified consistency (see Appendix A).

4 APPARATUS

4.1 Stormer-type viscometer—which may or may not be fitted with a stroboscope (see Clause 4.4). A suitable viscometer is illustrated in Figure 1(a). The paddle shall be manufactured from corrosion-resistant metal and is shown in Figure 1(b).

NOTE: The performance of the viscometer is required to satisfy Appendix A.

4.2 Standard 500 mL container—of nominal diameter 87 mm and nominal height 103 mm (see AS 2854).

4.3 Thermometer—accurate at 25°C to ±0.25°C and graduated to 0.5°C or finer.

4.4 Equipment for determining rate of paddle rotation (non-digital instruments) Either of the following items may be used as appropriate:

(a) *Stroboscope* A stroboscope, synchronized with the mains frequency (50 Hz), attached to the spindle of the rotor.

(b) *Timer* A stopwatch or other timing device which is accurate over the range of 0 s to 60 s to within ±0.5 s.

5 PROCEDURE

5.1 Introduction Three equivalent methods are provided using a timing device (Clause 4.4(b)), a stroboscope (Clause 4.4(a)) or a digital readout. The method used should be stated in the test report.

5.2 Specimen preparation The sample shall be prepared as follows:

NOTE: See AS/NZS 1580.214.0 for guidance on the time interval between preparation and testing.

(a) Prepare a sample of the test material in accordance with Clause 5 of AS/NZS 1580.214.0.

(b) Mix thoroughly.

(c) Transfer to the test container, filling it to at least three-quarters of its capacity.

(d) Adjust the temperature of the test sample to 25.0 ±0.5°C and maintain this temperature throughout the test.

(e) Immediately proceed with Clause 5.3 (Method 1), Clause 5.4 (Method 2) or Clause 5.5 (Method 3) as appropriate.

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