STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 2331.2.3—2001
Methods of test for metallic and related coatings
Method 2.3: Tests for average coating mass per unit area or for thickness—Hydrogen evolution method for zinc coatings

RECONFIRMATION NOTICE

Technical Committee MT-009 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 20 March 2017.

The following are represented on Technical Committee MT-009:

Australasian Institute of Surface Finishing
Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Steel Institute
Bureau of Steel Manufacturers of Australia
Galvanizers Association of Australia
Galvanizing Association of New Zealand
New Zealand Metal Roofing Manufacturers

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AS 2331.2.3—2001
Reconfirmed 2017

Australian Standard™

Methods of test for metallic and related coatings

Method 2.3: Tests for average coating mass per unit area or for thickness—Hydrogen evolution method for zinc coatings

1 SCOPE

This Standard sets out the hydrogen evolution method for the determination of the average mass per unit area, or thickness, of zinc coatings on steel.

The method is suitable for the testing of items which have a surface area that can be calculated to within an accuracy of 1%. The method is normally accurate to within 5%.

NOTES:

1 A specialized version of this Method and apparatus for testing zinc coatings on wire is described in AS/NZS 4534.

2 The test procedures described in this Standard do not necessarily include all of the precautions required to satisfy health and safety aspects. Care should be taken to ensure that the procedures are carried out only by people who have received suitable training. Guidance in the handling and use of hazardous chemicals is given in AS/NZS 2243.1 and AS/NZS 2243.2.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS	
2243	Safety in laboratories
2243.1	Part 1: General
2243.2	Part 2: Chemical aspects
4534	Zinc and zinc/aluminium-alloy coatings on steel wire

3 PRINCIPLE

The coated item is immersed in inhibited hydrochloric acid at ambient temperature. The hydrogen gas liberated is collected and used as a means of determining the average mass per unit area, or thickness, as appropriate, of the coating.

4 REAGENTS

The following reagents are known to perform satisfactorily:

(a) Hydrochloric acid (ϱ_{20} 1160 kg/m^3) .....500 mL.

Antimony trioxide (Sb_2O_3) .....2 g.

Water to make ..... 1 L.

NOTE: Because of the possible generation of the poisonous gas antimony hydride (stibine, SbH_3), the reagent should always be used in a fume cupboard.

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