STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 2331.3.3—2001

Methods of test for metallic and related coatings

Method 3.3: Corrosion and related property tests—Copper accelerated acetic acid salt spray test (CASS test)

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 2331.3.3

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PREFACE

This Standard has been prepared by the Joint Standards Australia/Standards New Zealand Committee MT-009, Metal Finishing, to supersede AS 2331.3.3—1980. It is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard. The objective of this revision is to upgrade the requirements so that they closely align with the relevant part of ISO 9227:1990, *Corrosion tests in artificial atmospheres—Salt spray tests*. This ISO Standard, which covers three salt spray test methods, was not adopted because Committee MT-009 considered that each method should be the subject of a separate Standard, i.e. AS 2331.3.1, AS 2331.3.2 and AS 2331.3.3.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

METHOD

1 SCOPE

This Standard sets out the method for the copper accelerated acetic acid salt spray (CASS) test for the assessment of corrosion resistance of inorganic and organic coatings on metallic substrates.

NOTES:

1 The method does not specify the type of test item, the exposure period or the assessment criteria. Such details are normally specified in the relevant product Standard or determined by agreement between the purchaser and the supplier.

2 It is important that the results obtained from the test are not regarded as having a direct correlation with environments in which items may be exposed in service or as indicating the relative corrosion resistance of different coatings.

3 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.

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2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1247 Metallic coatings—Coatings other than those anodic to the basis metal—Accelerated corrosion tests—Method for the evaluation of the results

AS/NZS
2243 Safety in laboratories
2243.1 Part 1: General
2243.2 Part 2: Chemical aspects

ISO
3696 Water for analytical laboratory use—Specification and test methods

3 PRINCIPLE

Coatings are exposed to a corrosive atmosphere under controlled conditions for different durations. Resistance to corrosive attack is used to assess the quality of the coating against the conditions of the test.

4 APPARATUS

The following apparatus is required:

(a) *Spray cabinet*

The spray cabinet shall be made of, or lined with, materials resistant to corrosion by the test solution. The cabinet shall have a volume of not less than 0.2 m^3 and preferably not less than 0.4 m^3 since, with smaller volumes, difficulties are experienced in ensuring an even distribution of spray.

The size and shape of the cabinet shall be such that the quantity of solution collected in the cabinet is within the limits stated in Clause 7.1. The upper parts of the cabinet shall be designed to ensure that drops of accumulated test solution do not drip onto test pieces.

Adjustable baffles may be used to prevent direct impingement of spray on test pieces and to assist the uniform distribution of spray throughout the cabinet.

(b) *Test piece supports*

Test piece supports shall be made of inert non-metallic material such as ceramic, glass, plastic, or suitably coated wood.

The material used for suspending test pieces shall be synthetic fibre, cotton thread or other inert insulating material.

(c) *Atomizing equipment*

The cabinet shall be equipped with means to spray the test solution and shall include—

(i) a supply of clean compressed air of controlled pressure and humidity;

(ii) a reservoir to contain the stock of test solution; and

(iii) one or more atomizers made of chemically-inert material.

The compressed air supply to the atomizers shall pass through a filter to remove all traces of oil and solid matter and shall be at a pressure of 70 kPa to 170 kPa.

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