

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 1580.481.3—2002

Paints and related materials—Method of test

Method 481.3: Coatings—Exposed to weathering—Degree of corrosion of coated metal substrates

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 25 September 2013.

The following are represented on Technical Committee CH-003:

Australasian Corrosion Association
Australian Paint Approval Scheme
Australian Paint Manufacturers' Federation
Australian Pipeline Industry Association
Water Corporation Western Australia

NOTES

Australian/New Zealand Standard™

AS 1580.481.3

Paints and related materials—Methods of test**Method 481.3: Coatings—Exposed to weathering—Degree of corrosion of coated metal substrates****1 SCOPE**

This method describes the assessment of the degree of deterioration of a metal substrate that has been coated by a paint system and exposed to weathering. It is intended as a measure of the ability of a paint system to provide corrosion protection for a metal that has been exposed to an aggressive environment.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS/NZS

1580	Paints and related materials—Methods of test
1580.457.1	Method 457.1: Resistance to natural weathering
1580.481.0	Method 481.0: Coatings—Guide to assessing paint systems exposed to weathering conditions

3 DEFINITIONS

For the purpose of this Standard, the definitions of AS/NZS 1580.481.0 and those below apply.

3.1 Type 1 corrosion

Corrosion not accompanied by blistering.

3.2 Type 2 corrosion

Corrosion accompanied by blistering.

4 PRINCIPLE

Coated test panels are exposed to a corrosive environment. The corrosion on the surface of the paint film and, where required, on the metal surface beneath the paint film is assessed by comparison with photographic reference standards.

The test panels may be scribed to determine the ability of the paint system to resist undercut corrosion.

5 APPARATUS AND MATERIALS**5.1 Reference standards**

See Figures 1, 2 and 3.

5.2 Test panel

Coated test panel previously exposed by an appropriate method. The panel may or may not have a scribed line present on its surface.

5.3 Scraper

A rigid metal spatula or dull knife.

5.4 Paint remover

A suitable solvent-based paint remover to remove the test paint coatings.

6 VIEWING ENVIRONMENT

Examination of the films should preferably be conducted indoors, out of direct sunlight, under lighting conditions of not less than 500 lx.

7 OCCUPATIONAL HEALTH AND SAFETY GUIDANCE

During handling, precautions for use, as outlined in supplier's Materials Safety Data Sheet (MSDS), should be followed.

Care should be exercised when handling sharp cutting tools.

8 PROCEDURE

8.1 General

Unless otherwise specified, the test panel shall be dry and unwashed at the time of examination. In dirty test or service environments, it may be necessary to wash the test panel to enable adequate assessment. Care should be taken to avoid removing corrosion products from the metal substrate, or damaging blisters. The assessment of actual failure, which is made without knowledge of ratings given at any previous examinations, is performed in accordance with Clause 8.2 or Clause 8.3, as appropriate.

8.2 Assessment of unscribed panels

The procedure for the assessment of unscribed test panels shall be as follows:

- (a) Compare the test film visually with the pictorial reference standards shown in Figures 1 and 2, taking care to distinguish between staining and the actual corrosion products.

NOTES:

- 1 Consideration should be given to the colour of the finished coating, as failures will be more apparent on a finish that shows colour contrast with corrosion products. Accumulated dirt or other material may make accurate determination of the degree of corrosion difficult.
 - 2 The colour of the corrosion products will depend on the substrate material, that is, steel panels will produce brown/red rust corrosion products whereas aluminium and zinc will form whitish corrosion products.
- (b) Determine whether the corrosion is Type 1 or Type 2 (see Clause 3), and use the appropriate reference standards for the rating.

Numerically rate the degree of visible corrosion on the test film from 0 to 5, by comparison with the photographic reference standard appropriate to the corrosion type, which shows an approximately equal amount of visible corrosion. A rating of 0 implies that there is no evidence of visible rusting on the test film.