

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

RECONFIRMATION

OF

AS/NZS 1580.481.1.11:1998

Paints and related materials—Methods of test

Method 481.1.11: Coatings—Exposed to weathering—Degree of chalking

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.

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The following are represented on Technical Committee CH-003

Australasian Corrosion Association
Australian Paint Approval Scheme
Australian Paint Manufacturers' Federation
Australian Pipeline Industry Association
Institution of Professional Engineers New Zealand
Master Painters New Zealand Association
Water Corporation Western Australia

NOTES

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PREFACE

This Standard was prepared by the Joints Standards Australia/Standards New Zealand Committee CH/3, Paints and Related Materials, to supersede AS 1580.481.1.11—1991

This Standard differs from the 1991 edition of AS 1580.481.1.11, in that the velvet cloth specified no longer requires a silk backing and an alternative method (Method B), based on ISO 4628.6:1990, *Rating of degree of chalking by tape method*, has been added. The two methods may not produce equivalent results and the required method should be specified.

METHOD

1 SCOPE This Standard sets out two alternative methods for determining the degree of chalking of a paint film that has been exposed to weathering conditions.

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

AS

- 1580 Paints and related materials—Methods of test
- 1580.481.0 Part 481.0: Coatings—Guide to assessing paint systems exposed to weathering conditions
- 1635 Methods of test for pressure-sensitive adhesive tape
- 1635.3.1 Method 3.1: Adhesion Strength

AS/NZS

- 1580 Paints and related materials—Methods of test
- 1580.457.1 Method 457.1: Resistance to natural weathering

ISO

- 4628 Paints and varnishes—Evaluation of degradation of paint coatings—Designation of intensity, quantity and size of common types of defect
- 4628.1 Part 1: General principles and rating schemes
- 4628.6 Part 6: Rating of degree of chalking by tape method

3 DEFINITIONS For the purpose of this Standard, the definitions given in AS 1580.481.0 apply.

4 METHOD A

4.1 Principle A dry unwashed exposed test film is wiped with a velvet cloth and the marking on the velvet is visually evaluated for the degree of chalking, by comparison with diagrammatic reference standards showing rated stages of chalking.

NOTE: The rating schemes of ISO 4628.1 have been adopted.

4.2 Materials

4.2.1 Velvet cloth—good quality, closely woven velvet of appropriate colour, wrapped around corks of approximately 20 mm diameter. The colour of the velvet is determined from the colour of the test paint, as follows:

- (a) For white and light coloured test films—black velvet.
- (b) For black and dark coloured test films—white velvet.
- (c) For intermediate colours—both black and white velvet.

4.2.2 Reference standards (see Figure 1)—for comparison with the test film.

4.3 Viewing environment Examination of the films should preferably be conducted indoors, out of direct sunlight and under lighting conditions of at least 500 lx.

If it is not possible to perform the examination indoors, assessments of chalking should not be made on wet or windy days.

4.4 Procedure The procedure shall be as follows:

- (a) Wrap the velvet (Clause 4.2.1) over the end of a cork approximately 20 mm in diameter or, alternatively, over the tip of the index finger, and hold it firmly against the test film.
- (b) Draw the velvet across the film under moderate pressure for a distance of 100 mm, making the stroke across the line of the brush marks if the test film has been applied by brushing.

The assessment at subsequent examinations shall not be carried out on the same part of the test film as used for this determination.

- (c) Visually compare the spots obtained with the reference standards (Clause 4.2.2), taking care to differentiate between chalking and dirt collection.

NOTE: Loosely held dirt tends to collect under the leading edge, whereas chalking is fairly evenly distributed over the area of contact between the velvet and test panel.

- (d) Rate the degree of chalking of the test film based on Table 1 and the photographic reference standard (see Figure 1) that shows an approximately equal amount of chalking. Rate intermediate stages by interpolation but do not use fractions.

NOTE: The reference standards show only white chalking on black backgrounds. Due allowance should, therefore, be made when using the reference standards for the evaluation of chalking of intermediate or dark colours.

- (e) Record the rating and any appropriate remarks.

NOTE: Although chalking results in erosion, it should be remembered that the degree of chalking as measured by this Standard and the degree of erosion may not be comparable, because some pigment combinations tend to retain chalk on the surface whereas others exhibit a self-cleaning action.

- (f) If appropriate, return the test panel to the test rack for further exposure testing.