

STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 3894.5—2002

Site testing of protective coatings

Method 5: Determination of surface profile

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 Standard™

AS 3894.5

Site testing of protective coatings**Method 5: Determination of surface profile**

PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee CH-003, Paints and Related Materials, to supersede AS/NZS 3894.5:1995. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

FOREWORD

A record of the range of the surface profile present on a prepared metal surface, to which a protective coating will be applied, will assist in controlling the quality of the coating operation. Coating manufacturers normally specify a range of surface profile readings required to achieve the desired performance for the coating.

As the average surface profile, when numerically expressed, will vary from spot to spot on the prepared surface of a structure or structural unit, it may be necessary to record the range and the mean of surface profile readings.

A round robin was performed on test panels that had been prepared by abrasive blasting with ilmenite, garnet, zinc slag, copper slag, chilled grit and steel shot using the test methods described in this Standard. Although the tests gave consistent results for a particular method, it was demonstrated that a direct comparison of results obtained using alternative methods was not appropriate.

METHOD

1 SCOPE

This Standard provides practical procedures for use in the field, to evaluate the surface profile of a prepared metal substrate to which a protective coating is to be applied.

This Method is applicable to surfaces that have been prepared by abrasive blast cleaning in accordance with AS 1627.4.

Four methods are described for assessing surface profile.

NOTES:

- 1 Results obtained using different methods are not necessarily comparable.
- 2 Surface profile does not play any part in surface cleanliness.

2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- 1199 Sampling procedures and tables for inspection by attributes
- 1627 Metal finishing — Preparation and pretreatment of surfaces
- 1627.4 Part 4: Abrasive blast cleaning
- 1627.9 Part 9: Pictorial surface preparation standards for painting steel surfaces

AS/NZS

- 2310 Glossary of paint and painting terms
- 3894 Site testing of protective coatings
- 3894.3 Method 3: Determination of dry film thickness

3 DEFINITIONS

For the purpose of this Standard, the definitions of AS/NZS 2310 and that below apply.

3.1 Surface profile

The measured peak-to-valley height occurring within a test area of the substrate.

4 GENERAL

4.1 Choice of method

A number of methods are available for the determination of surface profile. However, it has been demonstrated that there is not a high degree of consistency when results obtained by using different methods are compared.

Prior to commencement of work, the method adopted for determination of the surface profile shall be nominated, the test area for evaluation shall be specified and the test procedure validated.

Although these methods are directly applicable to A Grade and B Grade steel specified in AS 1627.9, they may also be used on Grade C and Grade D steel provided a non-pitted area of surface is selected for evaluation.

NOTE: For practical purposes, the comparator method (Method B) is the preferred method.

4.2 Preliminary work

A preliminary inspection should be undertaken to ensure that the prepared surface is dust-free and free from loose particles and other contaminants.

The inspection procedures should utilize appropriate methods for the assessment of surface contamination.

A record of observations made during inspection should be provided. It should describe areas of the surface, which are visually rougher or smoother in profile than the main body of the surface.

Such preliminary work should be undertaken at an appropriate time after which further weathering or surface contamination will not occur before application of the coating.

4.3 Low profile measurements

Where the surface profile is below 75 μm , it shall be measured using the method described in Clause 5, Clause 6, Clause 7 or Clause 8.

Where the profile measurement obtained is less than 100 μm , it shall be recorded as being in one of the ranges shown in Table 1.