

STANDARDS AUSTRALIA

RECONFIRMATION
OF
AS 3894.6—2002
Site testing of protective coatings
Method 6: Determination of residual contaminants

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 3894.6

Site testing of protective coatings

Method 6: Determination of residual contaminants

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 3894.6:1996. 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.

METHOD

1 SCOPE

This Standard provides practical test procedures for the on-site determination of the presence of chlorides (Method A), oil and water deposits (Method B), residual dust (Method C), soluble ferrous salts (Method D) and mill scale (Method E).

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

1627.2 Method 2: Power tool cleaning

1627.4 Method 4: Abrasive blast cleaning

AS/NZS

2310 Glossary of paint and painting terms

3 DEFINITIONS

For the purposes of this Standard the definitions of AS/NZS 2310 apply.

4 GENERAL

Although the presence of some salts on surfaces that are to receive a protective coating may have a deleterious effect on the coating, it may often be impractical to remove all detectable salt deposits before coating. The acceptable level of salts remaining on the unpainted substrate will depend upon the type and thickness of coating being applied, the environment and the practicality and cost of subsequent repainting.

Tests to determine the presence of chloride salts and oils, in accordance with Method A in Clause 6 and Method B in Clause 7 respectively, may be performed before preparation of the steel surface and again after preparation of the substrate. The following tests to assess the presence of contaminants should be performed after abrasive blast preparation of the substrate:

- (a) *Method C* For detection of surface dust in accordance with Clause 8.
- (b) *Method D* For detection of soluble salts of iron in accordance with Clause 9.
- (c) *Method E* For detection of mill scale in accordance with Clause 10. This test is applicable only to steel that has been prepared to a very thorough clean in accordance with AS 1627.2 or to a Class 3 blast clean in accordance with AS 1627.4.

NOTE: Proprietary conductivity meters, which will indicate the presence of non-specific conductive salts, are available.

5 SAMPLING PROCEDURE

The tests in Clauses 6, 7, 8, 9 and 10 should be conducted in accordance with an agreed sampling plan. AS 1199 provides guidance on the selection of sampling plans.

NOTES:

- 1 It is recommended that at least one test be performed on each 50 m² of surface area prior to applying the coating.
- 2 The selection of the appropriate sampling plan should be agreed prior to commencement of the project.

6 METHOD A—DETERMINATION OF CHLORIDES

6.1 Principle

An area of substrate is masked, washed with distilled water and the washings are collected. A chloride concentration titrator is immersed in the washings and, using a calibration table, the resultant colour change is used to determine the chloride concentration in mg/m². Under Alternative 1, a wash bottle is used to generate the washings. Under Alternative 2, a plastic patch and liquid reservoir are used to produce the washings.

6.2 Equipment

6.2.1 Chloride titrator

6.2.2 Distilled water or deionized water

6.2.3 Sterile swab (cotton ball)

Required for Alternative 1 only.

6.2.4 Tweezers

Suitable for holding the swab.

6.2.5 Plastic patch

Consisting of a proprietary, self-adhesive plastic patch incorporating a hole and a bladder that will contain a known volume of water. *Required for Alternative 2 only.*

NOTES:

- 1 Information on suitable patches can be obtained from the Australian Corrosion Association (ACA), Clayton, Victoria, or the Blast Cleaning and Coating Association of Australia (BCCA-A).
- 2 Patches should be demonstrated to be chloride-free at the time of use.

6.2.6 Syringe

Of approximately 10 mL capacity. *Required for Alternative 2 only.*

6.2.7 Beakers (2)

Of up to 250 mL capacity.

6.2.8 Graduated measuring cylinder

Of 50 mL capacity.