
**SURFACE PREPARATION FOR THE APPLICATION OF
PROTECTIVE COATING ON ALUMINIUM**

SPECIFICATION: A4

ISSUE: 4

DATE: NOVEMBER 2022

1.0 SCOPE

The scope of this coating specification applies to operations required for the surface preparation of aluminium.

Refer Design Standard, DS 95 (Standard for the Selection, Preparation, Application, Inspection and Testing of Protective Coatings on Water Corporation Assets) for details.

2.0 PURPOSE

The purpose of this coating specification is to prepare an aluminium substrate for the application of a protective coating.

3.0 DEFINITIONS

ACA: Australasian Corrosion Association.

Contractor: the service provider or its sub-contractor who will undertake the works.

Corporation: the Water Corporation and the Principal for the purposes of externally contracted asset delivery.

ITP: the detailed Inspection and Test Plan(s) for the Works.

NACE: National Association of Corrosion Engineers.

Superintendent: the Superintendent for the contract, as defined in the conditions of the contract, who is appointed by the Water Corporation to manage/oversee the work under the contract on behalf of the Water Corporation.

Work: the surface preparation, coating application and inspection to be undertaken by the contractor to which this coating specification applies.

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4.0 GENERAL

- 4.1 Work shall only be carried out by competent personnel.
- 4.2 The work shall be undertaken by an approved Water Corporation Panel – Protective Coating and Concrete Repair Services member, unless approved otherwise by the Team Leader – Asset Durability.
- 4.3 The coatings contractor/subcontractor shall nominate a certified coating inspector (NACE or ACA). Qualification to SSPC and equivalent will require written approval by the Principal. The certified coating inspector shall conduct the following:
- Prepare quality assurance documentation to meet the specified standards given herein and the required acceptance criteria.
 - Perform inspections and maintain appropriate records for work performed.
 - Test, monitor and verify surface preparation and coating application.

5.0 ATMOSPHERIC CONDITIONS

- 5.1 Prior to coating application, the contractor shall keep detailed records and reports covering all environmental conditions and on-site tests carried out on the surfaces to be coated.

6.0 SURFACE PREPARATION

- 6.1 All oil and dirt shall be removed using appropriate methods, e.g. aluminium surface can be degreased with solvent or non-ionic detergent according to AS 1627.1 (SSPC-SP1).
- 6.2 Whip blast the surface using non-metallic abrasives such as Garnet/Ilmenite to remove the surface oxide layer of aluminium. The abrasive size and blast pressure shall be appropriate such that all the surface contaminants are completely removed. The surface shall be lightly profiled to provide a suitable key for the coating system to adhere.
- 6.3 Aluminium surface that is not required to be coated shall be protected with masking materials, which shall be completely removed by the Contractor after completion of the work.
- 6.4 Welding slag, weld spatter, sharp edges and any other surface irregularities, which may impair the appearance or performance of the protective coating shall be removed. Sharp edges shall be radiussed to a minimum of 2 mm.

7.0 INSPECTION

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- 7.1 Materials and methods used shall be subject to inspection and acceptance by the Superintendent (or nominated delegate) prior to commencement of any work.
- 7.2 The Contractor shall give the Superintendent (or nominated delegate) adequate prior notice as to when and where the surface preparation and coating operations will be conducted and facilitate all specified inspections.
- 7.3 If recognised as a hold point in the ITP, then coating application shall not be carried out until the Superintendent (or nominated delegate) has accepted the surface preparation.

8.0 CONTRACTOR'S RESPONSIBILITY

- 8.1 The Contractor shall supply all necessary plant, equipment, materials and labour, prepare the surface and apply and maintain the protective coating in accordance with this specification.
- 8.2 An Inspection Test Plan (ITP) shall be forwarded to the Water Corporation for review a minimum of ten working days prior to the commencement of work.
- 8.3 A list of all items to be inspected and the relevant drawing reference shall be forwarded to the Water Corporation coating inspector prior to the inspection being undertaken.
- 8.4 The preceding inspection clauses shall not relieve the Contractor of their responsibility to supply materials and perform work in accordance with the requirements of any overriding contract documentation.

Document Revision History					
Sect	Issue	Date	Revision Description	RVWD	APROV
3	4	17/11/2022	Amend definitions	AO	SS
4	4	17/11/2022	Amend coating application qualifications	AO	SS
6	4	17/11/2022	Rewording surface preparation	AO	SS

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