TS 01746:1.0

Specification

Protection of Steelwork by the Use of Paint Coatings

(ATS 5450, Ed 1 MOD)

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Preface

This document is the first issue as TS 01746:1.0, which adopts and modifies Austroads Technical Specification ATS 5450. It sets out the requirements for protective treatment of structural steelwork by painting.

For the purposes of this document, where TfNSW has identically adopted, or adopted and modified, an ATS document as a Transport Standard, the corresponding Transport Standard should be applied.

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1. Scope

1.1 This Specification sets out the requirements for the protective treatment of structural steelwork by painting, including:

a. surface preparation;

b. selection of the coating system; and

c. application of the paint.

1.2 It covers the application of protective paint coatings to new steelwork, previously painted steelwork and to galvanized surfaces (‘Duplex Coating’).

1.3 It does not cover galvanizing (refer ATS 5452).

1.4 For painting carried outside of a workshop, including the painting of an existing steel structure which has been previously painted, the additional requirements in TS 01747 will apply for management of the Site.

1.5 The Applicator must carry out the work in accordance with Section 9 of AS/NZS 5131, as amended by this Specification.

1.6 The Contractor must ensure that the Applicator complies with this Specification. The Contractor may be the same entity as the Applicator.

2. Referenced documents

2.1 The following documents are referenced in this Specification:

Australian Standards /New Zealand Standards

AS 1627	Metal finishing – Preparation and pretreatment of surfaces
AS 1627.1	Part 1: Removal of oil, grease and related contamination
AS 1627.4	Part 4: Abrasive blast cleaning of steel
AS 1627.7	Part 7: Hand tool cleaning of metal surfaces
AS 1627.9	Metal finishing – Preparation and pretreatment of surfaces – Part 9: Pictorial surface preparation standards for painting steel surfaces
AS/NZS 2310	Glossary of paint and painting terms
AS/NZS 2312.1	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings, Part 1: Paint coatings
AS 2700	Colour standards for general purposes
AS/NZS 3750	Paints for steel structures
AS/NZS 3750.9	Organic zinc-rich primer
AS/NZS 3750.15	Inorganic zinc silicate paint
AS 3894	Site testing of protective coatings

AS 3894.3	Method 3: Determination of dry film thickness
AS 3894.5	Method 5: Determination of surface profile
AS 3894.6	Method 6: Determination of residual contaminants
AS 3894.9	Method 9: Determination of adhesion
AS 3894.10	Part 10: Inspection report – Daily surface and ambient conditions
AS 3894.14	Part 14: Inspection report – Daily painting
AS/NZS 4361.1	Guide to hazardous paint management Part 1: Lead and other hazardous metallic pigments in industrial applications
AS 8501.3	Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness, Part 3: Treatment grades of welds, edges and other areas with surface imperfections
AS/NZS 5100.6	Bridge design – Steel and composite construction
AS/NZS 5131	Structural steelwork – Fabrication and erection

Austroads

ATS 5451	Paints and Thinners for Steelwork
ATS 5452	Galvanizing

International Standards

ISO 8501-1	Preparation of steel substrates before application of paints and related products – Visual assessment of surface cleanliness – Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings
ISO 8504-3	Preparation of steel substrates before applications of paints and related products – Surface preparation methods, Part 3: Hand- and power-tool cleaning

TfNSW Standards

TS 01747	Repainting of Steel Bridges (ATS 5453-23, IDT)

Other referenced documents

TfNSW, National Prequalification System for Civil (Road and Bridge) Construction

3. Definitions

3.1 In addition to the definitions in AS/NZS 2310, the following definitions and abbreviations apply to this Specification.

ACA: Australasian Corrosion Association.

APAS: Australian Paint Approval Scheme.

ACA:	Australasian Corrosion Association.
Applicator:	The company that performs the surface preparation and paint application tasks.
AMPP:	Association for Materials Protection and Performance,
Bridge steelwork:	All ferrous components including steel, wrought-iron and cast-iron bridge components.
DFT	dry film thickness
PCCP:	Painting Contractors Certification Program
MIO	micaceous iron oxide
TDS	technical data sheet; paint manufacturer's technical data sheet for paint products

4. Quality System Requirements

4.1 The Contractor must prepare and implement a Quality Plan that includes the documentation in Table 4.1.

Table 4.1: Quality Plan

Clause	Description of Document
7.1	Names, qualifications and experience of the supervisory personnel and the Coating Inspector
8.1	Details of the coating system.
10.1	Details / procedures for surface preparation.
11.1	Details / procedures for special areas.
12.1	Details / procedures for the application of the coatings.
13.1	Procedure for the routine submission of conformity data

HOLD POINT 1	
Process Held	Commencement of surface preparation.
Submission Details	The Quality Plan must be provided to the Principal at least 10 working days prior to the commencement of work on site.

5. Accreditation and Inspection

5.1 For protective coating works carried out in situ on existing structures, the Applicator must hold the following accreditation from the PCCP for the following (as appropriate to the work being undertaken):

a. Class 1 –Shop application of coatings for atmospheric service;

b. Class 2 –Shop application of coatings for immersion service;

c. Class 3 – Site application of coatings for atmospheric service; or

d. Class 4 – Site application of coatings for immersion service;

5.2 In addition, for site application of coatings for atmospheric and immersion services (c and d in the preceding list), the Applicator must be prequalified to TfNSW Category T: Protective Treatment – Field (T) in accordance with the National Prequalification System for Civil (Road and Bridge) Construction.

5.3 Unless specified otherwise in the Contract documents, accreditation is not required for protective coating works carried out as a controlled workshop application in either an open yard or an enclosed building or facility.

5.4 All phases of the surface preparation and coating application must be monitored and inspected. Coating inspectors must:

a. satisfy the requirements of Clause 9.2 of AS 2312.1; and

b. hold accreditation from an inspector training organisation recognised by ACA or another certifying body acceptable to the Principal.

6. Program of Work

6.1 Unless specified otherwise in the Contract documents, prior to the commencement of any work associated with protective treatment, the Contractor must submit a complete detailed program of work showing all activities required for cleaning, surface preparation and application of protective treatment.

6.2 The program must show the paint manufacturer's estimated time to full cure.

6.3 If requested by the Principal, a commencement meeting must be held at a time and location directed by the Principal. The Contractor's representative(s) and / or Applicator's representative(s), Coatings Supervisor, Coatings Inspector, coatings manufacturer representative and any subcontractors must attend. The purpose of the meeting is to clarify the proposed program, methodology and inspection procedures.

6.4 Where the program no longer reflects the actual or planned progress, the Contractor must provide the Principal with an amended program as soon as practicable.

HOLD POINT 2	
Process Held	Commencement any work associated with protective treatment
Submission Details	The program of work must be provided to the Principal at least 10 working days prior to the commencement any work associated with protective treatment. Where a revised program is required, the Contractor must submit the revised program to the Principal prior to the commencement of work in accordance with the revised program.

6.5 The Contractor must provide at least 48 hours' notice prior to the commencement of any cleaning / surface preparation process.

WITNESS POINT 1	
Process Held	Cleaning / surface preparation
Submission Details	At least 48 hours before the commencement of the work.

7. Personnel and Inspectors

7.1 The Quality Plan must include the names, qualifications and experience of the supervisory personnel, abrasive blast cleaners, paint applicators and the Coating Inspector.

7.2 The Contractor must ensure that the work is undertaken by:

a. abrasive blast cleaning operators who are competent in the consistent delivery of the blast cleaning class as specified; and

b. experienced paint applicators who can demonstrate the ability to apply paint in accordance with the requirements of this Specification.

7.3 The work must be supervised by a Coating Supervisor with at least 3 years of experience on projects of a similar size and scope to this work and is qualified to AMPP Level 1 as a minimum. The Coating Supervisor must be on site at all times while painting work is in progress.

7.4 The Coating Supervisor must be an employee or agent of the Applicator and must not be the Coating Inspector (where applicable).

7.5 Unless specified otherwise in the Contract documents, the Contractor must:

a. engage a Coating Inspector who is qualified to one of the following:

i. AMPP CIP 2;

ii. ACA Coating Inspector;

iii. another qualification acceptable to the Principal; and

b. ensure that the Coating Inspector complies with this Specification.

7.6 The Coating Inspector must independently and impartially monitor the Applicator's activities to verify that the Applicator has complied with this Specification.

8. Materials

Paint

8.1 The Quality Plan must include the following details:

a. description of the coating system;

b. evidence that each paint has been approved in accordance with ATS 5451 and the supporting information listed in ATS 5451 (where applicable);

c. proposed paint products for each coat of the coating system; and

d. Technical Data Sheets (TDS) and Material Safety Data Sheets (MSDS) for each paint.

8.2 Unless specified otherwise in the Contract documents, paint must conform to ATS 5451.

8.3 All materials (including thinners) for the coating system must be supplied by the same paint manufacturer. All paint of a particular type for a topcoat of a particular structure must be from the same batch.

8.4 Audit samples, including samples from the painter's pot, may be collected at any time by the Principal.

8.5 At least 5 working days prior to the commencement of work, the Contractor must submit:

a. an APAS record of supply for each batch of APAS approved material to be used for protective Treatment; and

b. where the use of a non-APAS approved product has been approved by the Principal, evidence that each batch of paint supplied has been manufactured to the same formula as the approved sample.

8.6 Paint must be delivered to the site in the manufacturer's containers, unopened and with the label intact. The following information must be legibly and durably marked on each container:

a. the name or registered mark of the manufacturer;

b. the paint type;

c. colour to AS 2700;

d. the contents by volume in litres, or by mass in kilograms;

e. product identification;

f. production or batch numbers on packs of 5 kilograms capacity, or greater;

g. date of manufacture; and

h. information required by statutory regulations.

8.7 The colour (in accordance with AS 2700) of the external finish must be as specified in the Contract documents.

8.8 The instructions for use, the TDS and the MSDS must be kept on site at all times, must be readily available to the relevant personnel and must be made available for inspection by the Principal upon request.

Abrasive

8.9 Where required for the Works, the abrasive to be used for dry abrasive blast cleaning must:

a. comprise of crushed, sharp angular grit, which may include garnet, staurolite or steel grit abrasive;

b. be clean, dry and free from extraneous material (such as dirt, gravel and organic matter);

c. not include copper or mineral slag abrasives;

d. not contain free crystalline silica;

e. not contain radioactive substances or recycled materials that have not been treated to minimize respirable dust; and

f. not be spherical shot or cut wire pellet abrasives.

8.10 Only garnet abrasives are to be used for field or on-site work, irrespective of whether or not the work is carried out using full containment.

8.11 Prior to their first use, abrasives must be analyzed for water-soluble salts and lead. Water-soluble salt content must be less than 50 parts per million (ppm) or an upper limit of conductivity of 30 mS/m when assessed in accordance with ISO 11127-6. Total lead content must be less than 100 ppm.

8.12 Blast media must be delivered to the applicator's premises in the manufacturer's containers, unopened and with the label intact. The following information must be legibly and durably marked on each container:

a. material type;

b. batch number;

c. date of manufacture;

d. grading of material; and

e. manufacturer’s name.

8.13 The disposal of blast media waste must be managed in accordance with the applicable environmental regulations and any other environmental management requirements included in the Contract documents.

Other Materials

8.14 The Contractor must:

a. use clean and dry oil-free compressed air for abrasive blast cleaning, blowing down and spraying;

b. fit oil and water traps with their associated in-line filters to all air-lines;

c. maintain the filters regularly;

d. install new filters at the start of the work; and

e. replace filters as recommended by the manufacturer, or earlier if they become ineffective.

8.15 Cleaning solutions for the removal of non-water soluble contaminants (e.g. greases, lifting chain lubricants or road grime) must be as recommended by AS 1627.1.

8.16 Water must be clean, free from chlorides and any other contaminants deleterious to steel surfaces for jet washing and high pressure water blasting activities.

8.17 Any thinners used must be in accordance with the recommendations of the paint manufacturer. Solvents used for cleaning painting equipment must not be used as thinners for the paint. Prior to the application of the paint, any residual solvents used for cleaning must be flushed or otherwise removed from the painting equipment.

8.18 For filling crevices and gaps between steel surfaces, two-part solvent-less epoxy putties recommended by the paint manufacturer must be used.

9. Coating Systems

9.1 The coating system must:

a. comply with Annexure C

b. be approved / registered under any Principal's product approval / registration scheme which is applicable to the work; and

c. comply with any additional specific requirements included in the Contract documents.

9.2 Unless specified otherwise in the Contract documents, the coating system must be designed to achieve a minimum time of 25 years to first maintenance (as defined in AS/NZS 2312.1):

10. Preparation of Steel Surfaces

General

10.1 The Quality Plan must include details / procedures for undertaking the surface preparation, including:

a. details of work to be carried out by shop treatment and the work to be carried out by field treatment;

b. details of the equipment, including:

i. abrasive blast cleaning plant;

ii. waste collection equipment;

iii. abrasive recycling equipment;

c. details of solvent cleaning procedure and soluble salt removal procedures;

d. details and test results for the abrasive to be used for abrasive blast cleaning which may be submitted a week before commencement of blasting;

e. analysis certificate if non-metallic abrasives are used which may be submitted a week before commencement of blasting;

f. for new steelwork, a procedure in accordance with Clause 9.8 of AS/NZS 5131 for checking the condition of the steel after fabrication and surface cleaning, but before the application of the coating; and

g. for previously painted steelwork, a procedure for checking the steel work for delamination or other defects after surface preparation, but prior to the application of the coating.

10.2 Unless specified otherwise in the Contract documents, any defects to welds, edges and other areas with surface imperfections must be treated to Grade P3 in accordance with AS 8501.3.

10.3 Prior to the application of the coating system, the surface must be treated in accordance with the requirements of this Clause 10 and the requirements of the following clauses of AS/NZS 5131:

Surface Preparation: Clause 9.3 Abrasive Blasting: Clause 9.4 Mechanical Cleaning: Clause 9.5

10.4 The Contractor must maintain daily records of the surface preparation work in accordance with Clause 14.

10.5 Where the surface preparation and application of a coating are to be carried in the field, scaffolding and / or containment must be installed and managed in accordance with the requirements of TS 01747

10.6 Where used, power tool cleaning and hand tool cleaning must be carried out in accordance with ISO 8504-3 and AS 1627.7 respectively.

Defects in Previously Painted Surfaces

10.7 Where the corroded areas and other identified defects are present in existing steelwork, prior to the application of the coating, the Contractor must:

a. if required, remove any surface imperfections by filing or grinding;

b. clean back all corroding or defective surfaces to the metal, removing rust, mill scale, weld slag, or any extraneous material, with abrasive blasting in accordance with Clause 9.3 of AS 5131;

c. if applicable, feather back edges of sound paint by sanding to produce a smooth transition to prepared steel; and

d. clean all surfaces to remove any loose contaminants in accordance with Clause 10.17 prior to application of the first coat.

Overcoating of Existing Paint

10.8 If the scope of work includes the overcoating of existing paint coating, in addition to any preparation required under clause 10.6, the Contractor must prepare the existing paint surface by thoroughly cleaning with low pressure (15 to 30 MPa) water blasting. Other techniques such as sweep blasting may only be used if specified in the Contract documents.

Surface Preparation and Surface Profile

10.9 Any localised deposits of mud, dirt, bird nests and droppings must be removed by scraping, or cleaning by mechanical means or water. In the process of cleaning, contaminants must not be spread over less contaminated areas. Prior to abrasive blast cleaning, any other surface preparation or painting, areas contaminated by oil, grease or bitumen must be cleaned using alkaline or solvent solutions in accordance with AS 1627.1.

10.10 The air temperature, relative humidity and dew point and steel surface temperature and time of measurement must be recorded just prior to commencing abrasive blast cleaning, every two hours afterwards and on completion.

10.11 The steel surfaces must be cleaned by abrasive blasting to achieve a minimum of Sa2 ½ surface finish in accordance with AS 1627, Part 4, pictorially represented in ISO 8501-1. All cleaned surfaces must be assessed for compliance.

10.12 The surface profile height must be within the range of 40 µm to 75 µm when sampled and measured in accordance with a method in AS 3894.5. One evaluation must be performed for each 50 square metres of cleaned surface, with at least three evaluations made for each day's production.

10.13 The achievement of the surface preparation class and the measured surface profile height must be recorded on the Contractor's Daily Inspection Report.

10.14 Final blasting must not be carried out unless the surface temperature is at least 3°C above the dew point.

10.15 If the Contractor has not achieved the specified class of surface finish, it may submit a proposal to the Principal to use an alternative coating system which is compatible with the surface finish achieved.

Cleaning After Blasting

10.16 Before applying the protective coating, all surfaces must be cleaned free of any traces of blast product and debris by brushing with clean brushes and blowing down with clean dry compressed air or by vacuuming. Air used to blow down surfaces must be free of oil and moisture. The effectiveness of the dust removal process must be verified in accordance with Method C of AS 3894.6. A result equal or better than Rating 1 must be achieved on all surfaces.

Surface Cleanliness

10.17 If specified in the Contract documents, all surfaces to be painted must be tested for chloride contaminants by field analysis using reliable, reproducible test equipment The procedures for extracting and analysing soluble salts must be selected from Method A of AS 3894.6. The level of chloride contaminants must be less than 7 µg/cm2.

10.18 Oil or grease must not remain on the blasted surface. Testing for the absence of these contaminants must be as per Method B of AS 3894.6.

10.19 Testing for the level of surface contaminants must be carried out at a rate of one test per 50 square metres of cleaned steel, or part thereof. The results of testing for surface contaminants must be included in the Contractor's Daily Inspection Report.

10.20 If the level of contaminants exceeds the limits specified above, the affected area must be cleaned, degreased and re-blasted as appropriate in accordance with this Specification.

Records

10.21 Details of the surface preparation must be recorded in accordance with AS 3894.10, AS 3894.14 or equivalent and submitted to the Principal. At a minimum, the following must be reported:

a. name(s) of cleaning solution product(s) together with manufacturer(s) details;

b. designation of each member or area where the cleaning solution is used;(

c. method(s) of surface preparation;

d. class of surface preparation;

e. profile of abrasive blast cleaned surfaces;

f. type and grade of abrasive;

g. soluble salt and lead content of non-metallic abrasives;

h. records of air temperature, relative humidity and dew point and steel surface temperature and times of measurement; and

i. date(s) and time(s) of commencement and completion of abrasive blast cleaning.

11. Special Areas

General

11.1 The Quality Plan must address:

a. the treatment of any areas that cannot be prepared to the specified class of surface finish and include a proposed alternative treatment and / or coating; and

b. the minimum dimensions of coating to be removed for welding in accordance with Clause 11.7 (where applicable).

11.2 Further to Clause 9.6 of AS/NZS 5131, prior to painting hollow non-galvanized members with interiors that will be inaccessible to personnel after fabrication, the members must be fully sealed using continuous welds. Seal welds must be used between intermittent welds.

11.3 The internal surfaces of fully sealed hollow members do not require protective treatment but must be kept dry and free of any loose or other materials that may have long-term deleterious effects.

11.4 For box and trough girders, unless the Drawings show that the internal surfaces are completely isolated from the external environment by welding, the internal surface must be coated using the paint coating system specified in the Annexure C.

11.5 Any temporary steel components not removed following their use and permanently left in place must be provided with the same protective treatment as the permanent steelwork.

11.6 The faying surfaces (including the coating system) of friction-type bolted connections designed to AS/NZS 5100.6 must be prepared and tested in accordance with Clause 8.4.2 of AS/NZS 5131. The calculated slip factor must not be less than 0.35. Testing of slip factor for each surface is not necessary when a test certificate is provided by the paint manufacturer for the applied paint.

11.7 All faying surfaces must be coated at least with primer.

11.8 Where surfaces are to be welded, sufficient paint must be removed in order to prevent harmful effects to welders or to the quality of welds. At least 75 mm of paint, measured from the edge of the cut, must be removed prior to welding.

Steelwork Embedded into Concrete

11.9 Where the completed steelwork will be partially embedded in concrete, the paint coating applied to the steelwork must extend into the concrete by the distance specified in Table 11.8 (at a minimum), measured from the adjoining concrete surface. The coating beyond that distance must also comply with Table 11.8.

Table 11.8: Protective Treatment of Steelwork Embedded in Concrete

	Concrete surface not permanently in contact with water:	**Concrete surfaces permanently in contact with water:**
Minimum distance that the full protective treatment must extend into the concrete:	50 mm	200 mm
Treatment to steelwork which is embedded into the concrete beyond the depth specified above:	The same surface preparation and primer as those used for the adjacent surfaces, but coatings applied after the primer may be reduced in build to give a DFT of 150 µm, including primer. For a single coat system, the minimum DFT is 150 µm.	The same surface preparation with full primer and total DFT of build and top coats of one half of that applied to the adjacent surface.

11.10 Shear studs must be abrasive blast cleaned in accordance with AS 1627.4 Sa 2.5 and then painted with the same coating as the base steel surface with total DFT of 50 to 150 µm.

12. Paint Application

General

12.1 The Quality Plan must include the following details application process and paint application conditions:

a. Procedures for the application of the coatings.

b. Procedure for monitoring and managing the performance of personnel carrying out painting.

c. Details of the equipment, including:

i. paint application equipment;

ii. ventilation equipment;

iii. waste collection equipment;

iv. dehumidifying equipment;

d. Inspection and Test Plans.

e. Details of the application process (including the manufacturer's recommendations) and paint application conditions,

i. the maximum and minimum ambient temperature,

ii. the maximum and minimum temperature of surfaces to be painted,

iii. maximum and minimum (if applicable) relative humidity,

iv. minimum difference between temperature of surface to be painted and the dew point, and

v. minimum and/or maximum time between application of successive coats; and

f. Procedure for the repair of any non-conforming work;

g. Procedure for adjusting curing times to suit ambient conditions and adjusting curing time due to changes in thickness, if this information is not provided in the TDS.

12.2 The coatings must be applied in accordance with Clause 9.9 of AS/NZS 5131 and the additional requirements of this Clause 12.

12.3 Each coat must be applied before the maximum recoat time specified by the manufacturer but after the previous coat has sufficiently cured in accordance with the manufacturer's instructions.

12.4 The curing times must be adjusted to account for the ambient conditions in accordance with the manufacturer's recommendations.

12.5 The Contractor must take wet film thickness measurements during the application of all paint coatings in accordance with AS 3894.3, Appendix C to verify that the specified film builds are being achieved. This requirement does not apply to inorganic zinc silicates or other fast drying coatings.

12.6 Details of the method of taking of wet film thickness measurements must be included in the Inspection and Test Plan (ITP), if this information is not provided in the application procedure.

Pre-Painting Inspection

12.7 Prior to painting, the area to be painted must be inspected and tested in accordance with Section 13.8 of AS/NZS 5131 for compliance with the surface preparation requirements. Any correction work must be in accordance with this Specification.

Application Conditions

12.8 Except where field work is unavoidable, paint coatings for new steelwork must be applied in enclosures that protect blast cleaned and freshly painted surfaces from damage from airborne dust and other environmental contaminants.

12.9 Heaters and dehumidifiers may be used to vary the temperature and relative humidity within the working area to comply with the paint manufacturer’s recommendations. When such equipment is used, it must be switched on for the whole time that the painting is being carried out, including for the recommended curing period.

12.10 If the manufacturer’s recommendations are in conflict with those in AS 2312.1, the Contractor must submit a proposal to the Principal describing the recommended application conditions and the reasons for adopting those conditions.

Tools and Equipment

12.11 Except as specified otherwise the Contract documents, all paints and coatings must be applied using airless or air-assisted airless spray equipment. However, conventional spray equipment may be used to apply zinc epoxy primer. Brushes and rollers may be used to apply stripe coats.

Mixing Paints

12.12 Paint must be thoroughly mechanically mixed prior to use to ensure that it is homogeneous, and must be maintained to this condition during use.

12.13 Paints must be mixed in accordance with the applicable Product Data Sheet (including thinner type and quantity, and any induction times) or as advised by the manufacturer.

12.14 Coatings or packs of coatings that do not exceed 5 litres in total may be hand mixed. Mechanical means must be used to mix all kit sizes exceeding 5 litres.

12.15 For multi-pack coatings, each component must be mixed thoroughly and separately before blending together. The entire content of containers of each component must be mixed together. The contents of component containers must not be split unless an accurate means of proportioning each component is used.

12.16 Where absolute colour consistency is required, pre-mix or box coating component containers that have been tinted to the required colour prior to the addition of the curing agent or converter.

12.17 For coatings containing heavy constituents, e.g. zinc metal filled coatings, the paint must be strained using an appropriate mesh to collect agglomerations, and then continuously mechanically agitated in its container during application to prevent settling of the constituents.

Application of Primer

12.18 Primers must be applied to prepared surfaces before any deterioration, discolouration or contamination occurs. Unless humidity is controlled, the primer must be applied on the same day that the surface is prepared.

12.19 If any deterioration of the prepared surface occurs by the time the primer is to be applied, the surface preparation must be repeated until it complies with the specified requirements, at no cost to the Principal.

Stripe Coats

12.20 For each new coating, a stripe coat must be provided prior to the general spray application. A wet- on-wet stripe coat must be applied in accordance with the paint manufacturer’s recommendations.

12.21 Where specified, a stripe coat with a colour different to that of the underlying and subsequent coatings must be applied. The stripe coat must be fully cured before the application of the next coat.

12.22 Stripe coats must be applied by spray, roller or brush as appropriate, to the following areas:

a. shadowed and difficult to spray areas such as nuts, bolts, washers, rivets, unsealed and filled lap joints, and crevices formed by plates and sections in contact;

b. areas prone to corrosion such as exposed edges, holes, welds, corners and pitted areas; and

c. all concealed surfaces of hollow latticed members, lower and upper chords of trusses and base of lift span towers.

Crevices and Gaps

12.23 The Contractor must:

a. ensure that as far as practicable, after painting, all crevices and surface imperfections are full of paint;

b. fill any unfilled crevices and gaps remaining after application of the primer and other coats excluding the topcoat with a two-pack, solventless epoxy putty compatible with the applied paints and recommended by the paint manufacturer for this purpose;

c. fill gaps between back-to-back angles or similar shapes only at upward facing locations with the potential to hold water and/or dirt (e.g. at intersections of battens in latticed members); and

d. apply stripe coats to the filled crevices and gaps prior to the application of the topcoat.

Painting Trials

12.24 The Contractor must:

a. carry out trials on representative steelwork where nominated by the Principal;

b. carry out further trials whenever personnel or equipment change; and

c. include painting of field welded joints in the trial (where these form part of the Works).

12.25 The paint trials must demonstrate the Contractor can produce defect-free paint coatings with uniform colour.

Records

12.26 Details of the painting must be recorded in accordance with AS 3894.10, AS 3894.14 or equivalent and submitted to the Principal. At a minimum, the following must be reported:

a. name(s) of cleaning solution product(s) together with manufacturer(s) details;

b. designation of each member or area where the cleaning solution is used;(

c. method(s) of surface preparation;

d. class of surface preparation;

e. profile of abrasive blast cleaned surfaces;

f. type and grade of abrasive;

g. soluble salt and lead content of non-metallic abrasives;

h. records of air temperature, relative humidity and dew point and steel surface temperature and times of measurement; and

i. date(s) and time(s) of commencement and completion of abrasive blast cleaning.

13. Conformity

General

13.1 The Quality Plan must include a procedure for the routine submission of conformity data and supporting documentation that certifies conformity of all work and materials to the requirements of the Specification.

13.2 Inspections must be carried and documented out at all stages of the Works in accordance with this Specification.

13.3 All measurements must be taken using calibrated equipment.

13.4 School grade chalk, adhesive inspection labels or masking tape must be used to mark defects. Crayon, paint or spirit based ink pens must not be used.

13.5 The Contractor must monitor wet film thicknesses to ensure that the nominal DFT has been achieved and that the maximum wet film thickness recommended by the coating manufacturer is not exceeded. Wet film thickness gauges with worn ‘feet’ must be discarded.

Definition of a Lot

13.6 The work must be subdivided into Lots, which must be one of the following, as appropriate to the work:

a. a bridge girder span;

b. members forming an individual structure;

c. a surface with a length not more than 500 metres, or

d. a section or item defined by the approved Quality Plan.

Measurement of Dry Film Thickness

13.7 A calibrated DFT gauge must be on site at all times. Electromagnetic, magnetic induction and eddy current DFT gauges must be calibrated and used in accordance with the relevant sections of AS 3894.3. In all cases, calibration and verification of calibration must be over a smooth, polished test plate, using non-conductive and non-magnetic test shims or a reference standard as recommended by the gauge manufacturer.

13.8 The specified DFT values are based on the use of electromagnetic or magnetic induction DFT gauge using the appropriate magnetic base reading correction factor as described in AS 3894.3 for the depth of profile for all coating systems (or parts of systems) with specified minimum DFT of up to three times the profile height. When measuring DFT values, allowance must be made for the thickness of the previous coating layer.

13.9 The Contractor must measure and record the DFT of the area coated each day. The inspection plan for measurement of DFT for the area coated on each day must not be less than that specified AS 3894.3 Section 7.3 for large surface areas or Section 7.4 for areas less than 10 m2. A single point reading is as defined in AS 3894.3, clause 7.2.

Dry Film Thickness Requirements

13.10 The primer coat of the coating system must be applied to achieve, at all point locations tested, the minimum dry film thickness (DFT) as nominated in the applicable Coating System Specification. For atmospheric exposure, the primer film thickness must comply with the following requirements:

a. the average of five single point readings for each 10 square metre area of coating surface must not be outside the specified coating DFT range; and

b. all single point readings in any 10 square metre area must not be less than the specified minimum coating thickness.

13.11 When tested in accordance with AS 3894.3, the average DFT of the intermediate coats and top coat and the average total coating thickness must not be less than the specified minimum.

13.12 In any 10 square metre area, one single point reading may be less than the specified minimum coating thickness, but not less than 80% of the specified minimum coating thickness. However, all other point readings within that area must not be less than the specified minimum.

13.13 The average of the point readings for each 10 square metre area of coating inspected must be within the range specified for the coating layer.

Adhesion

13.14 Adhesion tests must be carried out where there are indications that coatings are unsound, e.g. bubbles, blisters, wrinkles, flaking or other visible defects.

13.15 The adhesion of cured coatings to metal and paint substrates must exceed 2.0 MPa when measured in accordance with AS 3894.9.

Appearance

13.16 On completion, all painted surfaces must have a uniform appearance and colour.

13.17 Repaired areas must have the same appearance and colour as adjacent surfaces. Irregularly coated patches must not be apparent.

13.18 Fishtails and other indications of poor paint application or equipment must not be evident. Surfaces must have a smooth, even finish free of runs, missed areas, voids, pinholes, sags, fat edges, blisters, stickiness, inclusions, overspray, overbuild or other paint film defects.

13.19 Rust stains, stains from hardwood, formwork or other stains on the painted surfaces must not be apparent.

Disposition of Nonconformity

13.20 Any coatings that do not comply with the specified requirements, including DFT, adhesion and other defects that would limit long-term performance must be rectified.

13.21 All areas of rust stains, stains from hardwood, formwork or other stains on painted surfaces must be removed by solvent or detergent washing.

13.22 All repairs to coatings must be satisfactorily repaired prior to the application of subsequent coatings.

13.23 13.23 Where bubbling and other visible defects occur on 10% or more of the surface, or when the tensile adhesion of cured coatings to metal and paint coating substrates is less than 2.0 MPa when measured in accordance with AS 3894.9, the Contractor must abrasive blast clean all affected surfaces of contiguous members to bare metal and repaint.

13.24 Where the paint coating is less than the specified minimum DFT or greater than the specified maximum DFT, the Contractor must submit a proposal to the Principal which provides details of the proposed method to rectify the coating to achieve the requirements of this Specification. The proposal must also include the proposed corrective actions to prevent further failures.

WITNESS POINT 2	
Process Held	Rectification of paintwork with non-conforming DFT.
Submission Details	The proposal must be submitted to the Principal prior at least one working day to the rectification work commencing.

13.25 If the completed paintwork on the outer face or soffit of an exterior girder, or a surface in general public view, is not uniform in appearance and colour as a result of coating repairs, the Contractor must apply a further application of the topcoat paint having a minimum DFT of 40 µm for the full length of the girder or member.

WITNESS POINT 3	
Process Held	Rectification of defective appearance
Submission Details	At least one working day prior to the rectification work commencing. The notification must include location, proposed date and time, and written report on the causes of coating defects and proposed corrective actions to prevent future coating defects.

14. Handling, Storage, Transport and Erection

General

14.1 The Contractor must use due care and effective measures at all times during all phases of construction to prevent damage to the protective treatment of steelwork.

Handling

14.2 Lifting lugs for lifting steelwork must be used where provided. Where lifting lugs are not provided, chains or steel strand encased in a full-length nylon braid sheath must be used.

14.3 Full-length nylon braid sheathing must encapsulate chains or steel strand used to secure steelwork for transport to site. Bare chains or steel strand must not bear directly on coated steel surfaces.

Storage

14.4 Painted girders must be stored with soffits of girders a minimum distance of 600 mm above the ground.

Transport

14.5 For all steelwork, the Contractor must allow a minimum curing period of 72 hours from the completion of painting before loading of steelwork for transport to site.

During Construction

14.6 Steel filings, weld spatter and spatter from oxy and acetylene burning or similar must not be deposited on painted or galvanized surfaces. Any such deposits must be removed immediately to prevent rust staining.

14.7 The Contractor must remove at once concrete and slurry deposits on painted steelwork resulting from construction works using a method that does not damage the protective coating.

Repair of Damage During Construction

14.8 Any damaged paint at supports for scaffolding must be repaired in accordance with the specified paint coating system, modified as follows:

a. Areas less than 100 cm2 may be prepared using power tools, such as a ‘bristle blaster’.

b. Exposed steel surfaces at repair areas must be rough with a surface profile, bright, and free of rust and other surface impurities just prior to painting.

14.9 To achieve uniform appearance and colour and to blend in with the previously applied paint, a light, feathered spray application of the final topcoat must be applied from the same batch to areas adjoining repairs.

15. Records

15.1 Prior to removal of access and / or containment for the span or bay (for field work) or transportation of the members from the painting enclosure (for new work), the Contractor must submit a report of the following to the Principal.

a. Surface preparation records in accordance with Clause 10.22;

b. Paint application records in accordance with Clause 12.27;

c. DFT of each coat and the total coating thickness for each Lot in accordance with Clause 13.10; and

d. Photographic records of the appearance of the finished surface.

HOLD POINT 3	
Process Held	Removal of access and/or containment in each separable area or section, e.g. one bay or span.
Submission Details	The above records must be submitted to the Principal prior to removal of access and/or containment or removal from the painting enclosure (as applicable).

16. Hot Metal Spray

16.1 For hot metal spray applications, use only wires complying with Table 16.1. The Principal may sample up to 100 grams of wire from each coil for compliance testing.

Table 16.1: Hot Metal Spray Wire Composition

Application	Hot Metal Spray Wire Composition
Anti-slip coating for pedestrian areas	100% aluminium
Anti-skid/slip coating for roads, including expansion joints	95% aluminium and 5% ceramic chip
All other areas	85% zinc and 15% aluminium

Material and Equipment

16.2 Material for hot metal spray work must comply with Clause 16.1.

16.3 Use electric arc plasma equipment for hot metal spray work.

Surface Preparation

16.4 Carry out surface preparation in accordance with Annexure C Table C8.

Application

16.5 Apply one coat of hot metal spray within four hours of the completion of the abrasive blasting. When applying the hot metal spray, the steel surface must be:

a. above 5°C;

b. more than 3°C above the dew point;

c. free from moisture and contaminants.

16.6 The minimum applied thickness must be at least:

a. anti-skid/slip coating: 300 µm;

b. all other areas: 125 µm.

Annexure A Summary of Hold Points, Witness Points and Records

The following is a summary of the Witness Points / Hold Points that apply to this Specification and the Records that the Contractor must submit to the Principal to demonstrate compliance with this Specification.

Clause	Hold point	Witness point	Identified Records
4.1	Commencement of surface preparation		Quality Plan
6.4	Commencement any work associated with protective treatment		Program of Work
6.5		1. Cleaning / surface preparation	
10.22			Surface preparation records
12.27			Painting records
13.24		2. Rectification of paintwork with non-conforming DFT.	Contractor's proposal for rectification
13.25		3. Rectification of defective appearance	
15.1	Removal of access and/or containment		Daily Inspection Report and Records

Annexure B Project specific requirements

NOTES TO TENDER DOCUMENTER: (Delete this boxed text after customising Annexure B)

Complete the tables below by filling in the required details.

Where areas of work are not shown on the Drawings, detail them in the table under Clause B1.

B.1 Contract details

Contract:	
Contract No:	
Bridge No:	
Location:	
Local Govt Area:	
Areas of Work:	

B.2 Coating systems

Full details of coating systems are given in Annexure C.

Apply the nominated coating systems for the locations as shown in Tables C1 to C21

Zinc coatings are generally unsuitable for immersion and must not be used where prolonged immersion is likely.

B.2.1 Standard coating systems for standard colour schemes

The standard colour scheme must be TfNSW bridge grey for all exterior surfaces and white for all interior surfaces.

The standard finish coats must be polyurethane (external surface, atmosphere exposed), epoxy (internal surface, atmosphere exposed) and ultra-high build epoxy (immersed surface).

Table B.2.1: Testing frequency for test plans

System	Surface type	Location
SC1	External surfaces, atmospheric exposure, new steel substrate	
SC2	External surfaces, atmospheric exposure, new or existing steel substrate	
SC3	External surfaces, atmospheric exposure, galvanized steel substrate	
SC4	Internal surfaces, atmospheric exposure, new steel substrate	
SC5	Internal surfaces, atmospheric exposure, new or existing steel substrate	
SC6	Internal surfaces, atmospheric exposure, galvanized steel substrate	
SC7	All surfaces subject to immersion	
SC8	All faying surfaces where curing time is not available, atmospheric exposure, new or existing steel substrate	
SC9	External accessible surfaces coated with SC8 “Hot Metal Spray”	
SC10	Internal accessible surfaces coated with SC8 “Hot Metal Spray”	
SC11	External surfaces, atmospheric exposure, existing steel substrate where full cleaning not achievable (subject to approval by the principal)	As approved by the principal during the works
SC12	Internal surfaces, atmospheric exposure, existing steel substrate where full cleaning not achievable (subject to approval by the principal)	As approved by the principal during the works
HDG500 (1)	Atmospheric exposure, elements 3 mm to 6 mm minimum steel thickness	Where hot-dip galvanizing is specified on the drawings
HDG600 (1)	Atmospheric exposure, elements of greater than 6 mm minimum steel thickness	Where hot-dip galvanizing is specified on the drawings

Note: (1) In accordance with AS/NZS 2312.2.

B.2.2 Standard coating systems for non-standard colour schemes

Steel subject to immersion must be black, TfNSW bridge grey, natural grey or N35 light grey in accordance with AS 2700.

Colour for exterior surfaces must be as specified in Table C1 to C21.

The standard finish coats for non-standard colour schemes must be acrylic polysiloxane, epoxy polysiloxane or polyurethane.

For immersed surfaces, ultra-high build epoxy must be used.

Table B2.2.1 – Standard coating systems for non-standard colour schemes

System	Surface type	Location
SC13 or SC18	External surfaces, atmospheric exposure, new steel substrate	
SC14 or SC19	External surfaces, atmospheric exposure, new or existing steel substrate	
SC15 or SC20	External surfaces, atmospheric exposure, galvanized steel substrate	
SC16	All surfaces subject to immersion, steel substrate	
SC17 or SC21	External accessible surfaces coated with SC8 “new Hot Metal Spray”	

The non-standard colour scheme is based on AS 2700 or paint manufacturer’s colour designation and Table B2.2.2.

Table B2.2.2 – Non-standard colour schemes

Name of nominal colour	AS 2700 colour code	Paint manufacturer's colour designation	Location

Table B2.3 – Coating systems for repair and overcoating of existing coatings

System	Surface type	Location

Annexure C Paint coating systems

C.1 Coating system SC1

Coating system SC1 relates to polyurethane coating and must be applied in accordance with Table C1.

Table C1: Coating system SC1

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of inorganic zinc silicate primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of a high build, acrylic modified, MIO pigmented, two-component polyurethane. Applied to all surfaces. Colour: TfNSW bridge grey	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.2 Coating system SC2

Coating system SC2 relates to polyurethane coating system for new or existing steel substrate and must be applied in accordance with Table C2.

Table C2: Coating system SC2

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Old paint, mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of a polyamide-cured, two-pack zinc- rich epoxy primer or other approved zinc-rich primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of a high build, acrylic modified, MIO pigmented, two-component polyurethane. Applied to all surfaces. Colour: TfNSW bridge grey	75 µm – 125 µm	75 µm – 125 µm

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.3 Coating system SC3

Coating system SC3 relates to polyurethane coating system for new galvanized steel substrate and must be applied in accordance with Table C3.

Table C3: Coating system SC3

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Galvanized surface preparation	Lightly abrade galvanized surface by a light brush off abrasive blast cleaning to achieve a dull grey finish. The surface profile of prepared galvanized surface must be 15 to 25 µm measured in accordance with AS 3894.5	N/A
Primer	One full coat of a polyamide-cured, two-pack zinc phosphate epoxy primer. Applied to all surfaces. Colour: R63 red oxide in accordance with AS 2700	50 µm – 100 µm
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	150 µm – 300 µm
Topcoat	One coat of a high build, acrylic modified, MIO pigmented two- component polyurethane. Applied to all surfaces. Colour: TfNSW bridge grey	75 µm – 125 µm
Total dry film thickness	Applied paint coating.	275 µm – 525 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.4 Coating system SC4

Coating system SC4 relates to epoxy coating system for new steel substrate and must be applied in accordance with Table C4.

Table C4: Coating system SC4

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One coat of inorganic zinc silicate primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	125 µm – 250 µm	125 µm – 250 µm
Topcoat	One coat of a high build, high solids, two-pack epoxy topcoat. Applied to all surfaces. Colour: White.	125 µm – 200 µm	125 µm – 200 µm
Total dry film thickness	Without stripe coat With stripe coat	325 µm – 575 µm 400 µm – 675 µm	N/A 400 µm – 675 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.5 Coating system SC5

Coating system SC5 relates to epoxy coating system for new or existing steel substrates and must be applied in accordance with Table C5.

Table C5: Coating system SC5

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Old paint, mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of a polyamide-cured, two-pack zinc- rich epoxy primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide to AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	125 µm – 250 µm	125 µm – 250 µm
Topcoat	One coat of a high build, high solids, two-pack epoxy topcoat. Applied to all surfaces. Colour: White	125 µm – 200 µm	125 µm – 200 µm
Total dry film thickness	Without stripe coat With stripe coat	325 µm – 575 µm 400 µm – 675 µm	N/A 400 µm – 675 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.6 Coating system SC6

Coating system SC6 relates to epoxy coating system for new galvanized steel substrate and must be applied in accordance with Table C6.

Table C6: Coating system SC6

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Galvanized surface preparation	Lightly abrade galvanized surface by a light "brush off" abrasive blast cleaning to achieve a dull grey finish. The surface profile of prepared galvanized surface must be 15 to 25 µm measured in accordance with AS 3894.5.	N/A
Primer	One full coat of a polyamide-cured, two-pack zinc phosphate epoxy primer. Applied to all surfaces. Colour: R63 red oxide in accordance with AS 2700	50 µm – 100 µm
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	150 µm – 300 µm
Topcoat	One coat of a high build, high solids, two-pack epoxy topcoat. Applied to all surfaces. Colour: White	75 µm – 125 µm
Total dry film thickness	Applied paint coating	275 µm – 525 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.7 Coating system SC7

Coating system SC7 relates to epoxy coating system for new steel substrate subject to immersion and must be applied in accordance with Table C7.

Table C7: Coating system SC7

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Coatings and corrosion removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 65 to 100µm measured in accordance with AS 3894.5.	N/A
Topcoat	One coat of a two-pack medium-build or ultra-build epoxy paint applied to all pier surfaces. Colour: TfNSW bridge grey. The paint must be applied by airless spray in a series of multiple cross spray patterns to attain the specified DFT in a single coat.	500 µm – 750 µm
Total dry film thickness	Applied paint coating	500 µm – 750 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.8 Coating system SC8

Coating system SC8 relates to hot metal spray and must be applied in accordance with C8.

Table C8: Coating system SC8

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 3 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Hot metal spray	One coat of hot metal spray applied to all surfaces as specified in Section16	300 µm – 400 µm anti-slip or anti-skid 125 µm – 200 µm all other surfaces	300 µm – 400 µm anti-slip 125 µm – 200 µm all other surfaces
Primer	One seal coat of a low viscosity epoxy sealer applied to all exposed surfaces. (Sealer is not applied to faying surfaces where curing time is limited.) Colour: Green	30 µm – 50 µm	30 µm – 50 µm (applied to all surfaces)
Total dry film thickness	Anti-slip or anti-skid All other surfaces	330 µm - 450 µm 155 µm – 250 µm	330 µm – 450 µm 155 µm – 250 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.9 Coating system SC9

Coating system SC9 relates to polyurethane coating system for new steel substrate and must be applied in accordance with Table C9.

Table C9: Coating system SC9

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 3 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Hot metal spray	One coat of zinc-aluminium (85% zinc, 15% aluminium by weight) hot metal spray applied to all surfaces exposed.	125 µm – 200 µm	125 µm – 200 µm
Primer	One coat of a low viscosity epoxy sealer applied to all exposed surfaces (primer is not applied to faying surfaces where curing time is limited). Colour: Green	30 µm – 50 µm	30 µm – 50 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	200 µm – 400 µm
Topcoat	One coat of a high build, acrylic modified, MIO pigmented, two-component polyurethane. Applied to all surfaces. Colour: TfNSW bridge grey	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Applied paint coating	430 µm – 775 µm	430 µm – 775 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.10 Coating system SC10

Coating system SC10 relates to epoxy coating system for new steel substrate and must be applied in accordance with Table C10.

Table C10: Coating system SC10

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Dry abrasive blast cleaning or water jetting with abrasive injection cleaning must be Sa 3 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Hot metal spray	One coat of zinc-aluminium (85% zinc, 15% aluminium by weight) hot metal spray applied to all surfaces.	125 µm – 200 µm	125 µm – 200 µm
Primer	One tie coat of a low viscosity epoxy sealer applied to all exposed surfaces (primer is not applied to faying surfaces where curing time is limited). Colour: Green	30 µm – 50 µm	30 µm – 50 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	200 µm – 400 µm
Topcoat	One coat of a high build, high solids, two-pack epoxy topcoat. Applied to all surfaces. Colour: White	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Applied paint coating	430 µm – 775 µm	430 µm – 775 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.11 Coating system SC11

Coating system SC11 relates to polyurethane coating system for existing steel substrate and must be applied in accordance with Table C11. Use of this system must be approved by the Principal.

Table C11: Coating system SC11

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and Rust Removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. Use power or hand tool for areas where full cleaning is not possible, as agreed with the principal. Power or hand tool cleaning must be as St 3 as defined in AS 2312.1	N/A	N/A
Primer	One full coat of a polyamide-cured, surface tolerant epoxy. Applied to all surfaces. Colour: Green	75 µm – 150 µm	75 µm – 150 µm
Stripe Coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build Coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of a high build, acrylic modified, MIO pigmented, two-component polyurethane. Applied to all surfaces. Colour: TfNSW bridge grey.	75 µm – 125 µm	75 µm – 125 µm
Total Dry Film Thickness	Without stripe coat With stripe coat	350 µm – 675 µm 425 µm – 775 µm	N/A 350 µm – 625 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.12 Coating system SC12

Coating system SC12 relates to epoxy coating system for existing steel substrate and must be applied in accordance with Table C12. Use of this system must be approved by the Principal.

Table C12: Coating system SC12

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. Use power or hand tool for areas where full cleaning is not possible, as agreed with the principal. Power or Hand tool cleaning must be St 3 as defined in AS 2312.1	N/A	N/A
Primer	One full coat of a polyamide-cured, surface tolerant epoxy. Applied to all surfaces. Colour: Green	75 µm – 150 µm	75 µm – 150 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build cat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of a high build, high solids, two-pack epoxy topcoat. Applied to all surfaces. Colour: White	75 µm – 125 µm	75 µm – 125 µm

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 675 µm 425 µm – 775 µm	N/A 350 µm – 625 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.13 Coating system SC13

Coating system SC13 relates to polysiloxane coating system for new steel substrate and must be applied in accordance with Table C13.

Table C13: Coating system SC13

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of inorganic zinc silicate primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of a high build, two-pack polysiloxane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.14 Coating system SC14

substrate and must be applied in accordance with Table C14.

Table C14: Coating system SC14

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Old paint, mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of a polyamide-cured, two-pack zinc- rich epoxy primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of an epoxy or acrylic polysiloxane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.15 Coating system SC15

Coating system SC15 relates to polysiloxane coating system for new galvanized substrate and must be applied in accordance with Table C15.

Table C15: Coating system SC15

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Galvanized surface preparation	Lightly abrade galvanized surface by a light brush off abrasive blast cleaning to achieve a dull grey finish. The surface profile of prepared galvanized surface must be 15 to 25 µm measured in accordance with AS 3894.5.	N/A

Item	Description	DFT range (1)
Primer	One full coat of a polyamide-cured, two-pack zinc phosphate epoxy primer. Applied to all surfaces. Colour: R63 red oxide in accordance with AS 2700	50 µm – 100 µm
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	150 µm – 300 µm
Topcoat	One coat of an epoxy or acrylic polysiloxane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm
Total dry film thickness	Applied paint coating	275 µm – 525 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.16 Coating system SC16

Coating system SC16 relates to epoxy coating system for steel substrate subject to immersion and must be applied in accordance with Table C16.

Table C16: Coating system SC16

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Coatings and corrosion removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 65 to 100 µm measured in accordance with AS 3894.5.	N/A
Topcoat	One coat of a two-pack medium-build or ultra-build epoxy paint applied to all pier surfaces. Colour: In accordance with the architectural colour scheme. The paint must be a solvent borne epoxy system for fresh and salt-water immersion as appropriate. The paint must be applied by airless spray in a series of multiple cross spray patterns to attain the specified DFT in a single coat.	500 µm – 750 µm
Total dry film thickness	Applied paint coating	500 µm – 750 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.17 Coating system SC17

Coating system SC17 relates to polysiloxane coating system for steel substrate and must be applied in accordance with Table C17.

Table C17: Coating system SC17

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Dry abrasive blast cleaning or water jetting with abrasive injection cleaning must be Sa 3 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Hot metal spray	One coat of zinc-aluminium (85% zinc, 15% aluminium by weight) hot metal spray applied to all surfaces.	125 µm – 200 µm	125 µm – 200 µm
Primer	One tie coat of a low viscosity epoxy sealer applied to all exposed surfaces (primer is not applied to faying surfaces where curing time is limited). Colour: Green	30 µm – 50 µm	30 µm – 50 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	200 µm – 400 µm
Topcoat	One coat of an acrylic or epoxy polysiloxane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Applied paint coating	430 µm – 775 µm	430 µm – 775 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.18 Coating system SC18

Coating system SC18 relates to polyurethane coating system for new steel substrate and must be applied in accordance with Table C18.

Table C18: Coating system SC18

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Old paint, mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of inorganic zinc silicate primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 red oxide in accordance with AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of two-pack acrylic modified polyurethane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.19 Coating system SC19

Coating system SC19 relates to polyurethane coating system for new or existing steel substrate and must be applied in accordance with Table C19.

Table C19: Coating system SC19

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Old paint, mill-scale and rust removal	Abrasive blast cleaning must be Sa 2.5 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5.	N/A	N/A
Zinc primer	One full coat of a polyamide-cured, two-pack zinc- rich epoxy primer. Applied to all surfaces. Colour: Green	75 µm – 125 µm	75 µm – 125 µm
Stripe coat	One stripe coat of a high build, two-pack epoxy paint. Applied to all crevices, edges, bolts, rivets, and other nominated surfaces. Colour: R63 Red Oxide to AS 2700	75 µm – 100 µm	75 µm – 100 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural Steel Grey	200 µm – 400 µm	125 µm – 250 µm
Topcoat	One coat of an acrylic modified polyurethane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Without stripe coat With stripe coat	350 µm – 650 µm 425 µm – 750 µm	N/A 350 µm – 600 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.20 Coating system SC20

Coating system SC20 relates to polyurethane coating system for new galvanized steel substrate and must be applied in accordance with Table C20.

Table C20: Coating system SC20

Item	Description	DFT range (1)
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A
Galvanized surface preparation	Lightly abrade galvanized surface by a light brush off abrasive blast cleaning to achieve a dull grey finish. The surface profile of prepared galvanized surface must be 15 to 25 µm measured in accordance with AS 3894.5.	N/A
Primer	One full coat of a polyamide-cured, two-pack zinc phosphate epoxy primer. Applied to all surfaces. Colour: R63 red oxide in accordance with AS 2700	50 µm – 100 µm
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	150 µm – 300 µm
Topcoat	One coat of an acrylic modified polyurethane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm
Total dry film thickness	Applied paint coating	275 µm – 525 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).

C.21 Coating system SC21

Coating system SC21 relates to polyurethane coating system for steel substrate and must be applied in accordance with Table C21.

Table C21: Coating system SC21

Item	Description	DFT range (1) – all other surfaces	DFT range (1) – internal surfaces latticed members
Preliminary cleaning	Remove mud, dirt and other loose contaminants by scraping, mechanical cleaning, washing using low pressure water jetting or spot cleaning using buckets, brushes and water.	N/A	N/A
Oil and grease removal	Remove oil and grease in accordance with AS 1627.1.	N/A	N/A
Mill-scale and rust removal	Dry abrasive blast cleaning or water jetting with abrasive injection cleaning must be Sa 3 class as defined in AS 1627.4. The surface profile of bare metal must be 40 to 75 µm measured in accordance with AS 3894.5..	N/A	N/A
Hot metal spray	One coat of zinc-aluminium (85% zinc, 15% aluminium by weight) hot metal spray applied to all surfaces.	125 µm – 200 µm	125 µm – 200 µm
Primer	One tie coat of a low viscosity epoxy sealer applied to all exposed surfaces (primer is not applied to faying surfaces where curing time is limited). Colour: Green	30 µm – 50 µm	30 µm – 50 µm (applied to all surfaces)
Build coat	One coat of a high build, high solids, MIO pigmented, two-pack epoxy coat. Applied to all surfaces. Colour: Natural steel grey	200 µm – 400 µm	200 µm – 400 µm
Topcoat	One coat of an acrylic modified polyurethane. Applied to all surfaces. Colour and gloss in accordance with the architectural scheme.	75 µm – 125 µm	75 µm – 125 µm
Total dry film thickness	Applied paint coating	430 µm – 775 µm	430 µm – 775 µm

Note: (1) Refers to dry film thickness of coating in micrometres (microns).