

**PORT WARATAH COAL SERVICES LIMITED  
STANDARD TECHNICAL SPECIFICATION**

**PORT WARATAH COAL SERVICES LIMITED**

**SPECIFICATION FOR  
PROTECTIVE COATINGS**

**Spec. No.: ESG-110**

**REVISION CONTROL**

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# PORT WARATAH COAL SERVICES LIMITED STANDARD TECHNICAL SPECIFICATION

## 1. INTRODUCTION

### 1.1 Purpose

This Specification defines the technical requirements for protective coatings to be used at Port Waratah Coal Services Limited, Newcastle.

**Deleted:** This Specification defines the technical requirements for corrosion control and protective coatings at the coal terminal of Port Waratah Coal Services Limited, Newcastle.¶

**Deleted:** corrosion control and

### 1.2 Scope

This Specification covers the surface preparation and application of protective coatings to steel surfaces.

For abrasion resistant liners to wearing surfaces refer to PWCS Specification No. ESM-150 "Abrasion Resistant Liners".

For cathodic protection to marine pile refer to PWCS Specification No. ESG-111 "Cathodic Protection".

**Deleted:** and cathodic protection

### 1.3 General

The technical requirements of this Specification are the absolute minimum acceptable. Where not specifically referenced herein, materials and workmanship shall comply with the latest edition and amendment of the applicable Australian Standard.

## 1.4 Abbreviations And Definitions

### 1.4.1 Abbreviations

The abbreviations listed below where used in the specification shall have the following meanings:

AS Australian Standard

SA Standards Australia

NATA National Association of Testing Authorities

### 1.4.2 Definitions

- a) "The Engineer" :Shall mean  
*an authorised representative of PWCS Limited.*

## 1.5 Definitions/Glossary of Terms

For a glossary of paint and painting terms, refer to AS 2310.

[For information about the paint codes refer Appendix A Table 1.](#)

## 2. REFERENCE DOCUMENTS

The following documents have been referred to in this Specification:

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## **2.1 Standards/Codes**

AS 1627	Metal Finishing – Preparation and Pre-Treatment of Steel Surfaces
AS 1627.1	Part 1: Cleansing Using Liquid Solvents and Alkaline Solutions
AS1627.2	Part 2: Power Tool Cleaning
AS 1627.4	Part 4: Abrasive Blast Cleaning
AS 2310	Glossary of Paint & Painting Terms
AS 2700	Colour Standards for General Purposes
AS 3894.1	Site Testing of Protective Coatings – Non-conductive Coatings - Continuity Testing - High Voltage (Brush) Method
AS/NZS 2312	Guide to the Protection of Iron and Steel Against Exterior Atmospheric Corrosion
AS/NZS 4680	Hot Dip Galvanised (Zinc) Coatings on Fabricated Ferrous Articles

## **2.2 Specifications**

ESG-100	Transport, Packaging, Delivery and Storage
ESG-111	Cathodic Protection
ESM-150	Abrasion Resistant Liners

## **3. GENERAL REQUIREMENTS**

### **3.1 Occupational Health and Safety Requirements**

Work on site shall comply with the requirements of PWCS 'Safe Work Manual – STEPSafe'.

### **3.2 Environmental Requirements**

Work on site shall comply with all statutory and regulatory requirements and specific PWCS requirements as defined by the PWCS Site Conditions. This document is available upon request to the Engineer and outlines requirements for dust, noise, water contamination etc.

## **4. TECHNICAL REQUIREMENTS - PROTECTIVE COATINGS**

### **4.1 General**

Surface preparation treatments, inspection and testing, health and safety shall comply with AS 2312 unless stated elsewhere within this specification.

### **4.2 Surface Preparation**

Surfaces to be coated shall be free of welding slag, spatter or imperfections such as slithers etc.

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Temporary welds shall be ground to a flush finish. Weld porosity shall be filled with project approved filler. Any product used as a filling agent shall be compatible with the painting system nominated. The Engineer prior to use shall approve the filling agent.

All edges shall be de-burred and rounded to a 1mm radius.

Deposits of oil and grease shall be removed, prior to abrasive blasting, by solvent cleaning in accordance with AS1627.1.

All surfaces to be coated shall be abrasively blasted in accordance with AS1627.4 to the class specified herein.

After blasting, all dust and grit shall be removed from all surfaces including pockets and corners. Between cleaning and priming, the steel shall not be allowed to be contaminated in any way. Operators shall wear clean gloves when handling steel at this stage.

### 4.3 Coating System

Several Protective Coatings products are specified for reference purposes. Where specified they are deemed to be pre-qualified. Alternate coating systems may be proposed, however, the following information shall be submitted to the Engineer for review prior to their application:

- Reason for alternate system
- Suggested product or system
- Suggested application
- System being replaced
- Evidence of trials (on site/offsite, location, timing, results)
- Product details:
  - Material safety data sheet
  - Does the product have Government Paint approval
  - Cost, Availability
  - Manufacturer's data sheet

The Engineer reserves the right to reject any proposed alternative.

Paint manufacturer product manuals and technical data sheets for the products being applied shall form part of this Specification.

Details of proposed equipment and abrasives shall be submitted to the Engineer for his review prior to application.

#### 4.3.1 Rapid Cure Coatings

Rapid curing coatings may be used in place of the relevant coating in a specified system providing the rapid curing coating is not the final coat. All required details of the nominated rapid coating shall be supplied to the Engineering for review

No rapid cure coating system shall be applied unless the Engineering has approved the system in writing.

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### 4.3.2 Application

All paint shall be thoroughly mixed to manufacturers specification using power stirrers.

Regulators, gauges and moisture traps shall be used for all air supplies, pressure pots and pumps.

Paints of different generic types or brands shall not be mixed together.

The applied coating system shall be limited to one approved brand only.

Application of coatings shall not take place in adverse conditions including:

- Relative humidity greater than 85%
- Substrate temperatures within 3° C of dew point
- Ambient or substrate temperatures below 10° C
- Substrate temperatures above 40° C
- High Winds
- Rain
- Possibility of overspray to project or third party property
- High Salt levels on substrate. The project Engineers shall advise of appropriate limits.

Prime coatings over bare metal shall be applied within six hours of abrasive blasting and before discolouring or flash rusting occurs. Should this time be exceeded due to weather conditions, wind borne dust, non-availability of labour, equipment or materials, re-blasting shall be mandatory.

Intermediate and finish coats shall be applied over previous coats as soon as practical, but within the paint manufacturers recommendations.

Surfaces contaminated by atmospheric or other conditions shall be water washed and dried or otherwise rectified prior to application of each coat.

Thinners to enable application of protective coatings, if required, shall be used in the minimum quantity that enables correct application. The Contractor shall obtain approval in writing from the paint manufacturer, for the type of thinners to be used in each type of protective coating. The protective coatings manufacturer shall manufacture the thinners used with the application of the protective coating system.

Safety Protective clothing and equipment shall be used at all times.

### 4.4 Transport And Handling

Steelwork shall not be handled until the coating system has cured sufficiently to accommodate transportation.

Padded slings shall be used and soft pads placed beneath and between members when they are stacked and transported. Similar measures shall be used when tying down steelwork during transport.

### 4.5 Site Welding

After the completion of any site welding, the coating system shall be repaired as per the relevant specified paint system for each component. These repairs shall include abrasive blasting.

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### **4.6 Inspection**

The following inspection requirements shall apply:

1. Five (5) working days notice is to be given to the Engineer prior to the commencement of work.
2. Two (2) working days notice is to be given to the Engineer prior to abrasively blasting each item.
3. The Engineer shall be afforded free access to inspect work at all times.
4. Surface profiles outside the specified range will not be accepted.
5. Dry film thickness ranges as specified are absolute minimum or maximums. Measurements shall not be averaged. Areas found to be outside the range of the Specification shall be rectified to the satisfaction of the Engineer.
6. Inspection reports as per AS 3894.10, .11 and .12 must be forwarded to the Engineer representative within 24 hours of the application of coatings.

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### **4.7 Workmanship**

Workmanship shall be of a standard that will ensure coatings of uniform thickness, free of runs, bubbles, dry overspray, cracking, inclusions of foreign materials and other defects.

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### **4.8 Qualifications**

Painting contractors shall produce evidence of satisfactory and lengthy experience in the application of protective coatings.

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### **4.9 Site Abrasive Blasting**

The size of the abrasive shall be chosen to achieve the specified substrate surface profile.

Blast mediums shall not contain any substance which will contaminate air or water. At present, garnet meets this requirement and shall be used for all site work unless other approved materials are available.

All blasting over water shall require the collection of blast and blasted material so it does not enter the water.

All used blast materials shall be disposed off site in statutory approved dumping facilities.

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### **4.10 Site Fixings – Mechanical, Piping And Electrical**

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#### **4.10.1 In Situ Repair Procedure**

The following coating repair procedure should be carried out to all locations where existing applied coatings have been damaged after drilling and / or bolt tightening and the surface can not be prepared by abrasive grit blasting.

Surface preparation:

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- Ensure that surface is free from oil, grease and other contamination.
- Solvent wash to remove contamination where necessary.
- Lightly abrade surface to remove loose coatings and to provide surface profile to existing sound coatings.

First Coat: Apply Paint Code 1 Epoxy Zinc Phosphate Primer to a dry film thickness of between 75 micrometres and 125 micrometres using brush application. Overlap existing sound coatings by 50mm.

Second Coat: Apply Paint Code 2 to a dry film thickness of between 100 micrometres and 200 micrometres using brush application. Overlap existing sound coatings by 50mm.

### 4.10.2 Site Painting of Miscellaneous Attachments

The following coating system may be applied at the discretion of the Engineer, for minor touch-up painting of site welds and miscellaneous attachments.

The Contractor shall obtain written approval from the Engineer prior to commencement of the work.

Surface Preparation: Ensure that surface is free from oil, grease and other contamination. Solvent wash to remove contamination where necessary. Power tool clean to AS1627.2 Class 1.

Coating: Apply a single coat surface tolerant epoxy mastic coating such as: Interseal 2020 (M302) or PWCS approved equivalent, to a DFT of 125 - 175 micron OR two coats of rapid cure surface tolerant Interplus 356 (M330) or PWCS approved equivalent to a DFT of 200 - 280 microns.

### 4.11 Bolted Connections

The following method shall be generally used for bolted connections. Other painting methods may be used on bolted connections with the approval of the Engineer.

- Fully prepare the member to receive protective coating in accordance with specifications
- Apply a prime coat to the whole of the member to be protected in accordance with specification.
- Mask off the region of the member where the bolt(s) contact the member by an appropriated method
- Paint remaining (unmasked) section of member in accordance with this protective coating specification and in accordance with manufactures recommendations.
- Remove masking and install members placing and tightening bolts as specified. (Note for faying surfaces of friction grip connections, refer to painting system 97/J for specific requirements)
- Clean previously masked area and newly installed bolts to the requirements of the painting system used.
- Apply paint system as per specification.

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## 5. PAINTING APPLICATION SCHEDULE

### 5.1 General Plant Items

Refer to appendix A for examples of suitable paint systems for the nominated Coating Grade. The brands listed in Appendix A are by no means exhaustive and other brands may be accepted provided approval to use the system has been given in writing by the Engineer. Approval may only be given when all information on the alternative system has been fully assessed by the Engineer.

The requirements for assessment are as listed above in section 4.3 Coating System. The contractor wishing to use the alternative product shall supply all information necessary to enable a full assessment of the product to be made.

The final decision whether to use the alternative product shall be made by the Engineer.

**Note:** The numbers in the right hand columns refers to a paint code listed in Appendix A.

Coating System	Item to be Protected	Kooragang Colours	Carrington Colours	1 <sup>st</sup> Coat	2 <sup>nd</sup> Coat	3 <sup>rd</sup> Coat
97/A	Fan Bases	Galvanised	Galvanised	-	-	-
	Fasteners and clips to rail	Galvanised	Galvanised	-	-	-
	Fire Water Pipework	Galvanised	Galvanised	-	-	-
	Idler Frames	Galvanised	Galvanised	-	-	-
	Indoor Cubicles (Powder Coat) - Channel Iron Plinths	Galvanised	Galvanised	-	-	-
	Items specified in specifications and drawings to be hot-dip galvanised (unless noted otherwise)	Galvanised	Galvanised	-	-	-
	Light Poles & Supports	Galvanised	Galvanised	-	-	-
	Pump Bases	Galvanised	Galvanised	-	-	-
	Structural steel to liquid resistor huts	Galvanised	Galvanised	-	-	-
	Structural steel to switch rooms	Galvanised	Galvanised	-	-	-
Washdown/Process Water Pipes	Galvanised	Galvanised	-	-	-	
97/B	Purlins and girts (galvanised)	White	White	8	6	-
97/C	415V Motors	Light Grey N35	Internl. Orange R11	5	6	-
	6.6KV Electric Motors	Light Grey N35	Light Grey N35	5	6	-
	Belt reels	Golden Yellow Y14	Golden Yellow Y14	5	6	7
	Conveyor drive assemblies	Light Grey N35	Charcoal B64	5	6	-
	Conveyor take up winches	Light Grey N35	Charcoal B65	5	6	-
	Crane rails (sides and underside only)	Light Grey N35	Light Grey N35	5	6	-
	Crane runway girders	Light Grey N35	Light Grey N35	5	6	-
	DC Drives	Light Grey N35	International Orange R11	5	6	-
	Dump station superstructure	Light Grey N35	Charcoal B66	5	6	-
	Gear boxes	Light Grey N35	International Orange R11	5	6	-
	HV Motors	Light Grey N35	International Orange R11	5	6	-
	HV Switchgear	Vendor Standard	Vendor Standard	-	-	-
	Internal surfaces of unlined buffer bins & chutes	Light Grey N35	White	5	6	-
	Monorails	Golden Yellow Y14	Golden Yellow Y14	5	6	7

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Coating System	Item to be Protected	Kooragang Colours	Carrington Colours	1 <sup>st</sup> Coat	2 <sup>nd</sup> Coat	3 <sup>rd</sup> Coat
	Pulleys	Light Grey N35	Marine Blue	5	6	7
	Structure steelwork - Buildings and areas not elsewhere mentioned	Light Grey N35	Charcoal B64	5	6	-
97/D1	Conveyor trestles and structural steelwork	Light Grey N35	Charcoal B64	5	6	6
	Dump station substructure	Light Grey N35	Charcoal B64	5	6	6
	Power Transformers – Outdoor, Oil Cooled	Light Grey N35	Light Grey N35	5	6	6
	Shiploader tripper rails (sides and underside only)	Light Grey N35	White N14	5	6	6
	Shuttle rails (sides and underside only)	Light Grey N35	White N14	5	6	6
	Skirts	Light Grey N35	White N14	5	6	6
	Stacker and reclaimer runway rails (sides and underside only)	Light Grey N35	Charcoal B64	5	6	6
	Structural steel in severe environments (not immersed nor in splash zone)	Light Grey N35	Charcoal B64	5	6	6
	Transfer towers	Light Grey N35	Charcoal B64	5	6	6
97/D2	Sewage treatment plant	Match Existing Colour	Charcoal B64	1	2	-
	Structural steel in severe environment (subject to immersion or in splash zone)	Light Grey N35	Charcoal B64	1	2	-
	Wharf fender support structure	Light Grey N35	Charcoal B64	1	2	-
97/E	Couplings & Cast Running Wheels -	Golden Yellow Y14	International Orange R11	5	6	7
	E-Houses – Inside	Off White Y35	Off White Y35	5	6	7
	E-Houses – Outside	Golden Yellow Y14	International Orange R11	5	6	7
	Gear Drives	Golden Yellow Y14	International Orange R11	5	6	7
	Hydraulic Cylinders	Golden Yellow Y14	International Orange R11	5	6	7
	Hydraulic Power Pack	Golden Yellow Y14	International Orange R11	5	6	7
	Hydraulic Pumps	Golden Yellow Y14	International Orange R12	5	6	7
	Lubrication Pumps & Pipes	Golden Tan X53	International Orange R11	5	6	7
	MCC & Electric Panels – Internal	Orange X15	Light Grey N35	5	6	7
	MCC & Electric Panels – Switchroom	Orange X15	International Orange R11	5	6	7
	Structural Steelwork – Machines	Golden Yellow Y14	International Orange R11	5	6	7
97/F	Floor Plate (In Situ)	Light Grey N35	To match existing	1	2	-
	Floor Plate (Off Site)	Light Grey N35	White N14	5	6	6
	Gantry floors (Internal)	Light Grey N35	White N14	5	6	6
97/G1	Wharf Piles (new construction)	Light Grey N35	Black N61	3	-	-
97/G2	Repairs to existing steel wharf piles	Light Grey N35	Black N61	3	-	-
97/H	Bollards	Golden Yellow Y14	Golden Yellow Y14	8	6	7
	Fire Systems pipework	Signal Red R13	Signal Red R13	8	6	-
	Floor Grating	Light Grey N35	Light Grey N35	8	6	-
	Grated Stair Treads	Light Grey N35	Light Grey N35	8	6	-
	Handrails, stanchions and ladders	Golden Yellow Y14	Golden Yellow Y14	8	6	-

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<b>Coating System</b>	<b>Item to be Protected</b>	<b>Kooragang Colours</b>	<b>Carrington Colours</b>	<b>1<sup>st</sup> Coat</b>	<b>2<sup>nd</sup> Coat</b>	<b>3<sup>rd</sup> Coat</b>
	Idler frames	Light Grey N35	Light Grey N35	8	6	-
	Washdown / Process Water pipes	Black N61	Black N61	8	6	7
97/J	Faying surfaces of friction grip joints	Light Grey N35	Light Grey N35	4	-	-
97/K	Distribution Boards – Internal / Switchroom	Orange X15	Storm Grey N42	PC	PC	PC
	HV Capacitors	Vendor Standard	Vendor Standard	-	-	-
	Indoor Cubicles (Powder Coat) - Liquid Resistors	Vendor Standard	-	-	-	-
	Indoor Cubicles (Powder Coat) - MCC	Light Grey N35	Vendor Standard	PC	PC	PC
	Indoor Cubicles (Powder Coat) - PLC	Palm Green G44	Vendor Standard	PC	PC	PC
	Power Transformers - Air Cooled	Orange X15		PC	PC	PC
	Uninterrupted power supply (UPS)	Vendor Standard	Vendor Standard	PC	PC	PC
97/L	Hydrants	Signal Red R13	Signal Red R13	1	10	7
97/U	Fibrous Cement Floors	Step Safe	Step Safe	11	11	12
97/V	Guards & Mesh (steel)	Golden Yellow Y14	International Orange R11	9	7	-
	Mesh guards (steel)	Golden Yellow Y14	Golden Yellow Y14	9	7	-

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## **6. SYSTEM NO. 97/A - GALVANIZING**

### **6.1 Scope**

Refer to Painting Application Schedule Clause 5.

### **6.2 Design**

Design of all hardware, which is to be galvanised, shall conform to the procedures set out in Appendix A of AS 4680.

Before delivery to the galvanising shop, all articles specified to be galvanised shall be cleaned of paint, oil, grease, welding slag and spatters and any other substance not readily removed by the normal cleaning methods used in the galvanising process. Where these substances are not satisfactorily removed by degreasing, grinding, buffing and chipping, the Engineer may require a partial or complete abrasive blasting of these items to AS1627-4 Class 2, prior to delivery to the galvanising shop.

All units to be galvanised shall be fabricated in sections of suitable size for the galvanising baths and galvanised after fabrication.

### **6.3 Coating System**

All items specified to be galvanised in the Contract drawings shall be hot dip galvanised to AS 4680.

The galvanised articles shall be free from uncoated areas. The zinc coating shall be free from blisters, flux, black spots, dross and projections which will interfere with the proper use of the article or other defects not consistent with good galvanising practice.

### **6.4 Repairs**

Where welding is necessary after galvanising, the affected areas shall be spot blasted, touch up primed with two pack organic zinc rich primer and top coated as specified.

## **7. SYSTEM NO 97/B - PURLINS AND GIRTS**

### **7.1 Scope**

Proprietary cold rolled, galvanised purlins and girts.

Refer to Painting Application Schedule.

### **7.2 Surface Preparation**

Remove all free oil and grease by solvent washing to AS 1627.1.

Brush blast clean all surfaces to AS1627.4 to roughen the surface sufficiently to ensure paint adhesion to the galvanising.

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### 7.3 Coating System

First coat: Paint code 8.

Second coat: Paint code 6.

**Deleted:** Apply Intergard 251 Epoxy Zinc Phosphate to a dry film thickness of 50µm to 125 µm.¶

### 7.4 Repairs

Damaged galvanised surfaces and/or where bare steel is exposed, shall be abrasively blasted to class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First Coat: Paint code 5.

Second Coat: Apply coating system 8 and 6 as above, overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.¶  
Total dry film thickness of the paint shall be between 200µm and 375 µm.

**Deleted:** Interzinc 52 to a dry film thickness of between 65µm and 130µm.¶

## 8. SYSTEM NO 97/C - STRUCTURAL STEELWORK

### 8.1 Scope

Refer to Painting Application Schedule Clause 5.

### 8.2 Surface Preparation

Where necessary remove free oil and grease from contaminated surface, prior to abrasive blasting, by solvent washing to AS 1627.1. Abrasive blast clean all surfaces to the requirements of AS1627.4 Class 2½ finish. Profile height to be between 40µm and 60µm.

### 8.3 Coating System

First coat: Paint code 5.

Second coat: Paint code 6.

Note: For friction grip surfaces refer System 97/J.

**Deleted:** Apply Interzinc 52 to a dry film thickness between 65µm and 130µm.

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.¶  
Total thickness: . Total dry thickness shall be between 215µm and 380µm

### 8.4 Repairs

Preparation: Damaged surfaces shall be abrasively blasted to class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Paint code 5.

Second coat: Paint code 6 overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Interzinc 52 to a dry film thickness of between 65µm to 130µm overlapping existing sound coatings by 50mm.¶

**Deleted:** Apply Intergard High Solids Epoxy to a dry film thickness of between 150µm and 250µm overlapping existing sound coatings by a further 50mm.¶

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## **9. SYSTEM NO 97/D - STRUCTURAL STEELWORK IN SEVERE ENVIRONMENTS**

### **9.1 Scope**

Refer to Painting Application Schedule Clause 5.

### **9.2 Surface Preparation**

Where necessary remove free oil and grease from contaminated surfaces by solvent washing prior to abrasive blasting.

Abrasive blast clean all surfaces to the requirements AS1627.4 Class 2½ finish. Profile height to be between 40µm and 60µm.

### **9.3 Coating System D1**

(Not subject to immersion nor in splash zone areas)

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

Second coat: Paint code 6.

Third coat: Paint code 6.

**Deleted:** Apply Interzinc 52 to dry film thickness of between 65µm and 130µm

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.¶

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 100µm and 200µm.¶  
Total thickness: . Total dry film thickness shall be between 315µm and 580µm

### **9.4 Repairs To Coating System D1**

Preparation: Damaged surfaces shall be abrasively blasted to AS 1627.4 class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

Second coat: Paint code 6 overlapping existing sound coatings by a further 50mm for each coat applied.

Third coat: Paint code 6 overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Interzinc 52 to dry film thickness of between 65µm and 130µm overlapping existing sound coatings by 50mm.

**Deleted:** Apply Intergard 475 to a dry film thickness of between 150µm and 250µm overlapping existing sound coatings by 50mm.¶

**Deleted:** Apply Intergard 475 high solids epoxy to a dry film thickness of between 100µm and 200µm overlapping existing sound coatings by a further 50mm.¶

**Deleted:** Apply Intercure 200 HS Epoxy Zinc Phosphate Primer to a dry film thickness of between 75µm and 125µm.¶

### **9.5 Coating System D2**

(Steelwork subject to immersion or in splash zone areas).

First coat: Paint code 1.

Second coat: Paint code 2.

**Deleted:** Apply Interzone 954 HS to a dry film thickness between 400µm and 500µm600µm.¶  
Total Thickness . Total dry film thickness shall be between 475µm and 725µm.

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## 9.6 Repairs To Coating System D2

Preparation: Damaged surfaces shall be abrasively blasted to AS1627.4 class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Paint code 2 overlapping existing sound coatings by a further 50mm for each coat applied.

## 10. SYSTEM NO. 97/E - COLOUR FINISH

### 10.1 SCOPE

Acrylic colour coat finish.

Refer to Painting Application Schedule Clause 5.

### 10.2 Surface Preparation

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1627.1, prior to abrasive blasting.

Abrasive blast clean all surfaces to the requirements AS1627.4 Class 2½ finish. Profile height to be between 40µm and 60µm.

### 10.3 Coating System

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

**Deleted:** Apply Interzinc 52 to a dry film thickness between 65µm and 130µm

Second coat: Paint code 6.

Third coat: Paint code 7.

Note: Additional coats of colour finish may be necessary to achieve required opacity.

**Deleted:** Apply Intergard 475 High Solids Epoxy (N35 light aircraft grey) to a dry film thickness of between 150µm and 250µm.¶

### 10.4 REPAIRS

Preparation: Damage surfaces shall be abrasively blasted to AS1627.4 class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

**Deleted:** Apply Interfine 227 high gloss catalysed acrylic to a dry film build of between 50µm and 100µm.¶  
Total thickness: . Total dry film thickness shall be between 265µm and 480µm.¶

Second coat: Paint code 6 overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Interzinc 52 to a dry film thickness of between 65µm and 130µm overlapping existing sound coatings by 50mm.

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Third coat: Paint code 7 overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Intergard 475 to a dry film thickness of between 150µm and 250µm overlapping existing sound coatings by a further 50mm.¶

## **11. SYSTEM NO. 97/F - NON SLIP SURFACES**

**Deleted:** Apply Interfine 227 to a dry film thickness of between 50µm and 100µm overlapping existing sound coatings by a further 50mm.¶

### **11.1 Scope**

Non slip surfaces.

Refer also to Painting Application Schedule Clause 5.

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### **11.2 Surface Preparation**

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1627.1 prior to abrasive blasting.

Abrasive blast clean all surfaces to the requirements AS1627.4 Class 2½ finish. Profile height to be between 40µm and 60µm.

### **11.3 Coating System**

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

**Deleted:** Apply Interzinc 52 to a dry film thickness between 65µm and 130µm

Second coat: Paint code 6. While coat is still wet, progressively broadcast clean washed aggregate over wet paint.

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness between 150µm and 250µm.

Third Coat Apply a further 50µm to 150µm of the same paint.

### **11.4 REPAIRS**

Preparation: Damaged surfaces shall be abrasively blasted to AS1627.4 class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Paint code 5.

In areas such as web corners and complex shapes, where overlapping spray patterns are required, the Engineer, at his discretion, may permit higher film builds. Under no circumstances shall these higher film builds exceed 175µm.

**Deleted:** Apply Interzinc 52 to a dry film thickness of between 65µm and 130µm overlapping existing sound coatings by 50mm.

Second coat: Paint code 6. While the coat is still wet, progressively broadcast clean washed aggregate over the wet paint. Apply a further 50µm to 150µm of the same paint.

**Deleted:** Apply Intergard 475 to a dry film thickness of between 150µm and 250µm overlapping existing sound coatings by a further 50mm

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## **12. SYSTEM NO. 97/G1 - STEEL WHARF PILES - NEW CONSTRUCTION**

Wharf piles shall be protected by a combination of protective coatings and impressed current cathodic protective system.

### **12.1 Scope**

Wharf Piles (new construction) to be painted to water/soil interface.

Refer also to Painting Application Schedule Clause 5.

### **12.2 Surface Preparation**

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1627.1, prior to abrasive blasting.

Abrasive blast clean all surfaces to AS1627.4 Class 3 finish.

Profile height to be between 75µm and 200µm.

### **12.3 COATING SYSTEM**

First coat: Paint code 3. Inspection shall include continuity testing to AS3894.1.

**Deleted:** Apply Interzone 485 UHB Catalysed Epoxy to a minimum dry film thickness of between 1500µm and 2000µm.

### **12.4 REPAIRS**

Preparation: Damaged surfaces shall be abrasively blasted to AS1627.4 Class 3. Profile height to be between 75µm and 200µm. Feather edges of surrounding coating.

First coat: Paint code 3 overlapping existing sound coatings by a further 50mm for each coat applied.

Inspection shall include continuity testing to AS3894.1.

**Deleted:** Apply Interzone 485 UHB Catalysed Epoxy to a dry film thickness of between 1500µm and 2000µm overlapping existing sound coatings by 50mm.

## **13. SYSTEM NO. 97/G2 - REPAIR OF EXISTING STEEL WHARF PILES**

Existing steel wharf piles are also protected by an impressed current cathodic protection system.

### **13.1 Scope**

Existing steel wharf piles to water interface.

### **13.2 Surface Preparation**

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1657.1 prior to abrasive blasting.

Abrasive blast clean all surfaces to AS 1627.4 Class 2.5 finish.

Profile height to be between 75µm and 200µm.

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### 13.3 Coating System

First coat: [Paint code 3.](#)

Inspection: Continuity testing to AS 3894.1.

### 13.4 Repairs

Preparation: Damaged surfaces shall be abrasively blasted to AS 1627.4, Class 2.5. Profile height to be between 75µm and 200µm. Feather edges of surrounding coating.

First coat: [Paint code 3](#) overlapping existing sound coatings by a further 50mm for each coat applied.

Inspection: Continuity testing to AS 3894.1.

## 14. SYSTEM NO. 97/H - PAINTING OVER GALVANIZED STEEL

### 14.1 Scope

Refer to the Painting Application Schedule Clause 5.

### 14.2 Surface Preparation

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1657.1, prior to abrasive blasting.

Brush blast clean all surfaces to AS 1627.4 to roughen the surface sufficiently to ensure paint adhesion to the galvanising.

### 14.3 Coating System

First Coat: [Paint code 8.](#)

Second Coat: [Paint code 6.](#)

### 14.4 Repairs

Preparation: Damaged galvanised surfaces and/or where bare steel is exposed, shall be abrasively blasted to class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: [Paint code 5.](#)

Second coat: [Paint code 8](#) overlapping existing sound coatings by a further 50mm for each coat applied.

Third coat: [Paint code 6](#) overlapping existing sound coatings by a further 50mm for each coat applied.

**Deleted:** Apply Interzone 485 UHB Catalyzed Epoxy to a minimum dry film thickness of 1500µm to 2000µm.

**Deleted:** Apply Interzone 485 UHB Catalyzed Epoxy to a minimum dry film thickness of between 1500µm and 2000µm overlapping existing sound coatings by 50mm.

**Deleted:** 14.0 SYSTEM NO. 97/H - PAINTING OVER GALVANIZED STEEL

**<#>Scope¶**  
Refer to the Painting Application Schedule.

**<#>Surface Preparation¶**

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1657.1, prior to abrasive blasting. Brush blast clean all surfaces to AS 1627.4 to roughen the surface sufficiently to ensure paint adhesion to the galvanizing.

**<#>Coating System¶**

First Coat: . Apply Intergard 251 Epoxy Zinc Phosphate to a dry film thickness of 50µm to 125µm.

Second Coat: . Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.

Total Thickness: . Total dry film thickness of the paint sh[... [1]

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**Deleted:** Apply Intergard 251 Epoxy Zinc Phosphate to a dry film thickness of 50µm to 125µm.

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.

Total Thickness: . Total dry film thickness of the paint sh[... [2]

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**Deleted:** Apply Interzinc 52 to a dry film thickness of between 65µm and 130µm overlapping existing sound coatings by 50mm.

**Deleted:** Apply Intergard 251 to a dry film thickness of between 50µm and 125µm overlapping existing sound coatings by a further 50mm.

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## **15. SYSTEM NO. 97/J - PAINTING OF FRICTION GRIP JOINTS**

### **15.1 Scope**

The contact surfaces of friction grip joints.

### **15.2 Surface Preparation**

Remove all free oil and grease by solvent washing to AS 1627.1, prior to abrasive blasting.

Abrasive blast clean all surfaces to AS1627.4 Class 2½ finish.

Profile height to be between 20µm and 40µm

**Deleted:** Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm overlapping existing coatings by 50mm.¶

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### **15.3 Coating System**

Paint code 4.

Subsequent coatings to the steel member shall be excluded from areas closer than one bolt diameter to any hole but not less than 25mm from the edge of any hole and all areas within the bolt group.

**Deleted:** Apply one coat of Interzinc 215 ethyl silicate inorganic zinc primer to a dry film thickness of between 50µm and 100µm.¶

## **16. SYSTEM NO. 97/K INDOOR CUBICLES**

### **16.1 Scope**

Electrical cabinets and switch boards.

### **16.2 Surface Preparation**

Remove all free oil and grease by solvent washing to AS 1627.1.

### **16.3 Coating System**

Paint Finish: Gloss

Paint Type: Powder or 2 coat polyurethane

Paint Coats: Etch Prime\*, 1 x undercoat, 2 x top coats

Paint thickness: 80 µm minimum

Paint quality: Paint shall be smooth, even, blemish free, run free and "orange peel" free.

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All welds and internal angles, etc., shall be fully covered.

Paint system shall be subject to thickness, hardness and adhesion tests.

\*Details of the etch priming system to be supplied to the Engineer for approval prior to the application of system.

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## **17. SYSTEM NO. 97/L - SHIPLOADER FIRE DELUGE SYSTEM**

### **17.1 Scope**

Refer also to Application Schedule - Pumps, Diesel Motors, Electric Motors and Gearboxes.

### **17.2 Surface Preparation**

#### Cast Steel/Cold Rolled Steel

Where necessary, remove free oil and grease from contaminated surface by solvent washing to AS 1651.1.

#### Stainless Steel

Where necessary, remove free oil and grease from contaminated surface by solvent washing to AS 1657.1. Brush blast or lightly abrade surface to AS1627.4.

#### Mild Steel

Where necessary, remove free oil and grease from contaminated surface by solvent washing to AS 1657.1.

Abrasive blast clean all surfaces to the requirements of AS 1627.4 class 2.5 finish. Profile height to be between 40µm and 60µm.

### **17.3 Coating System**

Cast Steel/Cold Rolled Steel/Mild Steel

First coat: ~~Paint code 1.~~

~~Second coat: Paint code 10.~~

~~Third Coat: Paint code 7.~~

Note: Additional coats of colour finish may be necessary to achieve required opacity.

**Deleted:** Apply a coat of International Intercure 200 Epoxy Zinc Phosphate to achieve a dry film thickness of between 50µm and 150µm.¶

**Deleted:** Apply a coat of International Intercure 420 HS High Build Epoxy to achieve a dry film thickness of between 100 µm and 200 µm.¶

**Deleted:** Apply a coat of International Interfine 227 Catalysed Acrylic to achieve a dry film thickness of between 50 µm and 150 µm.¶ Total dry film thickness – 200µm to 500µm.

### **17.4 Repairs**

Damaged surfaces shall be abraded to remove loose and flaking paint and provide a clean contamination free surface. Feather edges of sound coatings.

First coat: ~~Paint code 1.~~Overlap existing sound coatings by a further 50mm.

Second coat: ~~Paint code 10.~~Overlap existing sound coatings by a further 50mm.

Third Coat: ~~Paint code 7.~~Overlap existing sound coatings by a further 50mm.

**Deleted:** Apply a coat of International Intercure 200 Epoxy Zinc Phosphate to achieve a dry film thickness of between 50 µm and 150 µm.¶

## **18. SYSTEM NO. 97/M - SHIPLOADER FIRE DELUGE SYSTEM (GALVANISED PIPE AND FRAMES)**

### **18.1 Scope**

Galvanised pipes and frames.

**Deleted:** Apply a coat of International Intercure 420 HS High Build Epoxy to achieve a dry film thickness of between 100 µm and 200 µm.¶

**Deleted:** Apply a coat of International Interfine 227 Catalysed Acrylic to achieve a dry film thickness of between 50µm and 150µm.¶

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Refer also to Application Schedule.

## 18.2 Surface Preparation

Where necessary, remove free oil and grease from contaminated surface by solvent washing to AS 1657.1. Brush blast surface to AS 1627.4 to remove oxide layer and to provide surface profile. Etch priming is also acceptable for a surface preparation provided details of the Etch priming system are supplied to the Engineer prior to commencement and the Engineer approves the system.

## 18.3 Coating System

First Coat: Paint code 10.

Second Coat: Paint code 7. Overlap existing sound coatings by 50 mm.

Note: Additional coats of colour finish may be necessary to achieve required opacity.

## 18.4 Repairs

Damaged surfaces shall be abraded to remove loose and flaking paint and provide a clean contamination free surface. Feather edges of sound coatings.

First Coat: Paint code 10. Overlap existing sound coatings by a further 50mm.

Second Coat: Paint code 7. Overlap existing sound coatings by a further 50mm.

Note: Additional coats of colour finish may be necessary to achieve required opacity.

## 19. SYSTEM NO. 97/U – CONCRETE AND FIBROUS CEMENT FLOORS

### 19.1 Scope

Refer also to the Painting Application Schedule.

### 19.2 Surface PREPARATION

Ensure surface is clean and free from traces of oil and grease.

Power abrade the surface using coarse grade sandpaper to obtain a satisfactory surface profile.

Blow down surface to remove residual dust.

### 19.3 Coating System

First Coat: Paint code 11. Ensure substrate is sealed with a project approved sealer. Details of the sealing system are to be submitted to the Engineer for approval prior to the application of the painting system. The surface shall be free from bubbles and blisters.

Second Coat: Paint code 11. During application, sparsely spread a uniform coating of 0.5mm maximum grade garnet or zinc slag grit to the wet surface to form a non-slip surface.

**Deleted:** Apply Interzone 954 HS to a dry film thickness between 250µm and 350µm. Overlap existing sound coatings by 50mm.¶

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**Deleted:** Apply Intergard 436 two-pack clear epoxy thinned to between 20% to 30% to all surfaces using roller application.¶

**Deleted:** Apply International Intergard 436 two-pack epoxy to achieve a dry film thickness of between 60 micrometres and 80 micrometres using roller application.¶

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Third Coat: ~~Paint code 12.~~

Note: Application of non-slip grit shall be applied sparsely and uniformly to allow satisfactory floor washdown during service.

**Deleted:** Apply International Intergard 435 Epoxy to nominated colour by roller application to achieve a dry film thickness of between 50 micrometres and 80 micrometres.¶

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### **19.4 Repairs**

Preparation: Ensure surface is clean and free from traces of oil and grease.

Power abrade the surface using coarse grade sandpaper to obtain a satisfactory surface profile.

Feather edges of existing sound coatings.

Lightly abrade adjacent sound coatings to provide a surface profile.

First coat: ~~Paint code 11. Ensure coated surface is free from bubbles and blisters.~~

Second coat: ~~Paint code 11. During application, sparsely spread a uniform coating of 0.5mm maximum grade garnet or zinc slag grit to the wet surface to form a non-slip surface.~~

**Deleted:** International Intergard 436 two pack clear epoxy thinned to between 20% to 30% to all bare substrate surfaces using roller application.¶

**Deleted:** International Intergard 436 two pack epoxy to achieve a dry film thickness of between 60 micrometres and 80 micrometres using roller application. Overlap existing sound coatings by 50mm.¶

Third coat: ~~Paint code 12. Overlap existing sound coatings by 50mm.~~

**Deleted:** Apply International Intergard 435 Epoxy to nominated colour by roller application to achieve a dry film thickness of between 50 micrometres and 80 micrometres.¶

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## **20. SYSTEM NO. 97/V – SAFETY MESH GUARDS**

### **20.1 Scope**

Refer to the Painting Application Schedule.

### **20.2 Surface Preparation**

Remove free oil and grease deposits from galvanised surface by solvent washing.

Ensure surface is dry.

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### **20.3 Coating Application**

First coat: ~~Paint code 5.~~

Second coat: ~~Paint code 7.~~

**Deleted:** Apply Intergard 251 Epoxy Zinc Phosphate to achieve a dry film thickness of between 40 micrometres and 55 micrometres.¶

**Deleted:** Apply Interfine 227 Catalysed Acrylic to achieve a dry film thickness of 50 micrometres.¶

### **20.4 Repairs**

Preparation: Damaged surfaces shall be abraded to remove loose and flaking paint and to provide a clean contamination free surface. Feather edges of existing sound coatings.

First coat: ~~Paint code 8.~~

Second coat: ~~Paint code 7. Overlap existing coatings by 50mm.~~

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**Deleted:** Apply Intergard 251 Epoxy Zinc Phosphate to achieve a dry film thickness of between 40 micrometres and 55 micrometres. Overlap existing coatings by 50mm.

**Deleted:** Apply Interfine 227 Catalysed Acrylic to achieve a dry film thickness of 50 micrometres.¶

**APPENDIX "A"**

**PRE-QUALIFIED EQUIVALENT PAINTING  
SYSTEMS**

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**TABLE 1 – Pre Qualified Painting Systems**

Paint Code	Akzo Nobel	Thickness Range (µm)	Jotun	Thickness Range (µm)	Wattyl	Thickness Range (µm)	Ameron Paints	Thickness Range (µm)
1	Intercure 200 (two pack epoxy, zinc phosphate MIO primer)	75⇔100	Jotaspeed ZP (two pack epoxy, zinc phosphate primer)	75⇔100	Epithane HB ZP (two pack epoxy, zinc phosphate primer)	75 ⇔ 150	Amercoat 474 (two pack epoxy zinc phosphate MIO primer)	75 ⇔ 100
2	Interzone 954 (high solids, 2 pack, epoxy)	400⇔500	Jotacote 410 (Solvent free, 2 pack, epoxy)	400⇔500	Sigma TCP Coating (high solids, 2 pack, epoxy)	200⇔400	Amerlock 2K	400 ⇔ 500
3	Interzone 485 ( ultra high build, two pack epoxy)	1500⇔2000	Jotacote UHB (ultra high build, two pack epoxy)	1000⇔2000	Sigma TCP Compound (ultra high build, two pack epoxy)	400⇔2000	Amercoat CC703/2 (ultra high build, two pack epoxy)	1000 ⇔ 2500
4	Interzinc 12 (Note 1) (two pack ethyl silicate inorganic zinc)	65⇔95	Jotaprime 15 (two pack ethyl silicate inorganic zinc)	65 ⇔ 90	Galvit ES300 (two pack ethyl silicate inorganic zinc)	65 ⇔ 95	Ameron D9 (two pack ethyl silicate inorganic zinc)	65 ⇔ 150
5	Interzinc 52 (two pack zinc rich epoxy)	65⇔130	Barrier ( two pack zinc rich epoxy)	40⇔75	Galvit EP 102 RR (two pack zinc rich epoxy)	25⇔50	Amercoat 68K (two pack zinc rich epoxy)	65 ⇔ 75
6	Intergard 475 (high solids, high build, two pack epoxy)	150⇔250	Jotacote 910 (high solids, high build, two pack epoxy)	125⇔150	Epiname HSE707 (high solids, high build, two pack epoxy)	125⇔200	Amerlock 2K (high solids, high build, two pack epoxy)	150 ⇔ 200

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Paint Code	Akzo Nobel	Thickness Range (µm)	Jotun	Thickness Range (µm)	Wattyl	Thickness Range (µm)	Ameron Paints	Thickness Range (µm)
7	Interfine 227 (two pack, high gloss, solvent borne acrylic finish)	50⇔100	Jotacote 371T (two pack, high gloss, solvent borne acrylic finish)	50 ⇔ 75	Parycryl IFC (two pack, high gloss, solvent borne acrylic finish)	50 ⇔ 60	Ameron Iso-free 977 (two pack, high gloss, solvent borne acrylic finish)	50 ⇔ 75
8	Intergard 251 (two pack poxy, zinc phosphate primer)	50⇔125	Penguard Special (two pack epoxy, zinc phosphate primer)	75 ⇔ 150	EP Universal Primer LT (two pack epoxy, adhesion promoting, polyamide primer)	75 ⇔ 100	Amercoat 182ZPK (two pack epoxy, zinc phosphate primer)	50 ⇔ 100
9	Interzinc 315 (rapid cure, two pack, zinc rich epoxy)	50⇔75	Barrier (rapid cure, two pack, zinc rich epoxy)	40 ⇔ 75	Galvit EP100 FC (rapid cure, two pack, zinc rich epoxy)	25 ⇔ 50	Amercoat 471 (rapid cure, two pack, zinc rich epoxy)	50 ⇔ 75
10	Intercure 420 (two pack, rapid cure, epoxy MIO)	100⇔200	Jotaspeed MIO (two pack, rapid cure, epoxy MIO)	125 ⇔ 175	EpinameL HSE 707 (high solids, high build, two pack epoxy)	125 ⇔ 200	Amercoat 472 (two pack, rapid cure, epoxy MIO)	100 ⇔ 150
11	Intergard 436 (clear epoxy sealer)	TBA	TBA	TBA	TBA	TBA	Amerlock Sealer	100 ⇔ 150
12	Intergard 435 (high solids two pack epoxy for concrete)	TBA	TBA	TBA	TBA	TBA	Amerlock 2K (high solids two pack epoxy for concrete)	125 ⇔ 200

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## 14.0 SYSTEM NO. 97/H - PAINTING OVER GALVANIZED STEEL

## Scope

Refer to the Painting Application Schedule.

## Surface Preparation

Where necessary remove free oil and grease from contaminated surfaces by solvent washing to AS 1657.1, prior to abrasive blasting.

Brush blast clean all surfaces to AS 1627.4 to roughen the surface sufficiently to ensure paint adhesion to the galvanizing.

## Coating System

First Coat: Apply Intergard 251 Epoxy Zinc Phosphate to a dry film thickness of 50µm to 125µm.

Second Coat: Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.

Total Thickness: Total dry film thickness of the paint shall be between 200µm and 375µm.

## Repairs

Preparation: Damaged galvanised surfaces and/or where bare steel is exposed, shall be abrasively blasted to class 2½ with profile height between 40µm and 60µm. Feather edges of surrounding coatings.

First coat: Apply Interzinc 52 to a dry film thickness of between 65µm and 130µm overlapping existing sound coatings by 50mm.

Second coat: Apply Intergard 251 to a dry film thickness of between 50µm and 125µm overlapping existing sound coatings by a further 50mm.

Third coat: Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm overlapping existing coatings by 50mm.

Apply Intergard 475 High Solids Epoxy to a dry film thickness of between 150µm and 250µm.

Total Thickness: Total dry film thickness of the paint shall be between 200µm and 375µm.