

# Supplement to the WSA 201 Manual for Selection and Application of Protective Coatings

**Technical Specification**

# Table of contents

<b>1</b>	<b>Introduction .....</b>	<b>2</b>
1.1	Sydney Water’s Supplement .....	2
1.2	Alignment with WSAA National Codes and Standards .....	2
<b>2</b>	<b>Amendments to WSA 201 .....</b>	<b>3</b>
<b>3</b>	<b>Approved Protective Coating Products .....</b>	<b>4</b>
<b>4</b>	<b>Standard Colours .....</b>	<b>7</b>
<b>5</b>	<b>Document control.....</b>	<b>9</b>
5.1	Ownership and approval.....	9
5.2	Change history.....	9

## Tables

Table 2-1	List of amendments to WSA 201 (2017-2.1 edition) .....	3
Table 3-1	List of Approved Protective Coating Products.....	5

# 1 Introduction

## 1.1 Sydney Water's Supplement

This document is Sydney Water's supplement to WSA 201 Manual for Selection and Application of Protective Coatings version 2.1 published by Water Services Association of Australia (WSAA) in July 2017. This manual is available from WSAA.

WSA 201 and this supplement shall be used for all works involving selection and application of protective coatings in Sydney Water.

This document contains Sydney Water's:

- Amendments to WSA 201;
- Approved protective coating products; and
- Recommended standard colours for various assets.

Where there are contradicting requirements between WSA 201 and this document, the requirement specified in this document shall take precedence. In the case of any omissions or ambiguities in the WSA 201 or this document, seek clarification and instruction from Sydney Water.

## 1.2 Alignment with WSAA National Codes and Standards

Sydney Water supports Water Services Association of Australia (WSAA) national codes standards initiative. It is directed at developing a series of national standard documents covering design and construction of water and wastewater infrastructure. In September 2013, WSAA published a new document called WSA 201 Manual for Selection and Application of Protective Coatings.

Over the years, a number of Sydney Water's standards have been replaced with WSAA national codes and standards. However, given regional differences in matters such as legacy conditions, operating licence constraints, topographical and meteorological conditions, environmental and other legislation, individual water agencies will continue to have amended versions or supplementary documents, such as this document.

## 2 Amendments to WSA 201

The introduction to your report should clearly state your purpose and outline what the report will cover. It should be clear to your reader what response you are expecting from them in regard to the report. The way your report is organised depends on what you are reporting on.

Documents like the *Annual Report* have their own style guide and reference documents to guide you. Don't introduce too many heading levels in the document. It becomes confusing for the reader. Stick to the levels as set out here.

**Table 2-1** List of amendments to WSA 201 (2017-2.1 edition)

Reference	Amendments																				
Page 42, Table 5.7	Replace the recommended systems for sodium hypochlorite for reinforced concrete bunds with: EPM, PUE, PUR-B																				
Page 72, Section 8.13	Replace the primer for concrete substrate with: Concrete epoxy primer [P4] (200 µm nominal)																				
Page 73, Section 8.14	Replace the primer note for concrete, other metals, timber plastics, previous coatings substrates with the following: Consult supplier																				
Page 79, Section 8.20	Replace the primer note for concrete substrate with the following: Concrete epoxy primer [P4] (200 µm nominal)																				
Page 90, Section 8.30	Replace the coating thickness requirements (rows 5 to 8 of the table) with the following: <table border="1" data-bbox="493 1310 1385 1650"> <thead> <tr> <th>Item</th> <th>Nominal DFT</th> <th>Minimum DFT</th> <th>Maximum DFT</th> </tr> </thead> <tbody> <tr> <td>Primer</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Intermediate Coat</td> <td>500 µm</td> <td>375 µm</td> <td>750 µm</td> </tr> <tr> <td>Topcoat</td> <td>500 µm</td> <td>375 µm</td> <td>750 µm</td> </tr> <tr> <td><b>Total DFT</b></td> <td>1000 µm</td> <td>750 µm</td> <td>1500 µm</td> </tr> </tbody> </table>	Item	Nominal DFT	Minimum DFT	Maximum DFT	Primer	-	-	-	Intermediate Coat	500 µm	375 µm	750 µm	Topcoat	500 µm	375 µm	750 µm	<b>Total DFT</b>	1000 µm	750 µm	1500 µm
Item	Nominal DFT	Minimum DFT	Maximum DFT																		
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Topcoat	500 µm	375 µm	750 µm																		
<b>Total DFT</b>	1000 µm	750 µm	1500 µm																		

### 3 Approved Protective Coating Products

A list of approved protective coating products can be found in this section. These coatings have been assessed to:

- have satisfactory long-term track records;
- originate from quality assured manufacturers and/or suppliers;
- be part of a global product range; and
- have relevant products certifications issued by 3rd party accreditation bodies.

In the case of all listed products are not available, other products that can be demonstrated to have at least equal performance to the ones specified in the list may be used, subject to prior approval from the Sydney Water.

All products used within a selected coating system should originate from a single supplier where possible. Importantly, they must be compatible with each other and applied strictly in accordance with WSA 201 and the Supplier's specification.

Sydney Water reserves the right to make any changes to the content of the list at any time without giving notice or explanation.

Table 3-1 List of Approved Protective Coating Products

Code	Description	International	Jotun	Dulux	Wattyl	Carboline / Altex	Others
P1	Zinc rich epoxy primer	Interzinc 72 Interzinc 52	Barrier Barrier Plus	Zincanode 402 Zincanode 202	Galvit EP100	Carbozinc 858	
P2	Epoxy zinc phosphate primer	Intercure 200	Penguard Special Jotaprime 510	Duremax GPE Zinc Phosphate	Epinamel PR360ZP	Carboguard 504 ZP	
P3	Non-inhibitive / holding epoxy primer	Interline 982 Intergard 269	Jotaprime 505	Luxepoxy 4 White Primer	Epinamel PR250	Carboguard 504 Buff Phenoline 311	
P4	Concrete epoxy primer	Ceilcote 680	Penguard ClearSealer	Durebild STE	Epinamel CP502	Carboguard 1340	
P5	Waterborne acrylic primer/sealer	Intercryl 853		Acrylic Sealer Undercoat	Acrylic Sealer Undercoat	Resene Quick Dry	
P6	Vinyl ester primer	Ceilcote 380					
<del>P7</del>	<del>Water based epoxy primer</del>						
P8	Alkyd zinc phosphate metal primer	Interprime 198	Jotaprime 250	Metalshield HB	Duranamel PR9	Multiguard GP5	
P9	Galvanised iron primer		Jotun Galvanite	Galvanised Iron Primer	Solver Galva-Link	ECZ Cold Galvanizing	
P10	Inorganic zinc silicate				Galvit ES600	Carbozinc 11 WB	
P11	Silane / Siloxane						Sikagard 705L
C1	Surface tolerant epoxy	Interplus 356 Interplus 1180	Jotamastic 87	Durebild STE	Epinamel DTM680 Epinamel DT985	Carbomastic 615	
C2	High build epoxy	Interplus 1180	Jotacote 605		Epinamel DT985	Carboguard 690	
	High build epoxy (drinking water use)	Interline 850	Jotacote 605	Duremax GPE	Epinamel DT985	Carboguard 690 (N53 White)	
C3	High build solvent free epoxy	Interzone 954	Jotacote 410	Luxepoxy STL	Epinamel TL770SF	Phenoline 341	
	High build solvent free epoxy (drinking water use)	Interline 975	Tankguard 412	Luxepoxy STL	Epinamel TL770SF	Phenoline 341	
C4	Ultra high build epoxy	Interzone 396	Jotacote UHB		Epinamel UHB1000	Carboguard 696 UHBE Plastite 4500	
	Ultra high build epoxy (drinking water use)	Interline 975	Jotacote UHB	Luxepoxy UHB		Carboguard 696 UHBE	
C6	Ultra high build vinyl ester	Interline 871 Ceilcote Flakeline 242HB				Plasite 4110 Plasite 4310	
C7	High build chlorinated rubber			Luxachlor HB			
C8	Ultra high build epoxy / polyurethane mortar	Polibrid 705E					Fernco Ultracoat Hychem TL5 Epirez 733 UHB
C9	Water based epoxy			Enviro epoxy WBE		Altra~Shield WB-V	
C10	Alkyd aluminium leafing grade	Intertherm 891		Industrial Aluminium		Multiguard GP14	

Code	Description	International	Jotun	Dulux	Wattyl	Carboline / Altex	Others
C11	Polymer modified bitumen						Liquid Rubber
C12	Calcium aluminate cement						MasterEmaco S 880 Sewpercoat Renderoc CAC Quadex Aluminaliner Plus Bisley Extrema-Dur S1 & S3
C13	Anti-abrasion ceramic filled epoxy/polyurethane						Belzona 1321 CeramAlloy CL
	Anti-abrasion ceramic filled epoxy/polyurethane (drinking water use)						Belzona 1341 Chemclad XC
T1	Gloss 2-pack acrylic polyurethane	Interthane 990 Interthane 870 (MIO)	Imperite 300 Hardtop AS	Weathermax HBR	Poly U400 Poly U775 MIO	Carbothane 134HG	
T2	Polysiloxane	Interfine 979			ValXL 800	Carboxane 2000	PSX 700
T3	Waterborne gloss acrylic	Intercryl 853	Jotun Acrylic Gloss	Weathershield X10	Wattyl Solagard	Resene Hi-Glo	
<del>T4</del>	<del>Flexible high build acrylic</del>						
T5	Anti-graffiti topcoat	Interfine 1080	Imperite 300	Quantum Clearcoat	Poly U400 Anti-Graffiti Clear	Carbothane 130 + Easy~Clean SX	PSX 700
T6	Alkyd enamel	Interlac 665		Super Enamel	Duranamel BR22	Multi_Gard GP14	
T7	Epoxy novolac	Ceilmate Flakeline 662				Phenoline 353 LTE Plastite 4550	Sikagard-63N Belzona 4311
T8	HDPE / PVC liner						AKS Plastiline
T9	Petrolatum / bitumen / visco-elastic tape wrap					Carbowrap Petrolatum Tape	Denso Tape PetroGard Tape Densopol Tape Stopaq Wrappingband
T10	Heat shrinkable polyolefin coatings						Denso 50HSS Canusa Wrapid Tape
T11	Polyurea						ERA Polymer AL 950

## 4 Standard Colours

The following table provides recommended colours for asset and equipment.

Table 3 List of Standard Colours

Item	Colour to AS 2700	
Buildings	G66	Environmental Green
Compressors/receivers	Y44	Salmon Pink
Cranes, gantry	Y14	Golden Yellow
Electrical cabinets/SCA's (indoor and outdoor)		
• External and internal walls	T33	Smoke Blue
• Internal components	N14	White
Hand rails, ladders, platforms, bollards [if required to be painted and not galvanised]	Y14	Golden Yellow
Mechanical/electrical equipment	T45	Cootamundra
Motors, pumps, gear boxes – non immersed	T45	Cootamundra
Pipes, valves and fittings – above ground in network (note 1)	G66	Environmental Green
Pipes, conduits and ducts in facilities (notes 1, 2 & 3)		
• Water and recycled water	G21	Jade
• Steam	N24	Silver grey
• Fuel and lubricating oils	X53	Golden tan
• Gases	Y44	Sand
• Acids and alkalis (corrosive)	P23	Lilac
• Air	B25	Aqua
• Sewage, waste	N61	Black
• Fire services	R13	Signal red
• Electrical	X15	Orange
• Communications	N14	White
Steelworks	N24	Silver grey
Tanks and vessels		
• External	G66	Environmental Green
• Internal	N14	White



Notes:

1. Some pipes and fittings, such as ones made of polyethylene and coated with fusion bonded polyethylene, are not suitable to be painted.
2. Pipe content identification colour and marking shall be in accordance with AS 1345. Other colours or marking may be used to identify pipes of different contents but similar in nature, which run in parallel of or close to each other. For an example, pipes of different acids. The selection of alternative colours must be considered carefully so they do not introduce potential hazardous conflict with specified colours in AS 1345.
3. Plastic pressure pipes exposed to UV require additional paint protection.

## 5 Document control

### 5.1 Ownership and approval

BMIS number: ACP0166

	Name	Position title
Prepared by	Jerry Sunarho	Senior Engineer
Reviewed by	Robert Loncar	Lead Engineer
Approved by	Ken Wiggins	Manager, UD&E

### 5.2 Change history

Version	Date	Description of change	Approved by
1	23/12/2010	First issue	JC
2	11/10/2013	Converted to Sydney Water's supplement to WSA 201	PG
3	19/09/2017	Modification of the approved products list Change of electrical cabinets colour Adding amendments for WSA 201	