1.0 SCOPE

This document summarises the procedure for the application of a 2 pack Epoxy Mastic coating, followed by a Polyurethane top coat, onto a Fusion Bonded Medium Density Polyethylene (Sintakote®) coating.

Refer Design Standard, DS95 (Standard for the Selection, Preparation, Application, Inspection and Testing of Protective Coatings on Water Corporation Assets) for additional information or clarification.

It shall be read in conjunction with Water Corporation surface preparation specification A7 - Surface Preparation and Application of Protective Coating on Fusion Bonded Medium Density Polyethylene (Sintakote®).

Note:
If anti-graffiti properties are required, replace the specified top coat with 2 coats of 50 microns nominal dry film thickness “Anti-graffiti Polyurethane” with a total thickness of 100 microns as described in Coating Specification J1.

2.0 PURPOSE

This coating is used on external surfaces of Fusion Bonded Medium Density Polyethylene (Sintakote®) coating pipe exposed to atmospheric corrosivity categories C1 to C5 as described in Australian Standard AS 2312.

Applications include above ground or exposed to atmosphere pipelines in the water treatment plant, pumping station etc.

3.0 DEFINITIONS

<table>
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<td>Contractor:</td>
<td>The service provider or its sub-contractor who will undertake the works.</td>
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<tr>
<td>Corporation:</td>
<td>the Water Corporation and the Principal for the purposes of externally contracted asset delivery.</td>
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<td>DFT:</td>
<td>Dry Film Thickness.</td>
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<tr>
<td>ITP:</td>
<td>The detailed Inspection and Test Plan(s) for the Works.</td>
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<tr>
<td>NACE:</td>
<td>National Association of Corrosion Engineers.</td>
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</table>
Superintendent: The Superintendent for the contract, as defined in the conditions of contract, who is appointed by the Water Corporation to manage/oversee the work under the contract on behalf of the Water Corporation.

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

4.0 SURFACE PREPARATION

4.1 Remove any grease, salts or oil deposits. Whip blast the surface using garnet to provide a suitable key for the coating system to adhere. Care should be taken to prevent “excessive scuffing” to the Fusion Bonded Polyethylene material. If whip blasting cannot be achieved, roughening of the surface by sanding is permitted.

4.2 Sintakote® not required to be coated shall be protected with masking materials which shall be completely removed by the Contractor after completion of the work.

5.0 COATING MATERIALS

5.1 Coating materials used for attaining the specified standard shall be selected in accordance with Appendix 3 of DS-95- commonly used coatings in potable water and wastewater infrastructures unless approved otherwise by the Team Leader – Asset Durability. This approval is required before coating commences.

5.2 The coating components shall be thoroughly mixed in the specified proportions. Material so prepared shall be used within the “pot-life” period claimed by the manufacturer for the relevant site conditions.

5.3 Coating specifications inclusive of list of items, datasheets, coating application method statements and ITP’s shall be submitted to the Principal for approval at least 10 working days prior to commencement of work.

5.4 Surfaces to be coated which will become inaccessible after assembly or erection shall be cleaned and painted before they become inaccessible.

5.5 Welds, edges, crevices, seams, joints and corners shall be brush coated before commencement of spray application of the coating.

5.6 Mixing, thinning, application and curing of protective coatings shall be carried out in accordance with the coating manufacturer's recommended practice for the on-site conditions.
5.7 Recommended drying times between coats shall not be exceeded.

5.8 Applied coatings shall be protected from rain or moisture until cured.

6.0 ATMOSPHERIC CONDITIONS

6.1 Prior to and during coating application, the contractor shall record details pertaining to environmental conditions including ambient and surface temperature, relative humidity and dew point.

6.2 Coating application shall not commence if any one of the following conditions exists:

- The relative humidity is above 85%;
- The substrate temperature is less than dew point plus 3°C;
- The substrate temperature is below 10°C;
- The substrate temperature is above 55°C;
- The surface to be coated is wet or damp;
- Where the full prime coat application cannot be carried out before the specified cleanliness of the surface deteriorates;
- If the weather is deteriorating or is unfavorable for application or curing;
- If the pot life of the paint has been exceeded.

7.0 COATING THICKNESS

7.1 Coating thickness of a nominal dry film thickness of 150 microns of 2 pack Epoxy Mastic followed by nominal dry film thickness of 50 microns of Polyurethane top coat with a total thickness of 200 microns.

8.0 COATING FINISH

8.1 The finished coating shall be of uniform thickness, colour, appearance and gloss. It shall be fully cured, insoluble, adherent, coherent and free from holidays, laps, sags, blistering, checking, wrinkling, overspray, patchiness and any other defects that may impair the performance and/or appearance of the coating.

8.2 Protective coating colours shall comply with AS 2700 - Colour Standards for General Purposes. If a suitable approved colour is not available, then the proposed colour shall be referred to the Water Corporation for acceptance prior to use. Reference shall be
COATING SPECIFICATION

EPOXY MASTIC, POLYURETHANE TOP COAT ON FUSION BONDED POLYETHYLENE COATING (SINTAKOTE®)

COATING SPECIFICATION: E5    ISSUE: 3    DATE: JULY 2019

made to Water Corporation Colour Code Drawing No. EG71-1-1, Rev. E for details of colours to be used for different applications.

9.0 COATING APPLICATOR/PERSO NNEL QUALIFICATION

9.1 Work shall only be carried out by a competent person.

9.2 The work shall be undertaken by an approved Water Corporation Corrosion Control Panel Services member, unless approved otherwise by the Team Leader – Asset Durability.

9.3 The Applicator’s Coating Supervisor shall possess as a minimum one of the following certifications:

- ACA - Coating Inspector; or
- NACE - CIP Level I Coating Inspector.

9.4 The coating contractor shall nominate a Coating Inspector as their Quality Control Officer to carry out inspections, submit the ITP, undertake the required testing and maintain appropriate records for all work performed.

The Applicator’s Coating Inspector shall possess as a minimum one of the following certifications:

- ACA - Coating Inspector; or
- NACE - CIP Level I Coating Inspector.

9.5 Where a suitable product from Appendix 3 of DS-95 is available it shall be used, unless approved otherwise by the Team Leader – Asset Durability shall be used.

10.0 INSPECTION AND TESTING OF COATING

10.1 Coatings shall be visually examined for surface defects and any discontinuity arising after curing shall be recorded.

11.0 REPAIR OF A DEFECTIVE COATING AND RETESTING

11.1 Coatings with defective areas equal to 20% or more of the total coated surface, will be rejected outright.

11.2 Defects such as pinholes, cracks, blisters, voids, foreign inclusions and irregular profile peaks shall be marked for repair and retested upon full cure of the repaired coating.
12.0 RECORDING AND REPORTING

12.1 Prior to any works commencing, an Inspection Test Plans (ITP) shall be forwarded to the Superintendent for review a minimum of ten working days prior to the commencement of work.

12.2 During the course of the works, the following information shall be recorded:
   • Environmental conditions (relative humidity, dew point etc.);
   • Surface preparation;
   • Surface profile;
   • Coating application method;
   • Coating testing results; and
   • General failure.

12.3 On completion of the works a report shall be submitted by the Contractor to the Superintendent. This report shall include all coating test results, details of any failures and subsequent repairs if required.

13.0 CONTRACTOR’S RESPONSIBILITY

13.1 The Contractor shall supply all necessary plant, equipment, materials and labour, prepare the surface and apply and maintain the protective coating in accordance with this specification.

13.2 The preceding inspection clauses shall not relieve the Contractor of their responsibility to supply materials and perform work in accordance with the requirements of any overriding contract documentation.

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