

COATING SPECIFICATION

VISCO ELASTIC TAPE WRAPPING REQUIREMENTS FOR ABOVE GROUND APPLICATION

SPECIFICATION: L3

ISSUE: 2

DATE: SEPTEMBER 2023

1.0 SCOPE

This technical specification shall apply to use of visco-elastic tape wrapping in above ground applications as defined in section 2 below.

The Visco-elastic tapes described in this specification pertain to the systems provided by the manufacturers as shown in the table below. The Visco-elastic tape system includes a profiling paste (required in certain applications), an anti-corrosion wrap, followed by a protective coating for aesthetics and UV protection.

| | Supplier | | |
|--------------------------------|--|--------------------------|------------------------|
| | Anticorrosion Technology | Denso | UCC |
| Profiling paste | STOPAQ ®CZH Paste | VISCOTAQ™ ViscoMastic | ViscoSeal Mastic Strip |
| Anti-corrosion wrap | STOPAQ ®EZ / EZHT Wrapping band | VISCOTAQ™ EZ ST | Sealit Visco tape |
| Protective over coating | UV resistant water-based acrylic paint (e.g Dulux Weathershield) | | |

2.0 PURPOSE

The purpose of this technical specification is to inform designers, contractors, and installers of the Corporation’s requirements for the corrosion protection of above ground steel pipe and fittings that are in situations where standard liquid coatings and their required surface preparation are not achievable.

It is not the intention of this specification to replace protective coating application, ideally black steel sections should be abrasive blast cleaned and coated as per Water Corporation DS95 specifications.

3.0 DEFINITIONS

Contractor: The service provider or its subcontractor who will undertake the works.

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

I TP: The detailed inspection and test plan(s) for the Works.

IPA: Isopropyl Alcohol used as a surface cleaner.

Profiling Paste: Moldable corrosion preventing paste used for profiling irregular shapes.

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Technical Specification: This technical specification.

Visco-elastic tape: Amorphous low viscosity polyolefin tape. Visco tape is comprised of a high adhesion visco-elastic mastic laminated with a nonwoven fabric (paintable) backing. The mastic layer remains permanently plastic and will not oxidise. It is cold applied and typically used for preventing corrosion on atmospheric steel substrates.

Works: For the purpose of this Technical Specification means the wrapping to be undertaken by the Contractor to which this Technical Specification applies.

4.0 STANDARDS/CODES

- 4.1 All tape wrapping shall comply with the AS 4822 Section 9 and/or Code(s) of practice (including amendments) specified in the Contract Specification or stated on the Contract Drawings.
- 4.2 The applicable edition(s) of standards/codes are those current two weeks prior to the tender close date.
- 4.3 The relevant standard/code is deemed the minimum standard applicable unless otherwise stated in the specification.

5.0 GENERAL

- 5.1 The Contractor shall supply all necessary plant, equipment, materials and labour, prepare the surface and apply and maintain the visco elastic tape wrapping system to prepared surfaces in accordance with this Specification.
- 5.2 Work shall only be carried out by companies with experience on projects of a similar nature and Water Corporation's Protective Coating and Concrete Repair Panel member.
- 5.3 Personnel engaged in visco elastic tape wrapping shall be trained and certified by the tape wrapping supplier as competent applicators.

6.0 WRAPPING PROCEDURES

- 6.1 All weld spatter, slag and sharp edges on the external welded joints shall be removed prior to the tape wrapping.
- 6.2 The acceptable surface condition prior to priming/tape wrapping shall be in accordance with ISO 8501-1 St 2, thorough hand and power tool cleaning. Examples of a St 2 finish are available in Appendix A of Water Corporation Technical Specification L1 – *Tape Wrapping Procedure*.

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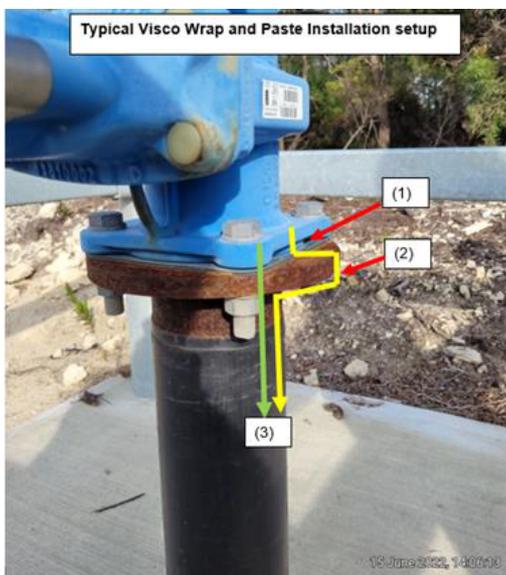
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- 6.3 Surface contaminants such as oil, grease and mud shall be removed using Isopropyl Alcohol (Isopropanol, IPA) only. Ordinary thinners, mineral spirits or citrus based cleaners shall not be used.
- 6.4 Profiling paste shall be applied to any voids, step changes, or areas that may contain air pockets after wrapping.
- 6.5 Warming the paste prior to application generally increases the workability.
- 6.6 The Visco-elastic wrap shall be applied over the steel substrate with minimal tension. Avoid inclusion of air pockets. When applied in individual strips the wrap shall have a minimum of 10 mm side-by-side overlap. When spirally applied on pipework a minimum of 50 mm overlap is required.
- 6.7 UV protection and aesthetics are provided by applying water-based UV tolerant acrylic paint, e.g. Dulux Weathershield suitable for exterior application.
- 6.8 A typical example of visco-elastic tape application and procedures is shown in Figure 1 below. More examples of visco-elastic tape application are shown in Appendices.



Proposed SOW for VISCO Tape Wrapping

- a) Wire brush clean any existing loose rust and scale.
- b) Lightly abrade Sintakote to enhance tape adhesion.
- c) Apply Visco Mastic paste to fill void gap between valve and flange. (1)
- d) Apply Visco Wrap (2)
- e) A UV resistant water-based coating shall be applied over area wrapping (3)

Figure 1. Typical Visco-elastic wrapping system and installation procedure.

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7.0 INSPECTION & TESTING

- 7.1 The Contractor shall inspect the completed wrapping to confirm that it is adequately bonded to the pipe and that there are no visible voids. Visco-elastic tape wrap systems that are not adequately bonded to the pipe shall be removed and re-applied.
- 7.2 There shall be no holes, punctures, gaps or any other defects that may impair the performance of the tape system. All such defects shall be repaired in accordance with the manufacturers recommended practice.
- 7.3 Plant, equipment, materials and methods used shall be subject to inspection acceptance by the Superintendent.

8.0 PROCESSES & CONSUMABLES

- 8.1 All materials used in the tape wrapping process shall comply with the relevant standards/codes, i.e. AS 4822 Section 9.
- 8.2 All materials used in the tape wrapping process shall be supplied by:
 - 8.2.1 The manufacturer of the subject materials who has in place a Quality Management System certified by an accredited third party to AS/NZS ISO 9001 or an equivalent system certified by an accredited third party and approved by the Corporation; (or)
 - 8.2.2 A distributor, who has in place a Quality Management System certified by an accredited third party to AS/NZS ISO 9001 or an equivalent system certified by an accredited third party and approved by the Corporation; or is a distributor who is supplying the goods from a manufacturer who has in place a Quality Management System which is certified in accordance with paragraph 8.2.1.

9.0 CONTRACTOR'S RESPONSIBILITY

- 9.1 The Contractor shall supply all necessary plant, equipment, materials and labour, prepare the surface and apply and maintain the wrap system in accordance with this specification.
- 9.2 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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APPENDICES

APPENDIX A – Flange Connections

APPENDIX B – Sintakote Terminations

APPENDIX C – Heat Shrink Sleeve Termination

APPENDIX D – Prevention of Corrosion Under Insulation (CUI)

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APPENDIX A – Flange Connections



Photo 1. Above ground scour valve offtake before and after visco-elastic tape application.



Photo 2. Visco-elastic tape application around coated flange circumference is used to prevent corrosion.

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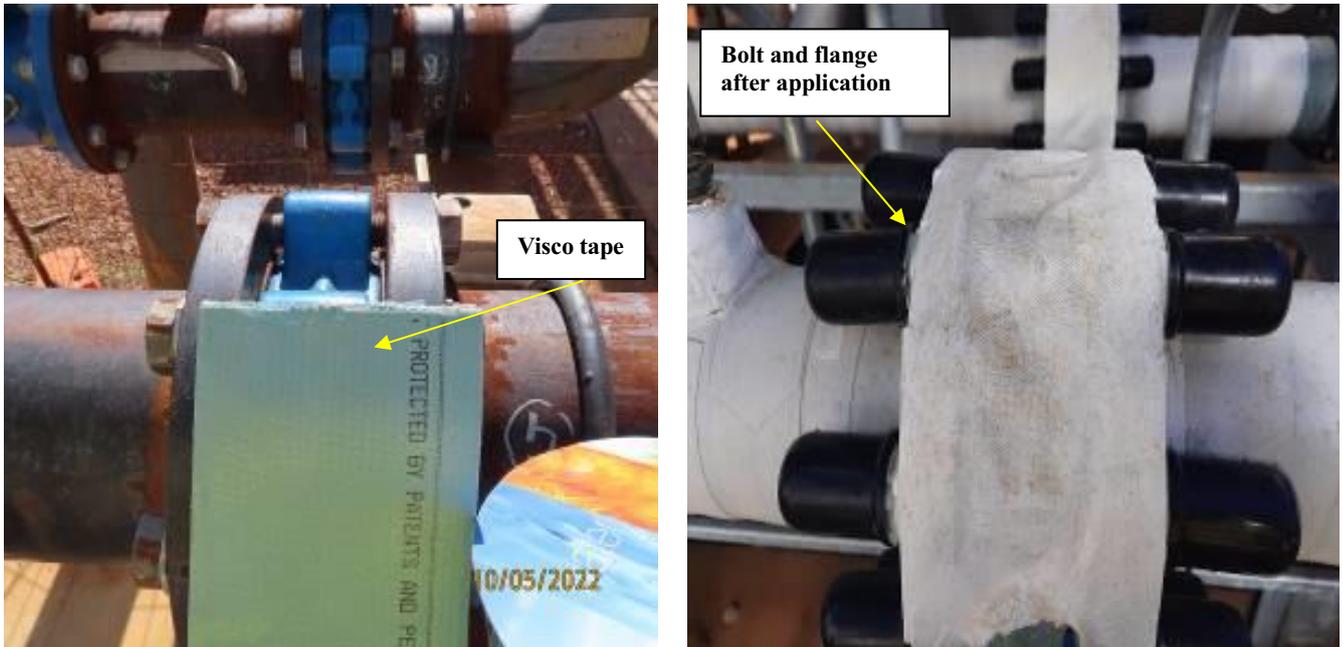


Photo 3. Visco-elastic tape application at the flange gap and bolts to prevent corrosion



Photo 4. Visco-elastic tape application around a recoated flange is used to prevent under film corrosion and staining.

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APPENDIX B – Sintakote Terminations

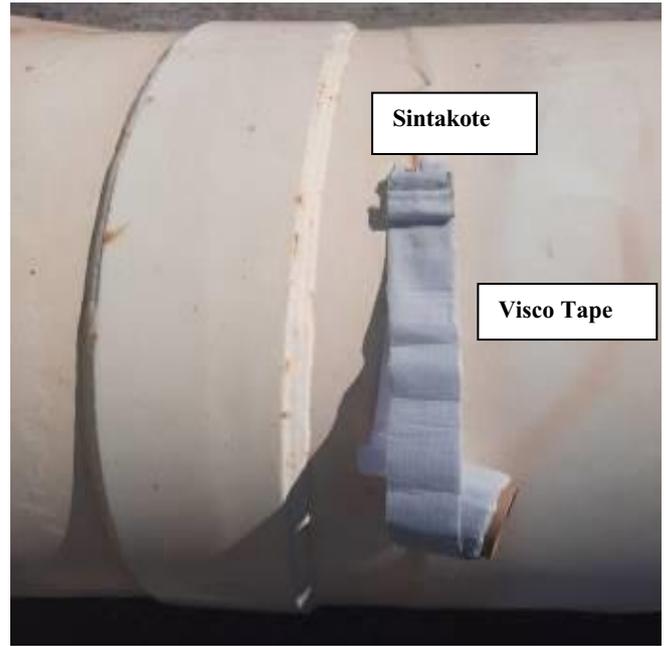


Photo 5. Visco-elastic tape application, where existing Sintakote termination has failed.

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APPENDIX C – Heat Shrink Sleeve Termination

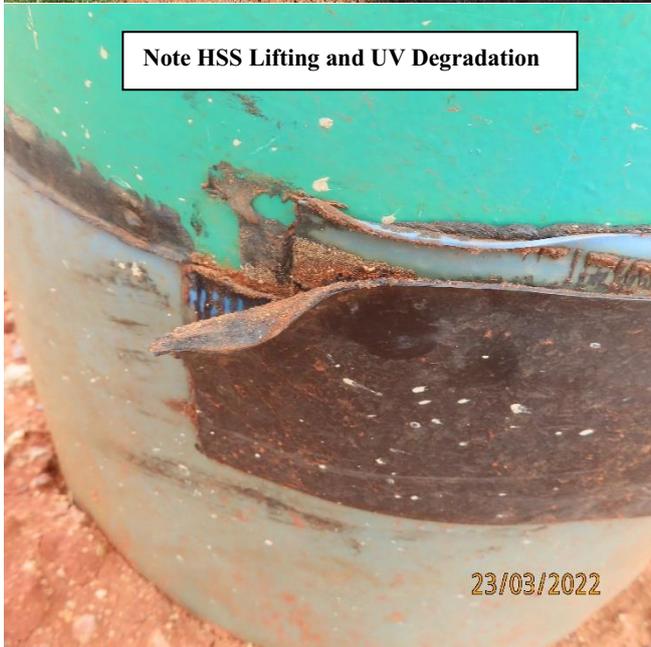
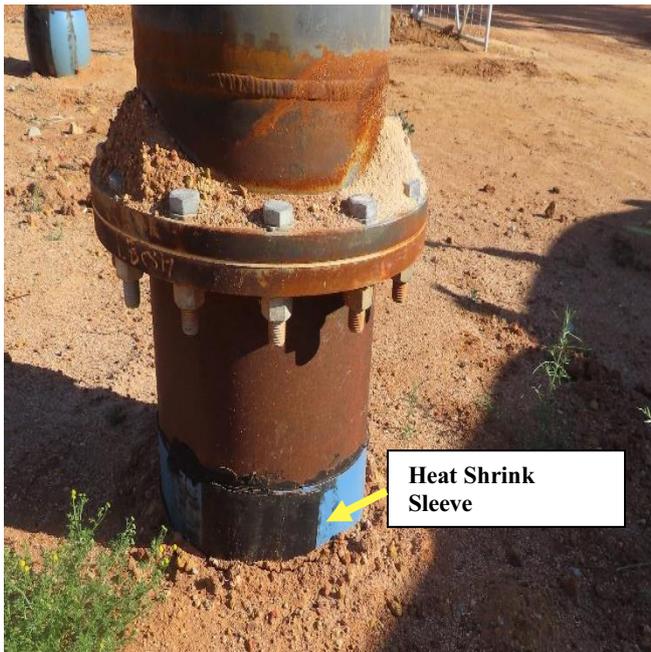


Photo 6. Visco-elastic tape is used on exposed heat shrink sleeve to provide UV protection and to prevent moisture ingress at HSS termination.

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APPENDIX D – Prevention of Corrosion Under Insulation (CUI)

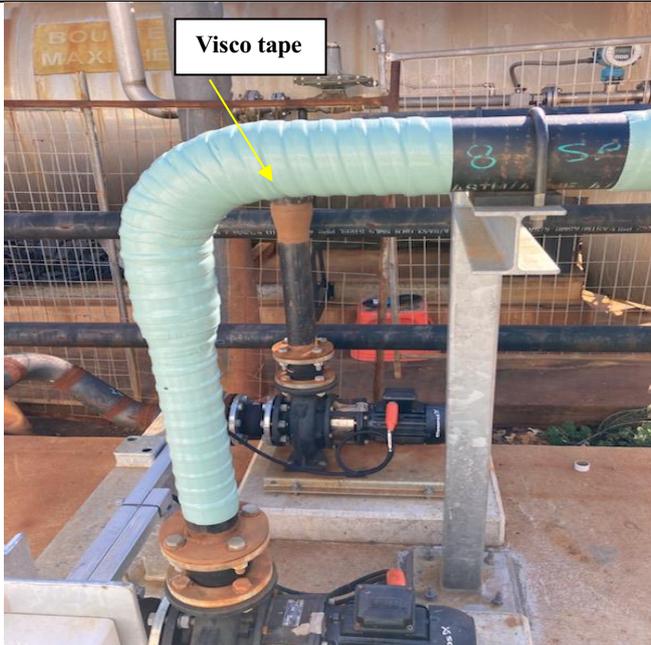


Photo 7. Thermal insulation is installed following completion of Visco-elastic Tape to all pipework and flanges to prevent corrosion under insulation

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| Document Revision History | |
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| 08/09/2023 | Supplier on page 1 updated from Sealtaq to Stopaq |
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