



Engineering

Technical Standard

TS 0500 - Authorised Products – Water & Sewer Maintenance

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Only the current revision of this Standard should be used which is available for download from the SA Water website.

Significant/Major Changes Incorporated in This Edition

This revision updates the April 2016 edition of TS 0500 Authorised Products - Water and Sewer Maintenance. The clause numbers described below identify changes from version 1.0

Various Clauses

Standards references added.

Introduction

Expanded to include references to the Australian Drinking Water Guidelines.

Clause 1.1.1 (New)

Compliance Requirements, for rubber seals intended for use in PVC pipes.

Clause 1.1.2 (New)

Requirements for dual-reticulation infrastructure.

Clause 1.2

Glossary expanded.

Clause 1.3.1

Table of standards expanded.

Clause 1.3.2

Table of SA Water Documents updated.

Clause 1.4

Definitions table updated.

Clause 3.1.2.3 (New)

Brass ball valves.

Clause 3.1.2.4 (New)

DN 20 x 90° Angle valves

Clause 3.1.2.5 (New)

NDW Ball valves.

Clause 3.1.2.6 (New)

Gate valves

Clause 3.1.5.1

New manufacturer and product added - HAWLE Synoflex

Clause 3.1.5.2

New manufacturer and product added - HAWLE Synoflex

Clause 3.1.5.3

New manufacturer and product added - HAWLE Synoflex

Clause 3.1.7

New manufacturer and product added - Viega

Clause 4.1.2.2

New clause heading - PVC and PP Couplings

Clause 4.5.1

New manufacturer and product added – Plastec Flexitec coupling

Clause 4.6

New manufacturer added – Derwent

Clause 4.7.1.1

New manufacturers and products added - Ducast and EJ

New Clause 4.7.3

New manufacturer and products added – Cretex

Clause 4.8.1.1

Manufacturer added – Ferretti International

Clause 4.8.1.2

Two Manufacturers added – Ferretti International and Novafast

Clause 4.8.2

Manufacturer added – Ferretti International




Document Controls

Revision History

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1.00	31 March 2016	R Pearce	
2.00	10 January 2021	K Claridge	Refer Pg 2 and 3 for identified changes in this revision

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1 Introduction

SA Water is responsible for the construction and commissioning of an extensive amount of engineering infrastructure such that it is safe and fit for purpose.

This document lists conforming products approved for installation within SA Water's infrastructure networks. The products listed have been approved after their evaluation based upon the SA Water product appraisal procedure.

In line with the Australian Drinking Water Guidelines (ADWG),

“The products used in water systems should be subjected to an audited system of quality control. The effectiveness of preventive measures is highly dependent upon the design and implementation of associated process control programs. To consistently achieve a high-quality water supply, it is essential to have effective control over the processes and activities that govern drinking water quality (ADWG).”

In addition, the ADWG outlines that:

“Contaminants may also be introduced when water comes into contact with materials such as filter media, protective coatings, linings and liners, joining and sealing products, pipes and fittings, valves, meters and other components”.

Approved products shall only be obtained from the listed manufacturer or their authorised agent.

All products intended for contact with drinking water, shall be tested for compliance with AS/NZS 4020 (2018). Compliance with this standard must also be verified at any change of material composition, change of design, or every 5 years - whichever occurs first.

1.1 Purpose

Design Consultants and Construction Contractors should use the information presented within this document for confirmation of products SA Water has authorised for use.

Product Manufacturers, suppliers and other stakeholders may also use the information as reference material.

SA Water personnel should source items from the Store. If not stocked they should procure by means of:

- utilising the relevant SA Water Period Contract or Standing Offer Arrangement,
- where an item is not covered under a Contract or Standing Offer Arrangement, contacting a relevant Stores or Procurement Officer.

1.1.1 Compliance Requirements

All products intended for contact with drinking water, shall be tested for compliance with the standards listed in this document, including AS/NZS 4020 (2018). Compliance with this standard must also be verified at any change of material composition, change of design, or every 5 years - whichever occurs first.

Clause 6.8 of AS/NZS 4020 (2018), states that organic compounds must be within the values listed in the ADWG, which sets the limits for NDMA leaching at 100 ng/L. However, SA Water has the additional requirement that the testing of each compound, shall be undertaken in Chloraminated water and that the 9-day result, shall be < 30 ng/L, for rubber seals intended for use in PVC pressure pipes (from 1st July 2021).

1.1.2 Requirements for dual-reticulation infrastructure

In compliance with the Office of the Technical Regulator requirements, from 1st July 2021 it will be mandatory for all non-drinking water; valves, pipes and fittings, to be manufactured in a Purple/Lilac colour. For materials where this is not possible, they shall be powder-coated or epoxy painted, no darker than Jacaranda P24 or Purple P12 and no lighter than Lilac P23.

1.2 Glossary

The following glossary items are used in this document:

Term	Description
NDW	Non-Drinking Water
PVC	Polyvinyl Chloride
SA Water	South Australian Water Corporation
SS	Stainless Steel
TG	SA Water Technical Guideline
TS	SA Water Technical Standard
VC	Vitrified Clay

1.3 References

1.3.1 Australian and International

The following table identifies Australian and International standards and other similar documents referenced in this document:

Number	Title
AS 1432	Copper tubes for plumbing, gasfitting and drainage applications
AS 1646	Elastomeric seals for waterworks purposes
AS 1831	Ductile Cast Iron
AS 2345	Dezincification resistance of copper alloys
AS 2419.2	Fire hydrant installations - Fire hydrant valves
AS 3688	Water supply and gas systems - Metallic fittings and end connectors
AS 3996	Access covers and grates
AS/NZS 1260	PVC-U pipes and fittings for drain, waste and vent applications
AS/NZS 4020	Products in contact with Drinking Water
AS/NZS 4129	Fittings for polyethylene (PE) for pressure applications
AS/NZS 4158.1	Polymeric coatings on valves and fittings for water industry purposes
AS/NZS 4456	Masonry units and segmental pavers
AS/NZS 5065	Polyethylene and polypropylene pipes and fittings for drainage and sewerage
WSA PS 270	Mechanical Couplings, Non-End Thrust Restraint for pressure applications

1.3.2 SA Water Documents

The following table identifies the SA Water standards and other similar documents referenced in this document:

Number	Title
TS 0503	Authorised Products for Water Systems

1.4 Definitions

The following definitions are applicable to this document:

Term	Description
SA Water's Representative	<p>The SA Water representative with delegated authority under a Contract or engagement, including (as applicable):</p> <ul style="list-style-type: none"> • Superintendent's Representative (e.g. AS 4300 & AS 2124 etc.) • SA Water Project Manager • SA Water Construction Technical Officer/Manager • Reticulation Networks Wastewater/Water Specialist • SA Water nominated contact person
Responsible Discipline Lead	The engineering discipline expert responsible for TS 0500 defined on page 3 (via SA Water's Representative)

1.5 Disclaimer

- SA Water reserves the right to alter, amend or withdraw this document, at any time, without prior notice.
- SA Water does not give preference to any particular make or type of product listed herein. Manufacturers are presented in alphabetical order, not in any order of preference.
- All products listed may be subject to change by the manufacturer. In such circumstances manufacturers are required to notify SA Water of any changes in the design, materials or manufacturing process of any approved product. SA Water is reliant upon manufacturers providing such notification in a timely manner and takes no responsibility for any issue that may arise should a manufacturer fail to do so.
- It is the responsibility of the Designer/ Constructor to ensure selected products are appropriate for the intended application.
- It is the responsibility of the Designer/ Constructor to ensure the product complies with the infrastructure category and meets the relevant Australian standards.
- It is the responsibility of the Constructor to ensure components do not exceed any expiry date.
- Product sizing may vary between manufacturers. Size range provided herein is a guide only and the Designer/ Constructor shall refer to the manufacturer for the product size and availability.
- Information within this document is correct at time of publication. The date of publication of this document can be found on the front page, and, in the left hand corner of the footer on each subsequent page.

2 Scope

This document specifies products that are authorised for use during maintenance of the following water and sewer systems:

- Water reticulation systems up to a maximum size of DN 375,
- Gravity sewer systems up to a maximum size of DN 300,
- Pressure sewer systems (i.e. sewer pumping mains) up to a maximum size of DN 200.





3 Mains Water

(For NDW fittings not listed below, please refer to TS 0503)





3.1 Fittings

3.1.1 Brass





3.1.1.1 Flared

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 2345 AS 3688 AS/NZS 4020</p>	<p>Adaptor - Tube to BSP Female</p> 	<p>Tapping Nipple or Adaptor - Tube to BSP Male</p> 
	DN15 - 20	DN15 - 20
	<p>Coupling Nipple</p> 	<p>Flared Nut</p> 
	DN18 - 20	DN18 - 20
<p>Manufacturers</p>	Autotherm	Autotherm
	Wadham	Wadham




3.1.1.2 Couplings

All Fittings Shall Comply With Australian Standard/s AS 2345 AS 3688 AS/NZS 4020	BSP Female Hex	BSP Female Tube	Tube Assembly	Inverted Nut
				
	DN15 - 20	DN25 - 50	DN25 - 50	DN25 - 50
Manufacturers	Autotherm	Autotherm	Autotherm	Autotherm
	Wadham	Wadham	Wadham	

3.1.1.3 Plug, Nipple & Reducers


All Fittings Shall Comply With Australian Standard/s AS 2345 AS 3688 AS/NZS 4020	BSP Plug	Hex Nipple	Hex Reducer Male Male	Oct Reducer Male Male
				
	DN10 - 20	DN10 - 50	DN10 - 50	DN57 x 50
Manufacturers	Autotherm	Autotherm	Autotherm	Autotherm
	Wadham	Wadham	Wadham	Wadham

3.1.1.4 Unions & Compression Sleeve

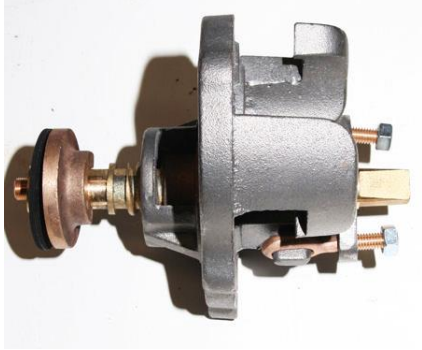
All Fittings Shall Comply With Australian Standard/s AS 2345 AS 3688 AS/NZS 4020 (2018)	Flat Gasket Seat Union BSP Male to Female 	Tube to Female Pipe 	Compression Sleeve 
	DN10 x 16	DN20 - 25	DN25 – 50
Manufacturers	Autotherm	Autotherm	Autotherm

3.1.2 Valves


3.1.2.1 Angle Valve Head Assembly

All Fittings Shall Comply With Australian Standard/s AS 2345 AS 3688 AS/NZS 4020 (2018)	 <p>DN50 – 300</p>
Manufacturer	Autotherm
	Wadhams

3.1.2.2 Fireplug Head Assembly – Original EWS Style

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 2419.2 AS/NZS 4087 AS/NZS 4020 (2018)</p>	 <p style="text-align: center;">DN50 - 300</p>	
<p>Manufacturer</p>	<p style="text-align: center;">Tuff Tap</p> <p style="text-align: center;">Viadux</p>	



3.1.2.3 Brass Ball Valve

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 2345 AS 3688 AS/NZS 4020 (2018)</p>	<p>Brass body with Stainless Steel Ball and Stainless Steel handle.</p> <p>DN 25, 40, 50</p>	 <p style="text-align: center;">Series 1297</p>
<p>Manufacturers</p>	<p style="text-align: center;">Refer TS 0503 Clause 7.2.2.1</p>	

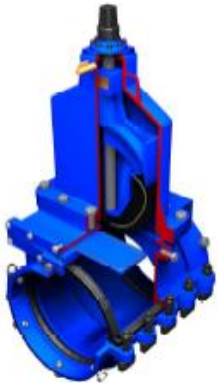
3.1.2.4 DN 20 x 90° Angle Valves

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 2345 AS 3688 AS/NZS 4020 (2018)</p>	<p>Brass body with Stainless Steel Ball</p> <p>DN20 only</p>	 <p style="text-align: center;">One-Piece Valve</p>	 <p style="text-align: center;">with Stainless Steel handle</p>
<p>Manufacturers</p>	<p style="text-align: center;">Refer TS 0503 Clause 7.2.2.2</p>		

3.1.2.5 NDW Ball Valves


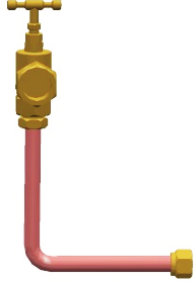
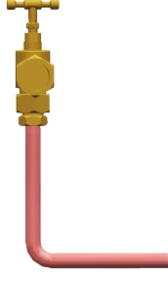
<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 2345 AS 3688 AS/NZS 4020 (2018)</p>	<p>Brass body with Stainless Steel Ball</p> <p>Solid Lilac/Purple colour for NDW Systems</p>	 <p>DN20</p>	 <p>DN 25, 40, 50</p>
<p>Manufacturers</p>	<p>Refer TS 0503 Clause 7.2.2.3</p>		

3.1.2.6 Gate Valves



<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 2638 AS 4181 AS/NZS 4020 (2018)</p>	<p>Ductile Iron FBE Coated.</p> <p>Two-part clamp Systems.</p> <p>Resilient seated gate.</p> <p>Note: For use on live mains, where no shut-down is possible. S-Gate valve installation training must be undertaken, prior to construction.</p>	 <p>DN 80 - 375</p>
<p>Manufacturers</p>	<p>DAHSIAN (S - Gate Valve - PN 16)</p>	

3.1.3 Riser Assemblies


3.1.3.1 Inlet

All Fittings Shall Comply With Australian Standard/s AS 1432 AS 4809 AS/NZS 4087 AS/NZS 4020 (2018)	20mm Right Angle Valve For Copper Water Connections 	20mm Right Angle Valve For 25mm PE Water Connections 	20mm Right Angle Valve For PE Transition Couplings 
	DN20 x (300 & 530)	DN25, 40, 50 x 530	DN20 x (300 & 530)
Manufacturer	Autotherm	Autotherm	Autotherm Wadhams

3.1.3.2 Outlet



All Fittings Shall Comply With Australian Standard/s AS 1432 AS 4809 AS/NZS 4087 AS/NZS 4020 (2018)	Standard or 20mm Dual Check Meter (Female Male) 	(Male Male) 
	DN25, 32, 40 x 300 or DN20 x (150 & 300)	DN50 x 300
Manufacturer	Autotherm Wadhams	Autotherm

3.1.4 Stainless Steel Repair Clamps


<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 4181 AS/NZS 4020 (2018)</p>	<p>Not to be used for joining pipes together.</p> <p>Only to be provided in the full wrap clamp style.</p> <p>Clamps may incorporate 20, 25, 40 or 50 mm BSP Tapped Boss</p>	 <p>DN80 - 375</p>				
<p>Manufacturers</p>	<p>Notes:</p>	<p>AVK</p>	<p>Iplex</p>	<p>Viadux</p>	<p>Derwent</p>	<p>DAEMCO</p> <p>Suitable for PVC - O, PVC - M, PVC - U, GRP, DI, AC, Copper, Steel.</p>
<p>Suitable for CICL, DICL, Steel, Copper, RC & AC Mains Only.</p>						

3.1.5 Multi Fit Mechanical Couplings



3.1.5.1 Straight Coupling

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 4158-1 AS/NZS 4020 (2018) WSA PS 270</p>	<p>Grade 316 Stainless Steel bolts having a life expectancy of over 50 years.</p>	 <p>DN50 – 375</p>	 <p>DN 50 - 375</p>
<p>Manufacturers</p>	<p>*Not to be used on Polyethylene pipes. Bitumen coated end clips shall not be used.</p>	<p>AKV (Model 601 Trim 4312, Supa Coupling)</p> <p>Viking Johnson Maxifit (Maxifit Coupling long sleeve preferred)</p> <p>DAEMCO – Reinoversal Couplings (barrel length 110, 178, 218)</p>	<p>HAWLE Synoflex For use on Polyethylene</p>


3.1.5.2 Stepped Coupling

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 4158-1 AS/NZS 4020 (2018) WSA PS 270</p>	<p>Grade 316 Stainless Steel bolts having a life expectancy of over 50 years.</p> <p>Not to be used on Polyethylene pipes. Bitumen coated end clips shall not be used.</p>	 <p>DN 50 - 375</p>
<p>Manufacturers</p>	<p>For use on RC and PVC Pipe</p> <p>For use on RC, PVC and PE Pipe</p>	<p>AKV Model 602 Trim 4312, Supa Stepped Coupling</p> <p>Georg Fischer WAGA Multi-Joint 3000 Plus</p> <p>Viadux DN 100 – 150 (133 - 172 mm) Multigib Coupling & Vari-Gib Coupling</p> <p>HAWLE Synoflex</p>

3.1.5.3 Adaptor Flange Coupling

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 4158-1 AS/NZS 4020 (2018) WSA PS 270</p>	<p>Grade 316 Stainless Steel bolts having a life expectancy of over 50 years. Not to be used on Polyethylene pipes.</p> <p>Bitumen coated end clips shall not be used.</p>	 <p>DN 50 – 375</p>	 <p>DN 50 – 375</p>
<p>Manufacturer</p>		<p>AKV (Model 601 Trim 4312, Supa Adaptor Flange)</p>	<p>HAWLE Synoflex</p>

3.1.6 Socket Leak Clamps



<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS 1831 AS 1646 AS/NZS 4020 (2018)</p>	<p>To be installed in accordance with Manufacturers specifications. Complete fitting to be wrapped in Petrolatum Tape</p>	 <p>DN50 - 300</p>
<p>Manufacturer</p>		<p>Viadux/Wang</p>

3.1.7 Polyethylene Transition Couplings


<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 4129 AS/NZS 4020 (2018)</p>	<ul style="list-style-type: none"> • Coppre to PE Straight Joiner • Copper to PE Elbow • Copper to Copper Double ended repair coupling 	
<p>Manufacturers</p>		<p>Philmac</p> <p>Plasson</p> <p>Viega - Geopress K (Viega press gun required)</p>

3.1.8 Street Box Assemblies

3.1.8.1 Packing Segments

<p>All Fittings Shall Comply With Class D load ratings to Australian Standard/s</p> <p>AS/NZS 4456</p>	 <p>Concrete</p>	 <p>Plastic</p>
	25 - 100 mm thick	1 - 20 mm thick
Manufacturers	Bianco Precast	Tuff Tap

3.1.8.2 Slab - Heavy Duty

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>Class D minimum (trafficable) to AS 3996</p>	 <p>800 x 800 x 150 thick 800 x 1200 x 125 thick</p>
Manufacturer	Bianco Precast
	Cooke Pre-Cast Concrete

3.1.9 Field Welding Services

Authorised Contractors	Contract Engineering SA
	Lincoln Engineering
	N&A Mobile Welding Services
	Ferretti International (Aust)
	Water Engineering Technologies (SA Water Berri & Crystal Brook workshops)



4 Sewer

4.1 PVC Adaptors

4.1.1 Plain Wall

Note: The use of adaptors in the waste water system is permitted for repairs to existing pipes, however conditions do apply to their installation:

- Where an adaptor incorporating a rubber ring is used, the joint shall be wrapped in Petrolatum tape ensuring there are no voids
- The ends of the pipes shall be located as close together as the fitting allows
- Compaction shall be as shown in the Sewer Construction Manual with particular attention taken to ensure the joint does not move and the the Petrolatum wrap is not damaged

All Fittings Shall Comply With Australian Standard AS/NZS 1260	PCV Spigot to VC Socket  DN100 - 300	PVC Socket to VC Spigot  DN100 - 300
	Manufacturers	Iplex Key Plastics Vinidex

4.1.2 Structured Wall

4.1.2.1 Vinidex Ultra Rib




Note: This pipe was only used in limited applications, the following maintenance requirements still apply:

- Two rubber Rings shall be used on the Ultra Rib
- Where an adaptor incorporating a Rubber Ring is used, the joint shall be wrapped in petrolatum tape ensuring there are no voids
- The ends of the pipes shall be located as close together as the fitting will allow
- Compaction shall be as shown in the Sewer Construction Manual with particular attention taken to ensure the joint does not move and the petrolatum wrap is not damaged

4.1.2.2 PVC and PP Couplings

Note: The following maintenance requirements apply:

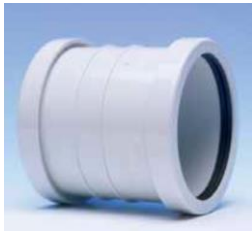

- One (1) Rubber sealing ring per joint is required – placed in the 1st or 2nd trough nearest the leading edge of the pipe spigot (to manufacturers requirements)
- Where two or more consecutive ribs are broken, the section of damaged pipe is to be replaced
- All cuts in Polypropylene Structured Wall Pipe are to be made in the centre of two consecutive ribs

All Fittings Shall Comply With Australian Standard AS/NZS 5065	Soc (PP) to Soc (Plain PVC SWJ)	Soc (PP) to Soc (PVC RRJ)	PP to PP
			
DN100 - 300			
Manufacturers	Iplex	Iplex	Iplex
	Vinidex	Vinidex	Vinidex

4.1.3 Slip Couplings

Note: The following maintenance requirements apply for Couplings and Slip coupling:


- Where a slip coupling incorporating a Rubber Ring is used , the joint shall be wrapped in petrolatum tape ensuring that there are no voids
- The ends of the pipes shall be located as close together as the fitting will allow
- Compaction shall be as shown in the Sewer Construction Manual with particular attention taken to ensure the joint does not move and the petrolatum wrap is not damaged

All Fittings Shall Comply With Australian Standard/s AS/NZS 1260 AS/NZS 5065	Plane Wall 	Structured Wall 
	DN100 - 300	DN150 - 375
Manufacturers	Iplex Pipelines	
	Plastec	
	Vinidex	Vinidex

4.2 PVC Expansion Fitting

Note: The following maintenance requirements apply for PVC Expansion Fittings:

- Where Expansion Fittings is used, the Rubber Ring joint shall be wrapped in petrolatum tape ensuring that there are no voids
- Both end connections shall be a solvent cement joint
- Ensure joint does not move and Petroleum wrap is not damaged during compaction, follow Sewer Construction Manual guidelines

<p>All Fittings Shall Comply With Australian Standard</p> <p>AS/NZS 1260</p>	<div style="text-align: center;">  <p>DN100 - 300</p> </div>
<p>Manufacturers</p>	<p style="text-align: center;">Iplex</p> <hr/> <p style="text-align: center;">Plastec</p> <hr/> <p style="text-align: center;">Storm Plastics</p>

4.3 PVC Saddles



Note: PVC Saddles come in two Configurations:

- Solvent welded for use on existing PVC sewer Pipe
- Gasket and seal for use on existing VC and structured wall Pipes

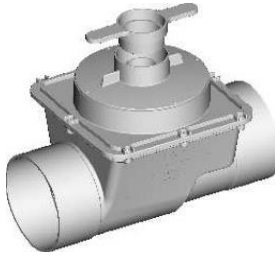
Saddles shall be secured to the host pipe by the use of large diameter 316 Stainless Steel adjustable hose clamps or 316 Stainless Steel screws (for structured wall pipes only)

The following maintenance requirements apply for PVC Saddles:

- The saddles are to be installed in accordance with manufacturer’s installation recommendations
- The exterior of the host pipe shall be cleaned and checked for structural damage before installation of the saddle
- The entry hole into the main is cut prior to the installation of the saddle
- The ends of the pipes shall be located as close together as the fitting will allow
- Compaction shall be as shown in the Sewer Construction Manual with particular attention taken to ensure the joint does not move and the petrolatum wrap is not damaged
- PVC saddles used on structured wall pipes are to have a sealing rubber with a profile which matches the external surface of the pipe

<p>All Fittings Shall Comply With Australian Standard AS/NZS 1260</p>		
<p>Manufacturers</p>	<p>Iplex</p>	<p>Iplex</p>
	<p>Vinidex</p>	<p>Vinidex</p>

4.4 Reflux Valve

<p>All Fittings Shall Comply With Australian Standard/s</p> <p>AS/NZS 3500.2 WSA 02-2014</p>	 <p>DN100 - 150</p>
<p>Manufacturers</p>	<p>Plastec</p>

4.5 Flexible Couplings (Metal Banded)


Note: Metal Banded Flexible Couplings are authorised for **REPAIR** purposes **ONLY**.

Metal Banded Flexible Couplings are also available with a wide, centrally placed, Stainless Steel shear band in-lieu of the two internal Stainless Steel clamps. These are the preferred option and should be used if available

<p>All Fittings Shall Comply With Australian Standard</p> <p>AS/NZS 4327</p>	<p>PVC Spigot to VC Spigot</p>  <p>DN100 - 300</p>	<p>PVC Spigot to PVC Spigot</p>  <p>DN100 - 300</p>
	<p>Jenco</p> <p>(Leap) Flex Seal</p>	<p>Jenco</p> <p>(Leap) Flex Seal With Shear Band & Bush</p>

4.5.1 Flexible Fitting (PVC)

Note: To be used for connecting to Maintenance structure bases only.

<p>All Fittings Shall Comply With Australian Standard</p> <p>AS/NZS 1260</p>	 <p>DN 100, 150, 225</p>
<p>Manufacturers</p>	<p>Plastec – Flexitec Coupling</p>


4.6 Stainless Steel Clamps, Couplings & Branches

Note: Stainless Steel Clamps (Couplings and Branches) are authorised for **REPAIR** purposes **ONLY**.

Clamps are available for both Plain wall and Structured wall pipe.

Clamps are to be manufactured from Grade 316 Stainless Steel.




Stainless Steel clamps used on structured wall pipes are to have a sealing rubber with a profile which matches the external surface of the pipe.

<p>All Fittings Shall Comply With Australian Standard AS 4181</p>			
<p>Not to be used for joining pipes together.</p> <p>Only to be Provided in the full wrap clamp style.</p> <p>Suitable for CICAL, DICAL, Steel, Copper, RC & AC Mains Only.</p>			
<p>Manufacturers</p>	<p>Iplex</p>		
	<p>Tyco Wang</p>		
	<p>Derwent</p>		

4.7 Maintenance Hole Covers & Frames

4.7.1 Trafficable



4.7.1.1 Heavy duty

All Fittings Shall Comply With Australian Standard AS3996:2019		
Class D and E 	Bellmouth 	No 5 
Bianco Precast - Class D	Bianco Precast	Bianco Precast
Cooke Pre-Cast Concrete - Class D		
Webforge - Class D		
Ducast - Class D and E		
EJ - Class D and E		

4.7.1.2 No. 5 Replacement Cover

All Fittings Shall Comply With Australian Standard AS3996:2019		
Notes	Used for replacement of damaged or noisy No. 5 Covers located in Trafficable areas. Concrete Support Slab together with Cover & Frame.	
Manufacturers	Bianco Precast	Cooke Pre-Cast Concrete

4.7.2 Non Trafficable

<p>All Fittings Shall Comply With Australian Standard AS3996:2019</p>	 <p>Class B</p>	 <p>Aluminium Cover</p>
<p>Notes</p>	<p>Only approved for use in Easements. Used in lieu of No 5 Cast Iron Meter Box Cover.</p>	
<p>Manufacturers</p>	<p>Bianco Precast</p>	
	<p>Cooke Pre-Cast Concrete</p>	<p>Cooke Pre-Cast Concrete</p>
	<p>Webforge</p>	


4.7.3 M/H Increment Risers (Expanded Polypropylene)

<p>All Fittings Shall Comply With The Following Standard/s</p> <p>WSA-PS 345 and loading to Class D (AS3996:2019)</p>	
<p>Notes</p> <p>To be joined only with Chem Link M1 Universal Adhesive</p>	<p>Cretex Pro-Ring 19 - 152 mm thick</p>
<p>Manufacturer</p>	<p>ISC Pty Ltd</p>




4.8 Vents

4.8.1 Educt Vent

4.8.1.1 Base

<p>Steel (300mm x 2.1m)</p>	
<p>Manufacturer</p>	<p>Ferretti International</p>

4.8.1.2 Shaft

<p>Steel or GRP (300mm x 15m)</p>			
<p>Manufacturers</p>	<p>Ferretti International (Steel)</p>	<p>RPC Technologies (GRP)</p>	<p>Novafast (GRP)</p>

4.8.1.3 Birdstop

<p>Manufacturer</p>	<p>Cronin Wire Products</p>
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4.8.2 Induct Vent

	
Manufacturer	Ferretti International