



## Supplementary product catalogue for pressure pipeline systems

This supplementary catalogue is to be read in conjunction with  
the MRWA Products Web Portal

[www.mrwa.com.au/Pages/Products.aspx](http://www.mrwa.com.au/Pages/Products.aspx)

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## Disclaimer

Barwon Water will assume no responsibility for any errors that may appear in this catalogue or any damages, loss, claim, action, liability, cost or deficiency of any kind or character which the user of this document suffers or incurs arising out of the use or inability to use this document.

## Acknowledgment

Barwon Water would like to acknowledge City West Water's Pressure Systems Catalogue which has been used as a basis to create our supplementary catalogue.

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## How to use this catalogue

This catalogue is to be used as a supplement to the products list for pressure pipeline systems produced by City West Water (CWW), as those products are listed on the MRWA Product Web Portal (the web portal) located at [www.mrwa.com.au/Pages/Products.aspx](http://www.mrwa.com.au/Pages/Products.aspx).

Barwon Water has similar product preferences for pressure pipeline systems, however there are some differences between the products approved for use by CWW and Barwon Water.

For ease of use, this catalogue is arranged into the two sections, as follows:

### **Section 1: Limitations**

Products listed with CWW but with limitations for their use at Barwon Water.

### **Section 2: Exclusions**

Products listed with CWW but not approved for use at Barwon Water.

Barwon Water will regularly review and update this catalogue as/when required.

## Product approval policy

If a product is excluded or not shown, application may be made to Barwon Water for its adoption. Application can be made under the following circumstances.

Barwon Water will only appraise a product if it meets the following criteria:

- a. the product fulfils an infrastructure need that no existing approved product can meet, and
- b. there is a positive WSAA appraisal, or,
- c. there is a comprehensive and positive appraisal by a Melbourne Retail Water Agency (MRWA).

Barwon Water will either:

- assess whether it is more appropriate for the product to be first directed to WSAA for appraisal;
- assess products without a positive WSAA or MRWA appraisal at Barwon Water's discretion; or
- elect to conduct a trial and/or provide provisional or interim approval at its discretion.

## Product approval process

Considering the policy above, any supplier may apply to Barwon Water to have its product assessed for inclusion in Barwon Water's Catalogue.

Please refer to Barwon Water's products and standards page at [www.barwonwater.vic.gov.au/business/products-and-standards](http://www.barwonwater.vic.gov.au/business/products-and-standards).



Barwon Water will assess the product or material according to following criteria:

- Previous product appraisals
- Health, safety, and environmental considerations
- Applicability and compatibility with existing systems
- Whole-of-life cost
- Service life
- Availability of Australian or other relevant standard
- Availability of conformity assessments / product certifications
- Ease of installation
- Operability and maintainability
- Performance history

If a new product is approved for use at CWW, that product will be excluded from use in Barwon Water's network until Barwon Water has reviewed the CWW report.

Purchasers of products should obtain a declaration from the supplier that the products conform in every aspect to the products listed in this catalogue and/or the products web portal.

Products listed in this catalogue, having a reference to a WSAA product specification, as published in [www.wsaa.asn.au](http://www.wsaa.asn.au), shall conform to the relevant product specifications.

## Intended audience

This catalogue is intended for Barwon Water employees, suppliers, vendors, consultants and contractors engaged in the design, construction and maintenance of Barwon Water's gravity sewer reticulation system.

## Related reference material

The information in this catalogue should be read in conjunction with:

- Supplementary information to the WSAA Water Supply Code of Australia MRWA Edition WSA 03 – 2002 - 2.3
- MRWA Edition of the Dual Water Supply Systems Supplement to the Water Supply Code of Australia WSA 03 – 2002 Version 2.3
- Pressure Sewerage Code of Australia WSA 07–2007 Version 1.1
- Polyethylene Pipeline Code of Australia WSA 01 – 2004 Version 3.1
- The Water Services Association of Australia (WSAA) Product Specifications for Products and Materials (refer to WSAA Product Specifications).
- The WSAA Product and Material Information and Guidance for Water Supply Code of Australia WSA 03 – 2002 (refer to [WSAA Products & Materials Guidance](#)).

Not all products and materials appraised by WSAA are approved for use in Barwon Water pipeline systems.

\*\* Australian Standards, WSAA Product Specifications and Water Industry Specifications.

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## Instructions for downloading WSAA Product Specifications

Click [here](#) to download or view a full set of WSAA product specifications. The file will open at the contents page of the product specifications. Using the F5 key, readers can navigate around the document using the bookmarks.

Alternatively, you can access the WSAA website [www.wsaa.asn.au](http://www.wsaa.asn.au) and download a full set of product specifications.

Product specifications will continue to be developed as more industry standards and Australian Standards are published.


### More information



For further information and to advise of possible errors, omissions or changes required for future revisions, please email us at [standards@barwonwater.vic.gov.au](mailto:standards@barwonwater.vic.gov.au).

## Buried infrastructure pipe colours

Table 1 (below) summarises Barwon Water's agreed colours chosen to identify buried pipeline infrastructure, which have been developed based on the following assumptions:

1. The colour coding is limited to the smaller sized pipes  $\leq$  DN 375 used for reticulation / distribution and colour coding of the larger pipes to be determined on a per project basis.
2. Colour coding of pipes  $>$  DN 375 installed using trenchless technology will be determined by City West Water on a per project basis.
3. Other additional differentiation measures are stipulated in the MRWA Dual Water Supply Supplement WSA 03 Version 1.1.

Application	Colour	Urban water Industry practice	Product Specifications	
<b>Potable water (Drinking water)</b>  applies to reticulation pipes only, generally $\leq$ DN 375 property services pipes are DN 20, 25, 32 for non-reticulation pipes, generally $>$ DN 375, colour identification should be specified on a per - project basis	Blue  	Adopts applicable Australian Standards or other nominated standards, except where blue is not specified, in which case it shall be: nlt RAL 200 90 10 ndt RAL 200 80 25, unless otherwise specified below: <ul style="list-style-type: none"> <li>• All PVC Series 2 plain blue</li> <li>• PVC-M Series 1 plain white</li> <li>• PE – black with blue stripes or solid or jacketed plain blue for mains, black with blue stripes for property services pipes</li> <li>• Ductile iron – coated plain blue or blue PE sleeved</li> <li>• Copper – sheathed or sleeved blue for sub-mains and property services pipes in dual water supply systems</li> <li>• Sheathing plain blue</li> <li>• PE sleeving plain blue - nlt RAL 240 70 25 – ndt RAL 240 60 40</li> <li>• Marking tape plain blue - nlt RAL 240 70 25 – ndt RAL 240 60 40</li> </ul>	PVC – U	PS - 211
			PVC – M	PS - 209
			PVC – O	PS - 210
			PE - mains	PS - 207
			DICL	PS - 200
			DICL – ISO sized	PS - 202
			PE – property services	PS - 215
			Copper property services	PS - 214
			PE Sleeving	PS - 320
			Marking Tape – Detectable	PS - 318
Marking Tape – non detectable	PS - 319			

Application	Colour	Urban water Industry practice	Product Specifications	
<p><b>Recycled water (Non-drinking water)</b></p> <p>applies to reticulation pipes only, generally ≤DN 375</p> <p>property services pipes are DN 20, 25, 32</p> <p>for non-reticulation pipes, generally &gt;DN 375, colour identification should be specified on a per - project basis</p>	<p>Purple</p> 	<p>Adopts applicable Australian Standards or other nominated standards, except where purple is not specified, in which case it shall be:</p> <p>nlt RAL 310 70 15 – ndt RAL 330 40 40/310 50 30, or:</p> <ul style="list-style-type: none"> <li>All PVC Series 2 plain purple</li> <li>PVC-M Series 1 plain purple</li> <li>PE black with purple stripes or solid or jacketed plain purple for mains, plain purple for service connection pipes</li> <li>Ductile iron - coated plain purple or purple PE sleeved</li> <li>Copper – sheathed or sleeved purple for sub-mains and property services pipes in dual water supply systems</li> <li>PE sleeving plain purple</li> <li>Sheathing plain purple</li> <li>Marking tape plain purple</li> </ul>	PVC – U	PS - 211
			PVC – M	PS - 209
			PVC – O	PS - 210
			PE - mains	PS - 207
			DICL	PS - 200
			DICL – ISO sized	PS - 202
			PE – property services	PS - 215
			Copper property services	PS - 214
			PE Sleeving	PS - 320
			Marking Tape – Detectable	PS - 318
Marking Tape – non detectable	PS - 319			
<p><b>Pressure sewerage mains</b></p> <p>- applies to pressure (rising) mains ≤DN 300</p> <p>- for pressure mains &gt;DN 300, colour identification should be specified on a per project basis</p> <p>- applies to pressure</p> <p>Sewerage reticulation mains, laterals and</p> <p>Property discharge lines</p>	<p>Cream</p> 	<p>Adopts applicable Australian Standards or other nominated Standards, except where cream is not specified, in which case it shall be:</p> <p>nlt RAL 080 90 20 – ndt RAL 075 80 20, or:</p> <ul style="list-style-type: none"> <li>All PVC Series 2 plain cream</li> <li>PVC-M Series 1 plain cream</li> <li>PE solid or jacketed plain cream</li> <li>Ductile iron - coated plain cream or cream PE sleeved</li> <li>PE sleeving plain cream</li> <li>Marking tape plain cream</li> </ul>	PVC – U	PS - 211
			PVC – M	PS - 209
			PVC – O	PS - 210
			PE – reticulation and pressure (rising) mains, laterals, and discharge lines	PS - 207
			DICL	PS - 200
			DICL – ISO sized	PS - 202
			PE – property services	PS - 215
			Copper property services	PS - 214
			PE Sleeving	PS - 320
			Marking Tape – Detectable	PS - 318
Marking Tape – non detectable	PS - 319			




**Notes:**

1. nlt – “not lighter than” ndt – “not darker than”

Table 2 summarises Barwon Water’s colours chosen to identify buried CWW appurtenances.

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**Table 2: Colour code for buried network infrastructure pressure pipeline appurtenances**

Application	Colour	Urban water Industry practice	Product Specifications	
<b>Potable water (Drinking water)</b>	Blue 	Where blue is nominated it shall be: nlt RAL 200 90 10 ndt RAL 200 80 25 • Gate valves – spindle caps • Tapping Bands #	Gate Valves – Resilient seated	PS - 260
			Tapping Bands #	PS - 310
<b>Recycled water (Non-drinking water)</b>	Purple 	Where purple is nominated shall be: nlt RAL 310 70 15 – ndt RAL 330 40 40/310 50 30 or • Spring hydrants – outlets e.g. claws • Gate valves – spindle cap • Resilient seated ball valves for – handle • Tapping Bands #	Spring hydrants	PS-267
			Gate valves – resilient seated	PS-260
			Resilient seated ball valves for property services	PS-276
			Tapping Bands #	PS-310
<b>Pressure sewerage mains</b>	Cream 	Where cream is nominated it shall be: nlt RAL 080 90 20 – ndt RAL 075 80 20 • Resilient seated ball valves for property services – handle	Resilient Seated ball valves for sewage pressure mains	PS-276

# - Where approved purple-coloured tapping bands are manufactured, they shall be used.

## Principal water pipeline systems

Principal water pipeline systems – standard sizes, typical pipe classes and jointing methods						
Pipe		Conventional Pipe Sizes DN	Typical Pipe Classes		Jointing Methods	Fittings
			ISO Standards	AS/NZS 22802		
DI	Cement mortar lined	100, 150, 200, 225, 250, 300, 375, 450, 500, 600, 750	Pipe wall thickness class–K9 K12 (flanged pipe)	PN20 & PN35 PN16 (flanged pipe)	Dual hardness rubber ring-seal Restrained joints – (DN 100-375) Flanged	Ductile iron cement lined (DICL) Fusion bonded polymeric Encapsulated ductile iron
	Polymer lined					
PVC – U PVC – O PVC – M		Series 2 (DI compatible) 100, 150, 200, 250, 300, 375, 450	Pressure classes PN 16		Elastomeric Seal Ring	Fusion bonded polymeric Encapsulated ductile iron
Steel	Cement mortar lined	100 – 2500	Classes available to meet all design requirements		Rubber ring-seal DN 300 – 1600 Welded Flanged	Steel with same coating and lining as pipe tape wrapped SCL
	PE coated and lined					
	Trilaminate coated and epoxy lined					
PE 80B PE 100		63, 125, 180, 250, 280, 315, 450, 630	Pressure classes PN 16, SDR 11 (PE 100) PN 12.5, SDR 11 (PE 80)		Mechanical Electrofusion Butt fusion	Compression fittings—couplings for DN 63 Electrofusion Fittings DN 110 – DN 450 PE plain end for butt fusion and electrofusion Flanged fittings Mechanical fittings

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## Related reference material

### WSAA website – <http://www.wsaa.asn.au>

- WSAA Water Supply Code of Australia WSA 03
- WSAA 01 Polyethylene Code of Australia
- WSAA Product Specifications
- Product information and guidance

### Australian Standards

- AS 1432:2004                      Copper tubes for plumbing, gas fitting and drainage applications
- AS 1579:2001                      Arc-welded steel pipes and fittings for water and wastewater
- AS/NZS 2280:2004                  Ductile iron pipes and fittings
- AS/NZS 4130:2009                  Polyethylene (PE) pipes for pressure applications
- AS/NZS 4131:2010                  Polyethylene (PE) compounds for pressure pipes and fittings
- AS/NZS 4441:2008                  Oriented PVC (PVC-O) pipes for pressure applications
- AS/NZS 4765:2007                  Modified PVC (PVC-M) pipes for pressure applications
- AS/NZS 1477:2006                  PVC U pipes and fittings for pressure applications

### ISO Standards

- ISO 2531: 2009                      Ductile iron pipes, fitting, accessories, and their joints for water or gas applications
- EN 545:2010                          Ductile iron pipes, fittings, accessories, and their joints for water pipelines requirements and test methods
- EN 545:2010                          Ductile Iron Pipes, Fittings, accessories, and their joints for water pipelines - requirements and test methods
- EN 598:2007                          Ductile Iron Pipes, Fittings, accessories, and their Joints for sewerage applications - requirements and test methods

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## Section 1 – Limitations

This section presents products listed with City West Water (CWW) and used by Barwon Water, but with limitation(s).

Procedure:


- 1) Check if the product is listed for use with CWW under the MRWA web portal [www.mrwa.com.au](http://www.mrwa.com.au)
- 2) If approved with CWW, check Section 1 for limitations and Section 2 for exclusions.

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# Ductile iron pipeline systems

Refer to the MRWA web portal. No exclusions.

## Ductile iron pipe for water supply (cement mortar lining with bituminous seal coat)

<b>Specification</b>	SA PS-200 Ductile Iron for Water Supply and Sewerage		
<b>Australian Standard</b>	AS/NZS 2280: 2004 Ductile iron pipes and fittings		
<b>Special conditions</b>	Portland Cement mortar lined	<b>Standard Drawing</b>	
	Refer to supplier's instructions for use of thrust-resisting joints.		
	<p><b>Limitation on use of CML DI pipe:</b> The use of bitumen seal coated CML DI pipe is subject to compliance to an assessment of the impact of CML pipes (Irontite, Tytonxtreme or Tytonxtend) on the pH of supply will be undertaken by CWW.</p> <p>Details of minimum flows, pipe diameter and length of pipe are required for such assessment. CWW will forward results of the assessment to its Water Quality Scientist for comment. Standards and Design will manage the assessment program in liaison with field crew and CWW's Water Quality Scientist. A maximum of 100m length is allowed; CWW approval is required for any additional length.</p>		

### Barwon Water limitation

Preference for Tyton Xcel pipes.

Application to be made to BW for use of other products.

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## Polyvinylchloride (PVC) systems

Refer to the MRWA web portal and double check Section 2 for exclusions.

PVC – U pipes are excluded for Pressure Sewer applications.

## Acrylonitrile Butadiene Styrene (ABS) Pressure Pipeline Systems

Refer to the MRWA web portal and double check Section 2 for exclusions.

ABS Pipe excluded for water supply.

## Polyethylene pipeline systems

Refer to the MRWA web portal. No exclusions.

## GRP pipeline systems

Barwon Water has approved the products below for pressure applications.

### Barwon Water limitation

The following GRP pipe products and associated adjustments are approved for use pressure applications at Barwon Water:

- Fibrelogic Pipe Systems (Iplex) Flowtite GRP Filament Wound Pipe pressure application DN375; 450; 525; 600; 675\*; 750\*; 900\*; 100\*; 1200\*

\* The use of larger diameters subject to Barwon Water approval

## Copper system for Water Supply

Refer to the MRWA web portal. No exclusions.

## Steel pipeline systems

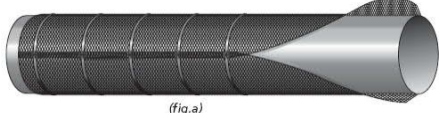


Refer to the MRWA web portal and double check Section 2 for exclusions.

## Corrosion protection for water supply and sewerage

Refer to the MRWA web portal and double check Section 2 for exclusions.

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## Repair patches and repair kit PCS Rockshield pipe protection mesh

<b>Material</b>	High Density Polyethylene	<p><b>Longitudinal wrapping (fig a)</b> – for pipes with a circumference of less than 150mm (6 inches)</p>  <p><i>(fig.a)</i></p> <p><b>Latitudinal wrapping (fig b)</b> – for pipes with a larger circumference than roll width</p>  <p><i>(fig.b)</i></p> <p><b>Spiral wrapping (fig c)</b> – can be applied to larger circumference pipes</p>  <p><i>(fig.c)</i></p>
<b>Components</b>	Mesh	
<b>Use Limits</b>	Rockshield is used to protect pipe coating where harsh backfill is likely or harsh soil conditions are present.	

### Barwon Water limitation

Approval must be sought for use of this product.

### Hydrants for water supply

Refer to the MRWA web portal and double check Section 2 for exclusions.

### Surface fittings for water supply and sewerage

Refer to the MRWA web portal and double check Section 2 for exclusions.

### Miscellaneous



<b>Specification</b>	WSA PS - 312 Flange Gaskets & O-Rings
	WSA 109 - 2002 Industry Standard For Flange Gaskets and O-Rings
	AS/NZS 4020 : 2005 – Testing of products for use in contact with drinking water

Refer to the MRWA web portal and double check Section 2 for exclusions.

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# Underground marker tape for water supply and sewerage

## Detectable marker tape

<b>Specification</b>	WSA PS – 318 Marking Tape, Detectable					
<b>Australian Standards</b>	AS 2648.1 : 1995 – Underground Marker Tape - Non-Detectable Tape					
	AS 2700:1996 – Colour Standards for General Purposes					
<b>Material</b>	Low density polyethylene					
	Tracer Wire Material – Stainless steel 316 or ASTM A276					
	Tracer Wire Strip Joiners–Stainless steel 316 or ASTM A276					
<b>Special Conditions</b>	Bring detectable tape to the surface at all valves to allow for connection of signal transmitter.					
	Use detectable tape only above non-metallic pipelines.					
	Tape colour for drinking, non-drinking and sewerage shall be in compliance to CWW colour code as detailed in Page 13 & 14.					
	Tape colour for use with restrained pipelines – Pink					
	Tape Message: <ul style="list-style-type: none"> <li>• CAUTION–_____Buried Below, where_____ is either Sewer, Water Main or Recycled Water Main;</li> <li>• WARNING–Retrained Pipeline–Use Restraining Fittings only for restrained pipelines</li> </ul>					
		  <p>Courtesy: Vinidex</p>				
		<p><b>Standard Drawing</b></p> <table border="1"> <tr> <td>WAT – 1256 - M</td> </tr> <tr> <td>WAT – 1260 – M</td> </tr> <tr> <td>WAT – 1202 - V</td> </tr> <tr> <td>WAT – 1810 - V</td> </tr> </table>	WAT – 1256 - M	WAT – 1260 – M	WAT – 1202 - V	WAT – 1810 - V
WAT – 1256 - M						
WAT – 1260 – M						
WAT – 1202 - V						
WAT – 1810 - V						

### Barwon Water limitation

Wave tape only.

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## Valves

<b>Specification</b>	WSA PS - 260 Gate Valves Resilient Seated
	WSA PS - 261 Gate Valves, Metal Seated
	WSA PS - 262 Extension Spindles for Gate Valves
	WSA PS - 312 Flange Gaskets and O-Rings

Refer to the MRWA web portal and double check Section 2 for exclusions

### General note:

Valve selection should always be confirmed with Barwon Water.

### All valves to close anticlockwise for both water supply and sewer applications.

Barwon Water approved the use of Resilient Seated Gate Valves for use in water and sewer assets however an individual product compliance certificate will need to be provided for each valve supplied. Batch certificates won't be accepted

## Stem cap for gate valves for water supply and sewerage

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Butterfly valves

Refer to the MRWA web portal. No exclusions.

## Air valves

<b>Specification</b>	WSA PS - 265 Air Valves for Water Supply WSA PS - 275 Air Valves for Sewerage
<b>Australian Standards</b>	AS 4883-2008 Air valves for sewerage AS 4956-2008 Air valves for water supply

## Air valve for water supply and sewerage

Refer to the MRWA web portal and double check Section 2 for exclusions.

## Check valves

Refer to the MRWA web portal and double check Section 2 for exclusions.

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## Mains tapping for water supply

<b>Specification</b>	WSA PS-310 Tapping Bands – Mechanical, for Water Supply
	WSA PS 313 – Clamps, Offtake for Under-Pressure Connections
	WSA PS-327 – Tapping Bands, Mechanical, PE Mains, Water Supply.
	WSA PS 329 – Tapping Bands, Electrofusion, PE Mains, Water Supply
<b>Australian Standard</b>	AS/NZS 4796: 2001 Water Supply – Metal bodied and plastic bodied ball valves for property service connection
	AS/NZS 4793:2009 - Mechanical tapping bands for waterworks purposes
	AS/NZS 2280: 2004: Ductile iron pipes and fittings
	AS 4181: 1999 Stainless Steel Clamps for Waterworks Purpose
<b>Special Conditions</b>	For Tapping band – for DI, cast iron and AC pipe: Bolts to be 316 Stainless Steel; Stainless steel tapping bands are not suitable for PVC-O, PVC-M and PE Pipes. They are Suitable for AC, DI, CI, Steel and GRP
	For Tapping band – for PVC: Bolts to be 316 Stainless steel; 100mm and 150mm tapping bands are NOT to be used for dry tapped mains in new installations for subdivisional works.

Refer to the MRWA web portal and double check Section 2 for exclusions.

Tapping band – for ductile iron, cast iron & AC Pipelines

Tapping band for Series 2 (Blue) PVC-U Pipelines

Tapping band for Series 2 (Blue) PVC-M

### Barwon Water limitation

For tapping bands for DI, CI, AC, PVC-U and PVC-M pipes - Milnes & Wang only may be used. Other tapping saddles are not approved.

Tapping band for Series 2 (Blue) PVC-o

Tapping band for polyethylene pipe

### Barwon Water limitation

For tapping bands for PVC-O and Polyethylene Pipe - Milnes only may be used. Other tapping saddles are not approved.

4N Products Polypropylene (PP) Tapping Saddles are also approved for Polyethylene Pipe but stainless steel 316 fasteners only.

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Stainless Steel Repair Clamps (Single Part with BSP threaded offtake)

Stainless Steel Repair Clamps (Double Part with BSP threaded offtake)

Stainless Steel Repair Clamps (Double Part with Flanged Offtake)

Stainless Steel Repair Clamps (Multi Part with Flanged Offtake)

<b>Specification</b>	WSA PS 313 – Clamps, Off-take for Under Pressure Connections
<b>Australian Standards</b>	AS 4181: 1999 Stainless Steel clamps for waterworks purposes.

### **Barwon Water Limitation**

For stainless steel repair clamps Barwon Water use Tyco Wang components only.

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## Maintenance products for water supply and sewerage (excluding vacuum sewer)

Refer to the MRWA web portal and double check Section 2 for exclusions.

### Stainless steel repair clamps

Single part stainless steel repair clamps

Double Part stainless steel repair clamps

Multi Part stainless steel repair clamps

Unrestrained stainless steel repair clamps

### **Barwon Water Limitation**


Barwon Water use Tyco Wang components only.

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## Pressure sewer products components

Refer to the MRWA web portal and double check Section 2 for exclusions.

### Grinder pumps and related components for pressure sewerage

<b>Specifications</b>	WSA PS-401 Grinder Pumps & Related Components for Pressure Sewerage		 <p data-bbox="1023 647 1230 678">SGPC – Aquatec</p> <p data-bbox="1350 647 1410 678">OGP</p> <p data-bbox="1023 958 1201 1126">G60 Grinder Pump Grinder Pump Mono Pump Model M 3068</p> <p data-bbox="1334 1070 1437 1102">ITT Flygt</p>	
<b>Other Standards</b>	NSF/ANSI 46 - Evaluation of components and devices used in wastewater treatment systems			
<b>Material</b>	Cast Iron ASTM A-48 class 30, s/s components			
	Spiral Rotor: Rubber Stator: Pump Housing: Stator Housing: Shaft: O-rings:	Stainless Steel Nitrile Rubber Cast Iron Cast Iron Stainless Steel Nitrile Rubber		
<b>Special Conditions</b>	Refer to Manufacturer's Technical Specification		<b>Drawing</b>	PSS - 1111 - C / PSS - 1112 - M

#### Barwon Water limitation

Grinder pumps used on a limited basis. Approval must be sought for their use.

## Vacuum Sewer Products Components

#### Barwon Water Limitation

Vacuum sewer systems are not used at Barwon Water.

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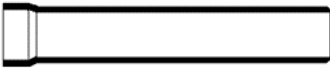


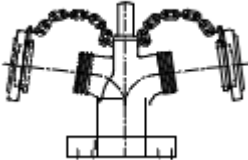


## Section 2 – Exclusions

Only products **excluded** for use at Barwon Water appear in this section.

Procedure:

- 1) Check if the product is listed for use by CWW under the MRWA web portal [www.mrwa.com.au](http://www.mrwa.com.au)
- 2) If approved with CWW, check **Section 1** for limitations and **Section 2** for exclusions.


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Product Type	Product	Graphic
<b>PVC System</b>		
PVC-U pipe for pressure sewer (including vacuum sewer)	N/A	
<b>Acrylonitrile Butadiene Styrene (ABS) Pressure Pipeline System</b>		
ABS Pipe for water supply	N/A	
<b>Repair Patches and Repair Kit</b>		
Powercrete R95 Repair Kit	N/A	
<b>Hydrants for Water Supply</b>		
Spring Hydrant – L – Type Hydrant Head	N/A	
<b>Surface fitting for water supply and sewerage</b>		
Reinforced Fire Plug Concrete (Valve, Electrolysis) Surround	Hydrant Surround	
	Valve Surround	

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L-type Concrete Base	N/A	
Hydrant Combined Collar – Non-Traffic Area	N/A	
Hydrant Surround GL Victoria	N/A	
<b>Miscellaneous</b>		
Blocks and Wedges – Recycled Plastic	N/A	 <p>2ND WEDGE (SEE NOTE )</p> <p>1ST WEDGE</p> <p>WEDGES 300 x 75 x 100</p> <p>HARDWOOD BLOCKS 600 x 300 x 50 OR 2 RECYCLED PLASTIC BLOCKS 600 x 300 x 40</p>
Duct & Kerb Marker Disc	N/A	  <p>* NON-DRINKING WATER SERVICE (BRASS OR SS)</p> <p>* DRINKING WATER SERVICE (BRASS) OR SS</p>
<b>Valves</b>		
Valve Anchor Kit for Tyco Water's Auslite Socketted Gate Valves DN100 & DN150	N/A	

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Stem Cap for Gate Valves for water supply and sewerage	Insert and screw stem caps	
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**Air Valve for Water supply and Sewage.**

Vent-O-Mat Air Valve RGX (sewage) RGX (sewage) Stainless Steel		
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**Mains Tapping for Water supply**

Pre-tapped connector	N/A	
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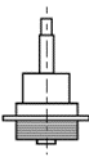





**Ductile Iron Flagged Offtakes for Polyethylene Pipe**

		
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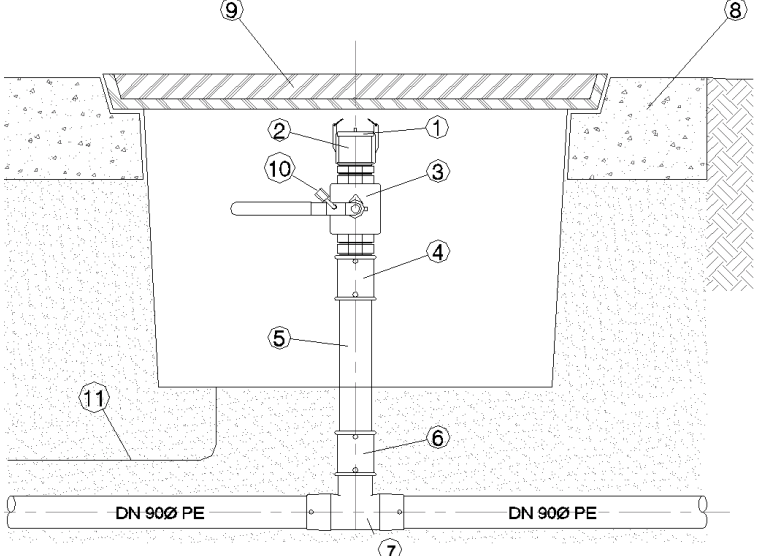
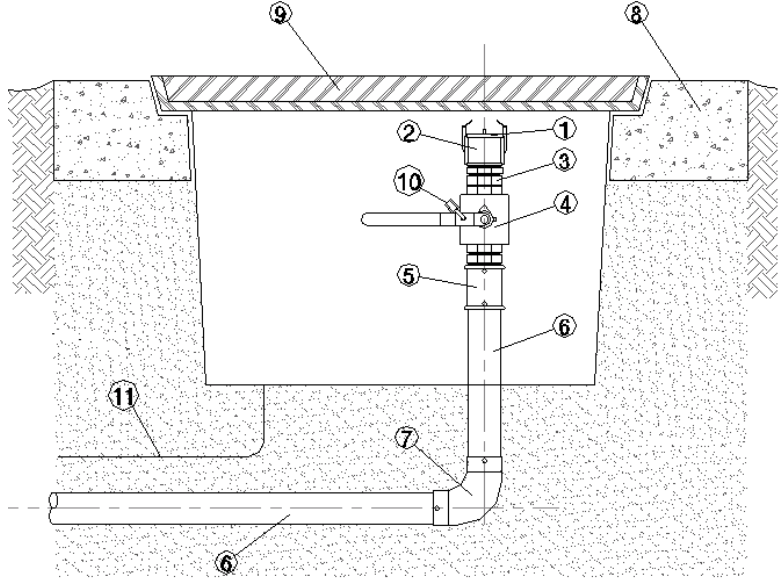
**Check Valves**

Ball Valve – Right Angle	N/A	
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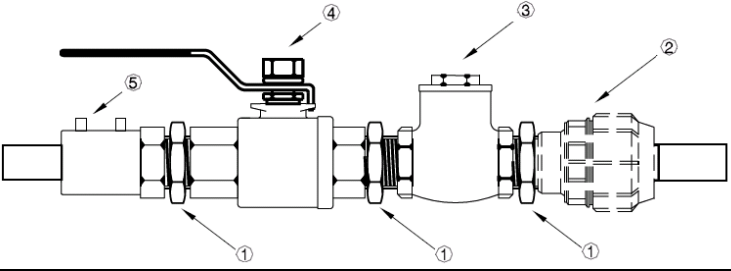

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Standard Ferrule	N/A		
Bonnet Assembly	N/A		
Restrained Couplings / Adaptors	Restrained Straight Coupling		<p data-bbox="805 683 901 750">Straub-Grip-L</p>  <p data-bbox="1212 683 1356 750">Straub-Metal-Grip</p>
Installation kits for Ball Valves and Tapping Ball Valves (Standard and Top Loading)			
Activating key and Pressure tapping Activating key for pressure tapping valves			
Stainless Steel Ball Valves			

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<p>Non-return Valve for pressure sewer (Excluding vacuum sewer)</p>	<p>N/A</p>	 <p style="text-align: center;"><b>AVK</b></p>
<p>Intermediate Flushing point</p>	<p>N/A</p>	
<p>End of line flushing point</p>	<p>N/A</p>	

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Property Boundary Kit	N/A	
Sewer lid for intermediate and end of line flushing points for pressure sewer.	N/A	

**Vacuum sewer product components**

Vacuum sewer systems are not used by Barwon Water. All vacuum sewer products are excluded.

**Bedding Material**

Pipe embedment	Aerolite Quarries : Washed scoria sand	
Pipe embedment	Aerolite Quarries : 5mm minus scoria	
Pipe embedment	Aerolite Quarries : 5mm aggregate scoria	

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