

**AUTHORISED ITEMS for SEWER SYSTEM**

# GRAVITY MAINS

**For Sewers up to DN 300**

**(but also includes authorisation of some  
larger sizes pipes and fittings considered suitable  
for trunk main applications)**

***ALL MINOR ITEMS NOT COVERED IN DETAIL IN THIS CATALOGUE TO BE  
IN ACCORDANCE TO APPROPRIATE AUSTRALIAN STANDARD.***

**Further information on products and materials is available on the WSAA web site  
[www.wsaa.asn.au](http://www.wsaa.asn.au)**



**NETWORK INFRASTRUCTURE  
STANDARDS**

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of South Australia

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**AUTHORISED ITEMS for SEWER SYSTEM**

**Document Update Information**

<b>Date</b>	<b>Change Type</b>	<b>Page Number(s)</b>	<b>Details</b>
1 Dec 2009	Revision 1	All Various	Standards Unit details changed Fittings requirement added
1 Jan 2011	Revision 2	Various	Product range and manufacturer added

**AUTHORISED ITEMS for SEWER SYSTEM**

***PVC Pipe (DWV) and Fittings (Plain and Sandwich Wall)***

PVC (Unplasticized Polyvinyl Chloride) pipe is currently the main pipe used in the Sewer Collection System, both in new works and for the repair of various types of existing pipe systems. This authorisation covers both Plain Wall and Sandwich Wall type DWV pipe.

- All pipes and fittings are to be in accordance with AS1260
- Diameter range – DN 100, 150, 225 & 300 mm
- **All joints are to be solvent welded**
- Not all fittings manufactured are authorised for use
- Authorised products may be limited in their application
- The Sewer Construction Manual, WSAA Codes and SA Water Codes of Practice describe the permitted methods of use of products referenced in this manual
- Where there is a practical requirement to use a fitting not referenced in this manual, Authorisation shall be sought from SA Water before installation
- Other products will be considered for Authorisation where a requirement exists.

***Authorised Manufacturers***

- |                   |                        |
|-------------------|------------------------|
| - Iplex Pipelines | - Pipemakers           |
| - Key Plastics    | - Tyco Water (“D-FLO”) |
| - Vinindex        | - Micron Pipelines     |
| - Pipe King       |                        |

***Applicable Australian Standards***

- AS1260 PVC pipes and fittings for drain, waste and vent (DWV) applications
- AS2032 Code of practice for installation of PVC pipe systems

***Minimum Allowable Pipe Classification***

The 1999 version of the AS 1260 revised the method of specifying Drain, Waste and Vent (DWV) pipe. Instead of specifying a class (eg SH or SEH) the code now specifies a Stiffness Value to allow for the expanded range of pipe wall types. The minimum SA Water requirements are as follows:

Pipe Diameter (mm)	Stiffness Value Rating	Equivalent Class Rating
100	SN6	SH
≥ 150	SN4	SH

*For more details about these manufacturers refer to the **manufacturers list** in this manual.*

**AUTHORISED ITEMS for SEWER SYSTEM**

***PVC Pipe (DWV)***

Note: 100mm - SN6 (previous Class Sewer Heavy)  
150mm to 300mm - SN4 (previous Class Sewer Heavy)

SIZE (DN)	Iplex Pipelines	Key Plastics	Vinidex	Pipemakers	Tyco "D-FLO"	Micron Pipelines	Pipe King
100mm	★	★	★	★	★	★	★
150mm	★	★	★	★	★	★	★
225mm	★	★	★	★	★	★	★
300mm	★	★	★		★	★	

NOTE: Only fittings and pipes up to 300mm using SOLVENT WELDED JOINTS are approved for use as gravity sewer reticulation pipeline (unless project specific approval is provided by SA Water).

SA Water Product Description

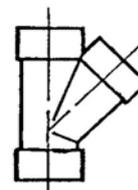
***Angled  
(DWV)***

***Junction***

Alternate description

***Junction 45°***

***Plain Junction***



SIZE (DN)	Angle (nominal)	End type	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
100mm	45°	F & F	★	★	★	★
150mm	45°	F & F	★	★	★	★
225mm	45°	F & F			★	★
300mm	45°	F & F			★	
100mm	45°	M & F	★	★	★	★
150mm	45°	M & F	★	★	★	★
225mm	45°	M & F	★		★	★
300mm	45°	M & F	★		★	

**AUTHORISED ITEMS for SEWER SYSTEM**

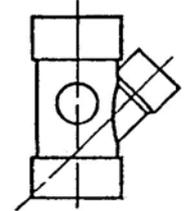
SA Water Product Description

***Reducing Junction (DWV)***

Alternate Description

***Junction 45°***

***Plain Reducing Junction***



SIZE (DN)	Angle (nominal)	End Type	Amyroo	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
150 x 100	45°	F & F		★	★	★	★
225 x 100	45°	F & F	★	★		★	★
300 x 100	45°	F & F	★	★		★	
225 x 150	45°	F & F	★	★		★	★
300 x 150	45°	F & F	★	★		★	

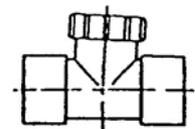
SA Water Product Description

***Inspection Opening (DWV)***

Alternate Description

***Inspection Tee***

***Inspection Piece***



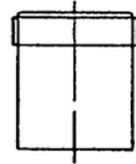
SIZE (DN)	Angle (nominal)	End Type	Iplex Pipelines	Key Plastics	Vinidex
100mm	90°	F & F	★	★	★
150mm	90°	F & F	★	★	★
225 x 100	90°	F & F		★	
225 x 150	90°	F & F	★		
300 x 100	90°	F & F			
300 x 150	90°	F & F	★		

**AUTHORISED ITEMS for SEWER SYSTEM**

SA Water Product Description

***Straight Coupling Threaded (DWV)***

Alternate Description  
***Access Coupling***



SIZE (DN)	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
100mm	★	★	★	★
150mm	★	★	★	★
225mm	★			
300mm	★			

SA Water Product Description

***Threaded Cap (DWV)***

Alternate Description

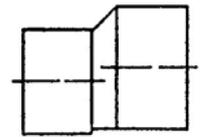


SIZE (DN)	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
100mm	★	★	★	★
150mm	★	★	★	★

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SA Water Product Description

***Eccentric Taper  
(DWV)***



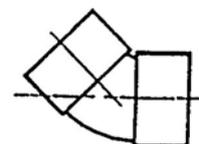
Alternate Description  
***Level Invert Taper***

SIZE (DN)	Amyroo	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
150/100		★	★	★	★
225/100		★			
225/150	★	★		★	
300/150		★			
300/225	★	★		★	

**AUTHORISED ITEMS for SEWER SYSTEM**

SA Water Product Description

*Plain Bend (DWV)*



Alternate Description

***Bend***

Size (DN)	Angle (Nominal)	End Type	Amyroo	Iplex Pipelines	Key Plastics	Vinidex	Pipe King
100mm	5°	F & F		★	★	★	★
100mm	15°	F & F		★	★	★	★
100mm	30°	F & F		★	★	★	★
100mm	45°	F & F		★	★	★	★
100mm	90°	F & F		★	★	★	★
150mm	15°	F & F		★		★	★
150mm	45°	F & F		★	★	★	
150mm	90°	F & F		★	★	★	
225mm	15°	F & F		★		★	
225mm	45°	F & F	★	★		★	
225mm	90°	F & F		★		★	
300mm	15°	F & F		★		★	
300mm	45°	F & F	★	★		★	
300mm	90°	F & F	★	★		★	
100mm	45°	M & F		★		★	★
150mm	45°	M & F		★		★	
225mm	45°	M & F		★		★	
300mm	45°	M & F		★		★	

## AUTHORISED ITEMS for SEWER SYSTEM

### *Polypropylene (PP) Pipe and Fittings (Structured Wall)*

Structured wall Polypropylene pipe is manufactured as a co-extruded twin wall pipe with a smooth bore inner pipe and a corrugated outer layer which provides a high stiffness to weight ratio for non-pressure applications and the pipe is manufactured in accordance with AS/NZS 5065.

#### NOTE :

- Manufactured as Spigot – Socket ended pipe in 3 metre lengths.
- Diameter range – DN 150 to 900mm.
- Stiffness Rating is SN10 (10,000 N/m.m.)
- All pipes and fittings are to be in accordance with AS/NZS 5065.
- To be handled and laid in accordance with Manufacturers instructions and the Sewer Construction Manual, WSA Code and SA Water Codes of Practice.
- Requires one rubber sealing ring per joint - placed in the 1<sup>st</sup> or 2<sup>nd</sup> trough nearest the leading edge of the pipe spigot (to manufacturer's requirements).
- All cuts in Structured Wall pipe shall be made in the centre of two consecutive ribs.
- Requires adequate embedment ie bedding, side support and overlay to prevent excessive deflection.
- Any later disturbance of pipe side support may affect pipe performance.
- Where two or more consecutive ribs are damaged, the section of damaged pipe is to be replaced.
- Cut-ins are performed using standard slip couplings or special clamp-on couplings.
- Pipe can be cast directly into a concrete Maintenance Shaft base and it is recommended that a Hydrophilic rubber strip be placed around the circumference of the central rib prior to placement of the concrete.
- Pipe is degraded by UV radiation if stored outside and unshielded.
- Where there is a practical requirement to use a fitting not referenced in this manual, Authorisation shall be sought from SA Water before use.

#### *Authorised Manufacturers*

- Iplex ( Trade name – SewerMax )
- Vinidex ( Trade name – SewerPRO )

Note: Both companies manufacture a Stormwater version of these pipes which has a lower SN rating and should not be used for sewer applications without project specific authorisation from SA Water.

#### *Applicable Australian Standards*

- AS/NZS 5065 Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.

*For more details about these manufacturers refer to the **manufacturers list** in this manual.*

**AUTHORISED ITEMS for SEWER SYSTEM**

***Polypropylene (PP) Pipe ( Structured Wall )***

<b>SIZE (DN)</b>	<b>Iplex SewerMAX</b>	<b>Vinidex SewerPRO</b>
150 mm		
225 mm	★	★
300 mm	★	★
375 mm	★	★
450 mm	★	★
525 mm	★	★
600 mm	★	★
750 mm		★
900 mm		★

Pipes in accordance with AS/NZS 5065

Conditions of use;

- 1 Rubber sealing ring per joint is required - placed in the 1<sup>st</sup> or 2<sup>nd</sup> trough nearest the leading edge of the pipe spigot (to manufacturer's requirements).
- Where two or more consecutive ribs are broken, the section of damaged pipe is to be replaced.
- All cuts in PP structured wall pipe are to be made in the centre of two consecutive ribs.
- It is recommended that, for warranty purposes, all fittings used are manufactured by the same company that manufactures the pipe.

**AUTHORISED ITEMS for SEWER SYSTEM**

SA Water Product Description

***Pipe Couplings (PP Structured Wall)***

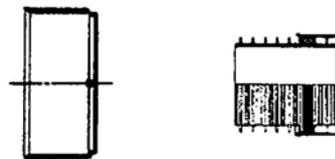
Alternate Description

***Joiner*** °

Size	End Types	IPLEX SewerMAX	Vinidex SewerPRO
<b>All sizes available</b>	Soc (PP) - Soc (PP)	★	★
	Soc (PP) – Soc (PVC SWJ)	★	★
	Soc (PP) – Soc (VC)		★

SA Water Product Description

***End Caps (PP Structured Wall)***



Alternate Description

***Push on Caps*** °

Size	IPLEX SewerMAX	Vinidex SewerPRO
150		★
225	★	★
300	★	
375	★	

**AUTHORISED ITEMS for SEWER SYSTEM**

SA Water Product Description

***Junctions/Tees (PP Structured Wall)  
Including Reducing Junctions***

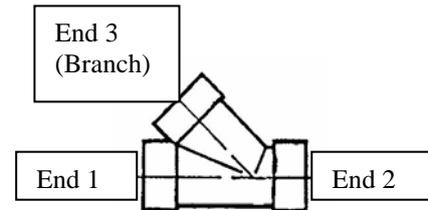
or

Alternate Description

***Slope Junction***

***Junction 45° or 90°***

***Plain Junction***



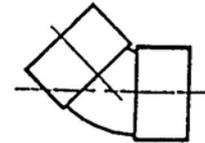
Size	Angle (nominal)	End Types End 1, End 2, End 3 (Branch)	IPLEX	Vinidex
			SewerMAX	SewerPRO
All sizes available	45°	Soc (PP), Sp (PP), Soc (PP)	★	★
	45°	Soc (PP), Soc (PP), Soc (PP)	★	
	45°	Soc (PP), Sp (PP), Soc (PVC-SWJ)	★	★
	45°			
	88/90°	Soc (PP), Soc (PP), Sp (PP)	★	★
	88/90°	Soc (PP), Soc (PP), Soc (PP)	★	
	88/90°	Soc (PP), Soc (PP), Sp (PVC-SWJ)	★	★

**AUTHORISED ITEMS for SEWER SYSTEM**

SA Water Product Description

***Bends (PP Structured Wall)***

Alternate Description  
***Bend***



Size	Angle (nominal)	End Types End 1, End 2, End 3 (Branch)	IPLEX	Vinidex
			SewerMAX	SewerPRO
All sizes available	45°	Soc (PP), Sp (PP), Soc (PP)	★	★
	45°	Soc (PP), Soc (PP), Soc (PP)	★	
	45°	Soc (PP), Sp (PP), Soc (PVC-SWJ)	★	★
	88/90°	Soc (PP), Soc (PP), Sp (PP)	★	★
	88/90°	Soc (PP), Soc (PP), Soc (PP)	★	
	88/90°	Soc (PP), Soc (PP), Sp (PVC-SWJ)	★	★

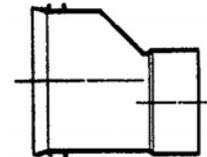
NOTE :

225, 300 and 375mm Diameter bends may be used in specific cases, with direction from SA Water.

SA Water Product Description

***Level Invert Taper (PP Structured Wall)***

Alternate Description



Nom. Size DN x dn	End Type	IPLEX SewerMAX	Vinidex SewerPRO
300 x 150	Soc (PP) x Soc (PP)	★	
300 x 225	Soc (PP) x Soc (PP)	★	
375 x 300	Soc (PP) x Soc (PP)	★	

## AUTHORISED ITEMS for SEWER SYSTEM

### *GRP Filament Wound Pipe*

Glass filament Reinforced thermosetting Plastic (GRP) pipes and fittings are authorised for use within the SEWER RETICULATION SYSTEM. Because the pipe is used primarily for trunk main applications and there are a range of variable properties associated with GRP pipe a project specific purchase specification should be obtained from Assets Planning and/or Material Sciences Unit prior to placing any orders.

#### General information:

- GRP pipe and fittings are available in the size range DN 300 to DN 3000, but because of cost, are primarily used for sewer mains larger than DN 400.
- The pipe is generally supplied with a Rubber Ring Joint (RRJ) connection, but end restrained joints are also available.
- Currently "Flowtite" GRP pipe is the only brand manufactured in Australia.
- GRP pipe is available from manufacturers in other countries and have been successfully used by other water agencies in the past
- GRP pipe has excellent chemical resistance properties
- Fittings as required to be supplied by manufacturer

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#### *Authorised Manufacturers*

- Fibrelogic (Product name - Flowtite) Distributed by Iplex Pipelines

#### *Applicable Australian Standards*

- AS3571 Glass filament reinforced thermosetting plastics (GRP) pipes - polyester based - Water supply, sewerage and drainage applications.

*For more details about these manufacturers refer to the **manufacturers list** in this manual.*

## AUTHORISED ITEMS for SEWER SYSTEM

### *Reinforced Concrete Pipes*

SA Water Corporation requirements for Reinforced Concrete pipes used in the sewer reticulation system are specifically designed to suit the aggressive nature of sewerage. These requirements demand pipes utilise calcareous aggregates to reduce corrosion caused by sewerage. Where there is any requirement for the use of reinforced concrete pipes a detailed purchase specification should be obtained from Asset Management and/or Material Sciences Unit prior to placing any orders.

- Generally only used for installations where the pipe diameters are over 400mm.
- Fittings as required to be supplied by manufacturer

### *Authorised Manufacturers*

- CSR Humes
- Rocla Pipeline products

### *Applicable Australian Standards*

- AS3725 Loads on buried concrete pipes
- AS3735 Concrete structures for retaining liquids
- AS4058 Precast concrete pipes (pressure and non-pressure)

### *SA Water Standards*

- TS3c Fine and Coarse Calcareous Aggregate (Marble) for concrete in Sewerage Structures

*For more details about these manufacturers refer to the **manufacturers list** in this manual.*

## AUTHORISED ITEMS for SEWER SYSTEM

### *Mild Steel Polyethylene Lined Pipes*

Mild steel pipe lined and coated with fusion bonded polyethylene (Sintalined) is authorised for use in specific applications such as creek crossings where internal corrosion protection is required. Where there is a requirement for a Mild Steel Polyethylene Lined pipe a detailed purchase specification should be obtained from Asset Management and/or Material Sciences Unit prior to placing any orders.

- Fittings as required to be supplied by manufacturer

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#### *Authorised Manufacturers*

- Tubemakers (Sintalined)

#### *Applicable Australian Standards*

- AS1579 Arc welded steel pipes and fittings for water and waste water
- AS4321 Fusion - bonded medium density polyethylene coating and lining for pipes and fittings

*For more details about these manufacturers refer to the **manufactures list** in this manual.*

### *Ductile Iron Polyurethane Lined Pipes*

Ductile Iron Polyurethane lined pipe (Ecopur) is authorised for use in specific applications such as creek crossings where internal corrosion protection is required. Where there is a requirement for a Ductile Iron Polyurethane Lined pipe a detailed purchase specification should be obtained from Asset Management and/or Material Sciences Unit prior to placing any orders.

- Fittings as required to be supplied by manufacturer (via supplier)

#### *Authorised Manufacturers*

- Von Roll (Ecopur) – Supplied by Promains

#### *WSAA Code*

- Appraisal 98/24 (Obsolete due to change of supplier)

*For more details about these manufacturers refer to the **manufactures list** in this manual.*

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