



Product Catalogue for Non Pressure Pipeline Systems

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DOCUMENT CONTROL INFORMATION

DOCUMENT DETAILS

Document Name	Product Catalogue for Non Pressure Pipeline Systems
Document Issue	D
Document Revision No	04
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Next Scheduled Review Date	31 March 2012

DOCUMENT HISTORY

Issue	Revision	Date Approved	Page, Para.	Change	Reasons for change
B	01	30/09/08	12	Products Added: Tyco Water D-FLO DWV PVC-U Pipe DN 100 - 225 (SCJ) DN 300 - 375 (RRJ)	New Product Supplier
			41-42	Iplex Poliplex Polyethylene pipe and Proprex Polyethylene SWV Non-Pressure Fittings	New Product
			15 16 17 17 23 28 31	Independent Plastics: <ul style="list-style-type: none"> ▪ Plain Bends and Elbows SOC-SPIG (SCJ); ▪ Plain Bends and Elbows SOC-SPIG (RRJ); ▪ Plain Junction SOC-SOC-SOC (SCJ) ; ▪ Reducing Junction SOC-SOC-SOC (SCJ); ▪ Tapers Eccentric SPIG-SOC (SCJ); ▪ Threaded Access Coupling SPIG-SOC (SCJ); ▪ Threaded Cap 	New Product Supplier
			24	Key Plastics: Plain Coupling SOC (SCJ) to SOC (SCJ)	New Product Supplier
				Products Removed: HDPE Profile Wall Non-Pressure Pipe – 'BlackMax' – Iplex Pipelines	
			C	01	31/12/08
35 36	<ul style="list-style-type: none"> ▪ Centrifugally Cast CC-GRP Pipes – Global Pipe (HOBAS Sewerline®) ▪ Coupling – Global Pipe (HOBAS Sewerline®) 	Added sizes 600, 700-1200			
83-85	<ul style="list-style-type: none"> ▪ Circular Access Cover and Frame 600 dia <ul style="list-style-type: none"> - ACO Polycrete - Access Covers - BCP Beresford - Webforge - Havestock - Icon Industries 	New Product Supplier			

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Issue	Revision	Date Approved	Page, Para.	Change	Reasons for change
C	01		82	<ul style="list-style-type: none"> - Milnes-Gatic - Godfrey & Synon - Upwey Group - SVC Products 	
			87	<ul style="list-style-type: none"> ▪ Ladder-Add-a Step (Industrial Steps and Ladders) ▪ Single Part Square Access Cover and Frame <ul style="list-style-type: none"> - ACO Polycrete - SVC Products - Milnes-Gatic - Icon Industries 	
			87	<ul style="list-style-type: none"> ▪ Maintenance Shaft Covers 375 dia <ul style="list-style-type: none"> - Milnes-Gatic - Havestock - Webforge 	
C	02	30/01/09	54	<p>Supplier Information</p> <ul style="list-style-type: none"> ▪ Corkjoint as supplier of Hydrophilic Rubber was changed to Parchem due to company acquisition; same change is reflected in Suppliers' and Manufacturers' List on page 94 	Supplier name change
			94	<ul style="list-style-type: none"> ▪ Suppliers and Manufacturers Information has been amended 	Amendment of Suppliers and Manufacturers list
			96	Reference to Pre-Mixed Concrete and Quarry Products and Suppliers has been included	Inclusion of Pre-Mixed Concrete and Quarry Products and Suppliers
C	02	30/01/09	8	Instructions for downloading WSAA Product Specifications Image amended.	WSAA launched new website.
			52	Excel Group P/L changed to Leap Australasia P/L	Supplier name change
C	03	22/05/09	13	<p>Products Added:</p> <ul style="list-style-type: none"> ▪ Micron Pipelines' PVC-U DWV (Drain, Waste and Vent) plain and sandwich construction pipes 	New Product Supplier
		65	<ul style="list-style-type: none"> ▪ HUMES™ Keramo Steinzeug Vitrified Clay (VC) Jacking Pipe Systems 		
		66	<ul style="list-style-type: none"> ▪ HUMES™ S & J Series Steel Reinforced Concrete Jacking Pipe Systems 		
		67	<ul style="list-style-type: none"> ▪ HOBAS CC-GRP Jacking Pipe Systems – Global Pipe Pty Ltd 		
		58	<ul style="list-style-type: none"> ▪ SewerPRO™ Polypropylene pipe for non pressure applications (DN 150 & DN 375 - 600) 		
			58	<ul style="list-style-type: none"> ▪ SewerPRO™ DN150 Injection moulded fittings 	
C	03	25/05/09	Cover page	Renamed title of 'Gravity Sewer Reticulation Products Catalogue' to 'Non Pressure Pipeline Systems Products Catalogue'.	Title of the document has changed
C	04	28/09/09	8	Instructions for downloading WSAA Product Specifications Image amended.	WSAA amended the image
		28/09/09	41	Hi-Vis Sewer pipe – PPI Corporation Pty Ltd	New Product
		16/09/09	77	Iplex EZIpit polypropylene maintenance shaft	
		09/09/09	106	Megapoxy P1 – gap filling epoxy paste adhesive for civil engineering use – Vivacity Engineering Pty Ltd	

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Issue	Revision	Date Approved	Page, Para.	Change	Reasons for change
D	01	16/02/2010	26	Tyco Alphacan Omniplast PVC-U Elastomeric seal sewer fittings	New Product
D	01	30/08/2010	98	CSW Products/Access Covers Australia – Plastic encapsulated Grade 300 Mild Steel step iron	New Product
D	01	19/10/2010	14 102	Products Added: <ul style="list-style-type: none"> ▪ Pipe King PVC-U DWV (Drain, Waste and Vent) sandwich construction pipes (SCJ and RRJ) and plain wall fittings (SCJ) - Australian Plastic Profiles P/L (APP) ▪ Hygrade UBER DN 600 solid top access cover Class B and D - Hygrade Water Australia Limited Partners 	New Product
D	02	15/03/2011		No change to the previous version Issue D1	
D	03	21/06/2011	98	Products Added: <ul style="list-style-type: none"> ▪ Sure Step plastic encapsulated step iron – Industrial Steps & Ladders 	New Product
D	03	30/06/2011	107	Special Conditions where the use of Precast MHs are restricted	
D	04	20/12/2011	13 15 31, 32 and 36	Products Removed: Plain wall PVC pipe (RRJ), SN8, DN475 - Vinidex Products Removed: Ultra-rib Ribbed wall PVC pipe (RRJ), SN8, DN150 to DN375 - Vinidex Products Removed: MH Connector Spi-Spi, SN8, DN150-375 Ribbed Short PVC Soc (RRJ) – Spi, SN8, DN100-375 RRJ Caps for Ribbed Wall Pipe	Remove existing product

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ABOUT THIS CATALOGUE

This Catalogue lists approved products that can be used in Non Pressure Pipeline Systems.

Any supplier may apply to City West Water (CWW) to have its product or material included in CWW's Products Catalogue. CWW will give due consideration to the application, and assess the merits of the product or material according to the following Product Approval Criteria:

- The service life of the product or material;
- The life cycle cost of the product or material to CWW;
- The reaction of the product or material on the materials being transported;
- The reaction of the material being transported on the product or material;
- The compatibility of the product or material with existing CWW asset systems;
- The impact of the product or material on CWW's operations and maintenance including the availability of compatible fittings;
- The impact of the product or material on CWW's occupational health and safety obligations;
- The impact of continued use of the product or material on CWW environmental obligations;
- The capacity of CWW and/or its contractors to install the product or material;
- The capacity of CWW and/or its contractors to operate and/or maintain the product or material;
- The availability of spare parts (where applicable) for the product or material;
- The quality of manufacture and delivery to site of the product or material;
- The availability of an Australian Standard, or other recognised standard, for the product or material;
- The in-service performance history of the product or material; and
- The specific applications of the product or material.

This catalogue lists all the products currently accepted by CWW for use in non pressure pipeline systems. CWW does not give preference to any particular make or type of product and will include equivalent products in the catalogue if satisfied that those products comply with the relevant standards or specifications and conform to CWW's Product Approval Criteria. Manufacturers of suitable products not listed in this catalogue may apply directly to CWW to have their product listed.

Notwithstanding that a product or material satisfies the Product Approval Criteria, where CWW considers on reasonable grounds that the number of approved products/materials in a particular classification needs to be limited in order to control future maintenance and replacement costs, approval of that product or material may be rejected.

A product or material may have been tested and approved by a regulatory body, other water authority, industry association or the like. CWW may in its discretion elect to accept test results or other information related to this testing/approval. However, CWW's final decision will be based upon a consideration of all of the criteria referred to above and the prior testing/approval is not of itself sufficient to support approval by CWW.

Purchasers of products should obtain a declaration from the supplier that products purchased do in fact conform in every aspect to the product listed in this catalogue. In the event that a product is not available for a specific purpose or use from this catalogue, the Manager, Standards and Design shall obtain direction from CWW's Asset Management Committee regarding alternatives.

Products listed in this catalogue having a reference to a WSAA product specification, as published in www.wsaa.asn.au shall conform to the relevant product specifications.

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For information on the status of applications for inclusion of products in CWW Products Catalogue, contact either of the following:

Email	Phone
standards@citywestwater.com.au	9313 8592

CWW will assume no responsibility for any errors that may appear in this catalogue or any damages arising out of the use or inability to use this document.

INTENDED AUDIENCE

This catalogue is intended for CWW personnel, consultant engineers and contractors engaged in the design, construction and maintenance of CWW's gravity sewer reticulation system.

RELATED REFERENCE MATERIAL

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

- Melbourne Retail Water Agencies (MRWA) Edition of the Water Services Association of Australia (WSSA) Sewerage Code of Australia WSA 02-2002-2.3.
- CWW Supplement to Water Services Association of Australia (WSAA) Sewerage Pumping Station Code of Australia WSA 04-2005.
- The Water Services Association of Australia (WSAA) Product Specifications (refer to <http://www.wsaa.asn.au> / Product Appraisals / Product Specifications).
- The Water Services Association of Australia (WSAA) Product and Material Information Guidance Notes (refer to <http://www.wsaa.asn.au> / National Codes / Codes of Practice/ Products and Materials Guidance).

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

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

INSTRUCTIONS FOR DOWNLOADING WSAA PRODUCT SPECIFICATIONS

Click [here](#) to download or view a full set of Product Specifications. The file will open at the contents page of the Product Specifications. If you press the F5 key you can now navigate around the document using the bookmarks.

Alternatively you can access the WSAA Website <https://www.wsaas.asn.au> and download or view a full set of Product Specifications:

The screenshot shows the WSAA website interface. The header includes the WSAA logo and the tagline 'The peak industry association for urban water utilities'. The navigation menu includes 'Home', 'About WSAA', 'Media Centre', 'Publications', 'National Codes', 'Product Appraisals', and 'Links'. The 'Product Appraisals' section is active, showing a breadcrumb trail: 'Home > Product Appraisals > Water Supply & Sewerage'. The main content area is titled 'Water Supply & Sewerage' and describes the WSAA Product Appraisals program. It outlines a three-step process: Step 1 (Application and review), Step 2 (Expert panel meeting), and Step 3 (Draft report and peer review). It also mentions that innovative products are reviewed by an Expert Panel. A table at the bottom lists 'Product Specifications' with columns for Title, Publication Number, and Published Date. The table shows one entry: 'Product Specifications' with a publication number of 5/15/2008 and a 'free download' link.

Title	Publication Number	Published Date	
Product Specifications	5/15/2008		free download

Product Specifications will continue to be developed as more Industry Standards and Australian Standards are published.

It is a Designer's responsibility to nominate specification most appropriate to project-specific circumstances and to complete the "Options to be specified" table and nominate the "Agency approved options" for each product. For further information refer to the content in this Product Catalogue or the relevant WSAA Codes and/or MRWA Supplement.

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ORGANISATION OF THIS CATALOGUE

The information for each product in this catalogue is formatted as shown below.

Supplier	Suppliers may be a reseller and not necessarily the manufacturer.
Brand Name	The marketing name used by the manufacturer of the product. This lists the brand name of approved products that are known to comply with water company requirements. See end of catalogue for contact details of manufacturers and suppliers that stock products listed in this catalogue. Supplier list may not be exhaustive.
Material	This lists the materials used in the manufacture of the product.
Standard Drawing	This gives the series or nominated drawing(s) showing where the product is used.
Nominal Size, DN	An alphanumeric designation of size for components of a pipeline system, which is used for reference purposes. It comprises the letters DN followed by a dimensionless whole number, which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections.
Pipe or Fittings Type	The pipe or fitting type complying in design and with the relevant Standard, and included in the Manufacturers Product Certification schedule, unless otherwise approved by the Water Agency.
PN Ratings	Pressure rating marked on a pipe, fitting or appurtenance indicating the maximum pressure at which it can operate throughout its design life at a specified reference temperature, generally 20°C. The rated pressure incorporates a safety factor.
Additional Fittings	Additional fittings, not covered by the Manufacturers Product Certification schedule that have been assessed and approved for use by CWW.
Special Conditions	Special conditions imposed by CWW on the use of the listed product.
Certification Schedule	The Certification Schedule describes and details the products produced by the manufacturers and which comply with the appropriate Standard.

Product Specifications, Australian Standards and International Standards relevant to products listed are shown at the beginning of each product category.

INFORMATION

For further information and to advise of possible errors, omissions and changes required for future revisions, please fill out a [Document Improvement Request Form](#) and email to standards@citywestwater.com.au.

IDENTIFICATION OF BURIED CWW NETWORK INFRASTRUCTURE BY COLOUR

INTRODUCTION

Buried infrastructure networks, principally pipeline systems, are often colour coded to assist with the identification of the pipeline contents. There is no Australian (or International Standard) that comprehensively addresses the identification colours for buried infrastructure.

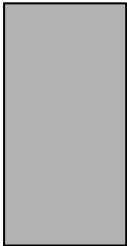

This guideline collates the position adopted by City West Water.

CWW BURIED INFRASTRUCTURE PIPE COLOURS

Table 1 summaries CWW’s agreed colours chosen to identify buried CWW 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 project by project basis.
2. Colour coding of pipes $>$ DN 375 installed using trenchless technology will be determined by City West Water on a project by project basis.

Table 1: Colour Code for buried network infrastructure Gravity Sewer Pipeline

APPLICATION	COLOUR	URBAN WATER INDUSTRY PRACTICE	PRODUCT SPECIFICATIONS		
<p>Gravity Sewerage</p> <p>- applies to reticulation pipes only, generally \leqDN 300</p> <p>- for non-reticulation pipes, generally $>$DN 300, colour identification should be specified on a project-by-project basis</p>	Grey	<p>Adopts applicable Australian Standards or other nominated Standard except where grey or black is not specified in which case where grey is used it shall be—</p> <p>grey nlt Pearl Grey N11 - ndt Cloud Grey N22 - (AS 2700 colours specified)</p> <p>VC pipe does not require colour coding given that it is not used for any other water utility system other than gravity sewerage</p> <ul style="list-style-type: none"> All PVC-U plain grey PE plain black or grey PP plain black or grey Ductile iron - coated plain grey or grey PE sleeved PE sleeving plain grey Marking tape plain grey <p>NOTE: Black pipe shall have a white, light grey or yellow internal surface to permit CCTV inspection</p>	PVC-U	PS-230	
			Black	VC	PS-231
				PE – plain wall	PS-242
				PE – plain wall and ribbed	PS-241
				PP	PS-240
				DICL	PS-234
				PE sleeving	PS-320
				Marking tape - detectable	PS-318
				Marking tape non-detectable	PS-319
					

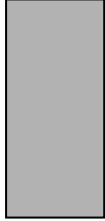
Notes:

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

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Table 2 summaries CWW's agreed colours chosen to identify buried CWW appurtenances.

Table 2: Colour Code for buried network infrastructure Gravity Sewer Pipeline Appurtenances


APPLICATION	COLOUR	URBAN WATER INDUSTRY PRACTICE	PRODUCT SPECIFICATIONS
Gravity Sewerage	Grey 	Where grey is nominated it shall be — grey nlt Pearl Grey N11 - ndt Cloud Grey N22 - (AS 2700 colours specified) <ul style="list-style-type: none"> • No products nominated 	

PVC PIPELINE SYSTEM

SPECIFICATION	WSA PS-230 PVC-U Non-Pressure Pipe and Fittings
	WSA PS-236 Variable Bend, Post-Formed PVC-U Non-Pressure Fittings
Australian Standards	AS/NZS 1260:2009: PVC-U pipes and fittings for drain, waste and vent application WSA 115:2003 Industry Standard for Post-Formed Variable Bend PVC Fittings for Non-Pressure Pipelines

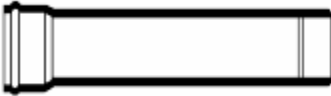
PVC PIPES

Plain wall PVC Pipe (SCJ)

Material	PVC			
Special Conditions	Minimum Stiffness Class SN 8 > DN100 pipe			
	Minimum Stiffness Class SN 10 for DN100 pipe.	Standard Drawing	SEW-1106	SEW-1107
	Solvent cement joints are used for pipe sizes ≤ DN225. Rubber ring joints (RRJ) are preferred for pipe sizes > DN225.		SEW-1150 - M	SEW-1108
	Not for use within or downstream of industrial areas.		SEW-1154 - M	SEW-1109
			Table 30.1 Table 29.2	

Nominal size (DN) (mm)	Iplex Pipelines	Key Plastics	Vinidex	Tyco Water (D-Flo)	Pipemakers
100	✓		✓	✓	✓
150	✓	✓	✓	✓	✓
225	✓	✓	✓	✓	✓

Plain wall PVC Pipe (RRJ)


Material	PVC				
Special Conditions	Minimum Stiffness Class SN 8 > DN100.				
	Minimum Stiffness Class SN 10 for DN100	Standard Drawings	SEW-1106, SEW-1107		
	Rubber ring joints (RRJ) are preferred for larger pipe sizes > DN225		Table 29.2	SEW-1108, SEW-1109	
	Not for use within or downstream of industrial areas.		Table 30.1	SEW-1150 - M, SEW-1154 - M	

Nominal size (DN) (mm)	Key Plastics	Iplex	Vinidex	Tyco Water (D-Flo)	Pipemakers
100 *				✓	
150 *				✓	✓
225				✓	
300	✓	✓	✓	✓	
375		✓	✓	✓	

* Subject to CWW approval

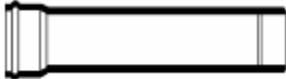
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Sandwich Construction PVC Pipe (SCJ)

Material	PVC		
Special Conditions	Minimum Stiffness Class SN 8 > DN100	Standard Drawing	SEW-1106, SEW-1107
	Minimum Stiffness Class SN 10 for DN100		SEW-1108, SEW-1109
	Solvent Cement Joints (SCJ) are preferred for pipe sizes ≤ DN225.		SEW-1150 - M, SEW-1154 - M

Nominal size (DN) (mm)	Iplex	Key Plastics (Bipex)	Vinidex	Pipemakers	Micron Pipelines	Australian Plastic Profiles P/L (PIPE KING™)
100		✓	✓	✓		✓
150	✓	✓	✓	✓	✓	✓
225	✓	✓	✓		✓	✓

Sandwich Construction PVC Pipe (RRJ)

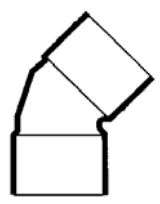
Material	PVC		
Special Conditions	Minimum Stiffness Class SN 8 for > DN100	Standard Drawing	SEW-1106, SEW-1107
	Minimum Stiffness Class SN 10 for DN100		SEW-1108, SEW-1109
	Rubber ring joints (RRJ) are preferred for pipe sizes > DN225.		SEW-1150 - M

Nominal size (DN) (mm)	Key Plastics (Bipex)	Vinidex	Micron Pipelines	# Australian Plastic Profiles P/L (PIPE KING™)
150				✓
225				✓
300	✓	✓	✓	
375		✓		

Pipe King's DN 150 & 225, effective length 3m, SN 8 are approved as RRJ

PVC SEWER BENDS & ELBOWS

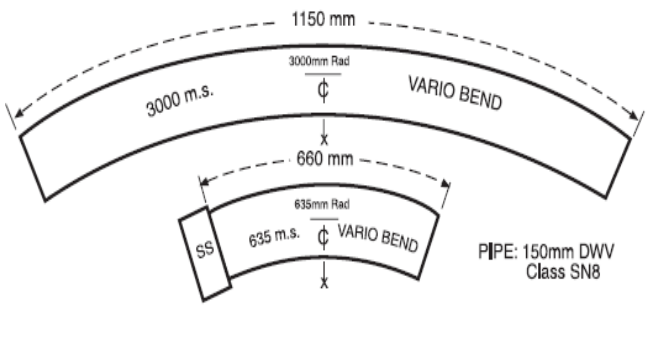
Plain Bends & Elbows SOC-SOC (SCJ)

Material	PVC	
Brand(s)	Aymroo Iplex Key Plastics Fabfit Vinidex Independent Plastics Pty Ltd Australian Plastic Profiles P/L (PIPE KING™)	
		Standard Drawing
		SEW-1106
		SEW-1108

Nominal size (DN) (mm)	Bend Angle									Moulded / Fabricated
	5°	15°	22.5°	30°	42°	45°	60°	88°	90°	
100	✓	✓	✓	✓		✓	✓	✓		M
150		✓	✓			✓		✓	✓	M
225	✓	✓	✓	✓		✓			✓	F
300		✓	✓	✓		✓	✓		✓	F
375		✓	✓	✓		✓	✓		✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Variable Bends (SCJ)

Material	PVC	
Brand(s)	Aymroo (DN100 & 150 only)	
Special Conditions	<p>May be used to curve or deflect sewer. (Operations and testing equipment can generally pass through this fitting)</p> <p>A series of 5° bends may be used as an alternative to long radius variable bends to curve or deflect pipe. However the pipeline still needs to be ovality tested and pulling ovality balls through 5° bends will be difficult</p>	
		Standard Drawing
		SEW-1315-V

Nominal size (DN) (mm)	Radius		Moulded/ Fabricated
	635 mm centre line radius	3000 mm centre line radius	
100	✓	✓	M
150	✓	✓	M

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Plain Bends & Elbows SOC – SPIG (SCJ)

Material	PVC		
Brand(s)	Aymroo		
	Fabfit		
	Iplex (DN 100 & 150 only)		
	Vinidex		
	Independent Plastics Pty Ltd	Standard Drawing	SEW-1154-M
		SEW-1351-M	SEW-1350-M

Nominal size (DN) (mm)	Bend Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100	✓	✓	✓	✓	✓	✓	✓		M
150		✓		✓			✓	✓	M
225	✓	✓	✓		✓				F
300	✓	✓	✓		✓	✓		✓	F
375		✓							F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Bends & Elbows SOC-SOC (RRJ)

Material	PVC		
Brand(s)	Aymroo		
	Iplex		
	Vinidex		
		Standard Drawing	SEW - 1154 - M

Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
225	✓	✓	✓		✓	✓		✓	M
300	✓	✓	✓		✓	✓		✓	F
375	✓	✓	✓		✓			✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

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Bends & Elbows SOC-SPIG (RRJ)

Material	PVC	
Brand(s)	Iplex	
	Vinidex	
Standard Drawing		

Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100	✓	✓	✓		✓				M
150	✓	✓			✓		✓		M
225	✓	✓			✓		✓	✓	M/F
300	✓	✓	✓		✓		✓	✓	F
375					✓		✓	✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Access Chamber Drop Bend

Material	PVC	
Brand(s)	Amyroo	
	Iplex	
	Vinidex	
Standard Drawing		SEW-1306-V

Nominal size (DN x DN) mm
100 x 100
150 x 150
225 x 150
300 x 225

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Access Chamber Drop Bend


Material	PVC	
Brand(s)	Amyroo	
	Iplex	
	Vinidex	
Standard Drawing		

Nominal size (DN x DN)
225 x 150
300 x 225

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PVC SEWER JUNCTIONS

Plain Junction SOC – SOC – SOC (SCJ)

Material	PVC			
Brand(s)	Aymroo			
	Fabfit			
	Iplex		Standard Drawing	SEW-1106
	Key Plastics			SEW-1108
	Vinidex			
	Independent Plastics Pty Ltd			
	Australian Plastic Profiles P/L (PIPE KING™)			

Nominal size (DN)	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100					✓		✓		M
150					✓		✓		M
225					✓			✓	M/F
300					✓			✓	F
375					✓			✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Reducing Junction SOC-SOC-SOC (SCJ)

Material	PVC			
Brand(s)	Aymroo			
	Fabfit			
	Iplex			
	Key Plastics		Standard Drawing	SEW-1316
	Vinidex		SEW-1351-M	SEW-1106
	Independent Plastics Pty Ltd			


Nominal size (DN x DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
150 x 100					✓		✓		M
225 x 100					✓				M
225 x 100					✓			✓	F
225 x 150					✓			✓	F
300 x 100					✓			✓	F
300 x 150					✓			✓	F
300 x 225					✓			✓	F

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Nominal size (DN x DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
375 x 100					✓			✓	F
375 x 150					✓			✓	F
375 x 225					✓			✓	F
375 x 300					✓			✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.


Plain Junction SOC- SOC- SPIG (SCJ)

Material	PVC	
Brand(s)	Aymroo	
	Fabfit	
	Iplex (DN100 & DN150 only)	
	Key Plastics (DN100 & DN150 only)	
	Vinidex	SEW-1106 SEW-1316

Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100					✓		✓		M
150					✓		✓	✓	M
225					✓		✓	✓	F
300					✓		✓	✓	F
375					✓		✓	✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Reducing Junctions SOC-SOC-SPIG (SCJ)

Material	PVC	
Brand(s)	Fabfit	
	Iplex (DN100 & DN150 only)	
	Key Plastics (DN100 & DN150 only)	
	Vinidex	

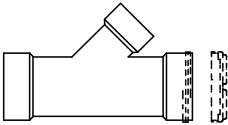
Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
150 x 100					✓		✓		M
225 x 100					✓		✓	✓	M
225 x 100					✓			✓	F
225 x 150					✓			✓	F
300 x 100					✓			✓	F
300 x 150					✓			✓	F
300 x 225					✓			✓	F

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Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
375 x 100					✓			✓	F
375 x 150					✓			✓	F
375 x 225					✓			✓	F
375 x 300					✓			✓	F

Note: This product is for retro-fitting of new branches on existing pipelines.

Junction – 45° (Threaded) (SCJ)

Material	PVC		Standard Drawing SEW-1154-M
Brand(s)	Iplex		
	Vinidex		

Nominal Size (DN x DN)	Moulded/Fabricated
150 x 100	M
225 x 100	M
225 x 100	F
225 x 150	F


Note: This product is for retro-fitting of new branches on existing pipelines.

Curved Square Junction – (SCJ)

Material	PVC		Standard Drawing
Brand(s)	Iplex		
	Vinidex		

Nominal Size (DN x DN)
100 x 88°
150 x 88°

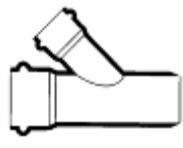
Plain Junction SOC-SOC-SPIG (RRJ)

Material	PVC	
Brand(s)	Iplex	
	Vinidex	
Standard Drawing		SEW-1316

Nominal Size (DN)	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100					✓			✓	F
150					✓			✓	F
225					✓			✓	F
300					✓			✓	F
375					✓			✓	F

Note: This product is for retro-fitting of new branches on existing pipelines.

Reducing Junction SOC-SOC-SPIG (RRJ)

Material	PVC	
Brand(s)	Aymroo	
	Iplex	
	Vinidex	
Standard Drawing		SEW-1316

Nominal size (DN x DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
150 x 100					✓			✓	F
225 x 100					✓			✓	F
225 x 150					✓			✓	F
300 x 100					✓			✓	F
300 x 150					✓			✓	F
300 x 225					✓			✓	F
375 x 100					✓			✓	F
375 x 150					✓			✓	F
375 x 225					✓			✓	F
375 x 300					✓			✓	F

Note: Not all manufactures/product suppliers listed above manufacture all fitting sizes.

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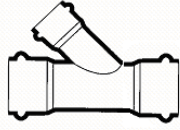
Plain Junction SOC-SOC-SOC (RRJ)

Material	PVC	
Brand(s)	Aymroo	
	Iplex	
	Vinidex	
		Standard Drawing SEW-1316

Nominal size (DN) mm	Angle								Moulded/ Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
100					✓				M
150					✓				M
225					✓			✓	F
300					✓			✓	F
375					✓				F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

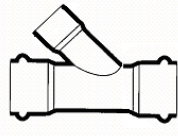
Reducing Junction SOC-SOC-SOC (RRJ)

Material	PVC	
Brand(s)	Aymroo	
	Vinidex	

Nominal Size (DN x DN) mm	Angle								Moulded / Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
150 x 100									M
225 x 100					✓			✓	F
225 x 150					✓			✓	F
300 x 100					✓			✓	F
300 x 150					✓			✓	F
300 x 225					✓			✓	F
375 x 100					✓			✓	F
375 x 150					✓			✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

Reducing Junction SOC-SOC-SOC (RRJ/SCJ) with solvent cement joint branch

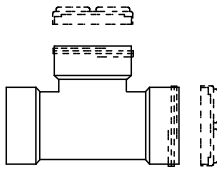
Material	PVC	
Brand(s)	Aymroo	
	Vinidex	
		Standard Drawing

Nominal size (DN x DN) mm	Angle								Moulded / Fabricated
	5°	15°	30°	42°	45°	60°	88°	90°	
150 x 100					✓				F
225 x 100					✓			✓	F
225 x 150					✓			✓	F
300 x 100					✓			✓	F
300 x 150					✓			✓	F
375 x 100					✓			✓	F
375 x 150					✓			✓	F

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

PVC SEWER TEES

Inspection Tees with Two Threaded Caps SOC-SOC-SOC (SCJ)

Material	PVC	
Brand(s)	Aymroo	
	Iplex	
	Vinidex	
		Standard Drawing

Nominal size (DN X DN) mm	Moulded/Fabricated
225 x 100	F
225 x 150	F
300 x 150	F
375 x 150	F

Note: This product is for retro-fitting of new branches on existing pipelines.

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Inspection Tees with Cap SOC-SOC-SOC (RRJ)

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing

Nominal size (DN x DN) mm	Moulded/Fabricated
100 x 100	F
150 x 150	M
225 x 150	F

TAPERS

Tapers Eccentric SPIG - SOC (SCJ)


Material	PVC	
Brand(s)	Aymroo	
	Fabfit	
	Iplex	
	Key Plastics	
	Vinidex	
Independent Plastics Pty Ltd		SEW-1155-M

Nominal size (DN) mm
150 - 100
225 - 100
225 - 150
300 - 100
300 - 150
300 - 225

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.


MOULDED DWV PVC-U ELASTOMERIC SEAL FITTINGS

Bend M & F (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage				
Material	PVC-U	15 deg	30 deg	45 deg	67.5 deg
Brand(s)	Alphacan Omniplast / Tyco				
Special Conditions	<ul style="list-style-type: none"> Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing			

Nominal Dia (DN) / Outside Dia (OD)	Angle				Moulded/ Fabricated
	15°	30°	45°	67.5°	
300	✓	✓	✓	✓	M


Reducing Junction 45 and 88 Deg M & F - SOC-SOC-SPIG (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage		
Material	PVC-U	45 Deg	88 Deg
Brand(s)	Alphacan Omniplast / Tyco		
Special Conditions	<ul style="list-style-type: none"> Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing	

Nominal Dia (DN) / Outside Dia (OD)	Angle		Moulded/ Fabricated
	45°	88°	
300 / 315 x 100	✓	✓	M
300 / 315 x 150	✓	✓	M
300 / 315 x 225	✓	✓	M

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Equal Junction 45 and 88 Deg M & F - SOC-SOC-SPIG (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage		
Material	PVC-U		
Brand(s)	Alphacan Omniplast / Tyco		
Special Conditions	<ul style="list-style-type: none"> Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing	


45 Deg

88 Deg

Standard Drawing

Nominal Dia (DN) / Outside Dia (OD)	Angle		Moulded/ Fabricated
	45°	88°	
300 / 315 x 100	✓	✓	M
300 / 315 x 150	✓	✓	M
300 / 315 x 225	✓	✓	M


Plain Coupling F & F - SOC-SOC (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage		
Material	PVC-U		
Brand(s)	Alphacan Omniplast / Tyco		
Special Conditions	<ul style="list-style-type: none"> Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing	

Nominal Dia (DN) / Outside Dia (OD)	Moulded/ Fabricated
300 / 315	M


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Slip Coupling F & F - SOC-SOC (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage	
Material	PVC-U	
Brand(s)	Alphacan Omniplast / Tyco	
Special Conditions	<ul style="list-style-type: none"> ▪ Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. ▪ Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing

Nominal Dia (DN) / Outside Dia (OD)	Moulded/ Fabricated
300 / 315	M


Level Invert Taper M & F - SOC-SPIG (RRJ)

SPECIFICATION	EN 1401:1999 Plastics piping systems for non-pressure underground drainage and sewerage	
Material	PVC-U	
Brand(s)	Alphacan Omniplast / Tyco	
Special Conditions	<ul style="list-style-type: none"> ▪ Omniplast fittings can be used with solid wall and sandwich elastomeric sealed jointed (RRJ) DWV PVC-U pipes. ▪ Omniplast fittings should NOT be used with SWJ DWV PVC-U pipes. 	Standard Drawing

Nominal Dia (DN) / Outside Dia (OD)	Angle		Moulded/ Fabricated
	45°	88°	
300 / 315 x 150	✓	✓	M
300 / 315 x 225	✓	✓	M

CONNECTORS

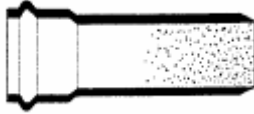
Plain Coupling – SOC (SCJ) TO SOC (SCJ)

Material	PVC		
Brand(s)	Aymroo (DN225 - DN375 Only)		
	Fabfit (DN150 - DN375 Only)		
	Iplex (DN100 - DN225 Only)		Standard Drawing
	Vinidex		
	Key Plastics		

Nominal size (DN) mm
100
150
225
300
375

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.


MH Coupling SOC (RRJ) - SPIG

Material	PVC		
Brand(s)	Fabfit (DN100 - DN150 only)		
	Iplex		
	Key Plastics		
	Vinidex	Standard Drawing	SEW-1306-V
Special Conditions	Couplings must be surface treated to ensure bonding to concrete These fittings are used as manhole couplings for inlets/outlets		

Nominal size (DN) mm
100
150
225
300
375


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Coupling – SOC (RRJ) TO SOC (SCJ)

Material	PVC		
Brand(s)	Vinidex		
Special Conditions	<p>Couplings must be surface treated to ensure bonding to concrete</p> <p>These fittings are used as manhole couplings for inlets/outlets</p>	Standard Drawing	


Nominal size (DN) mm
100
150

MH Connector SPIG – SPIG

Material	PVC		
Brand(s)	Fabfit (DN100 – DN150 Only)		
	Vinidex		
Special Conditions	<p>Minimum Class SN 8</p> <p>Couplings must be surface treated to ensure bonding to concrete</p> <p>These fittings are used as manhole couplings for inlets/outlets</p>	Standard Drawing	SEW-1302-V

Nominal size (DN) mm	Fabfit	Vinidex
100	✓	✓
150	✓	✓
225		✓
300		✓
375		✓

Plain Short PVC SOC (RRJ) – SPIG

Material	PVC	
Brand(s)	Vinidex	
	Fabfit	
	Aymroo	Standard Drawing
Special Conditions	Minimum Class SN 8	


Nominal size (DN)	Vinidex	Fabfit	Aymroo
100	✓	✓	
150	✓	✓	✓
225	✓		✓
300	✓		✓
375	✓		

VC SOC (RRJ) – PVC Plain Wall SOC (RRJ) Adaptors

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing

Nominal size (DN) mm
150
225
300
375

PVC Ribbed Wall SPIG (RRJ) - PVC Plain Wall SPIG (SCJ) Adaptors

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing

Nominal size (DN) mm
150
225
300
375

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PVC Ribbed Wall SPIG (RRJ) TO PVC Plain Wall Spigot (RRJ) Adaptors

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing

Nominal size (DN) mm
150
225
300
375

SPIG – SOC (SCJ) Threaded Access Coupling

Material	PVC	
Brand(s)	Vinidex Independent Plastics Pty Ltd	
		Standard Drawing
		SEW-1351-M

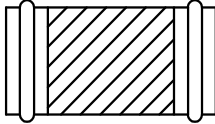
Nominal size (DN) mm
100
150

SOC - SOC (SCJ) Threaded Access Coupling

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing
		SEW-1351-M


Nominal size (DN) mm
100
150

Coupling – SOC (RRJ) TO SOC (RRJ)

Material	PVC	
Brand(s)	Aymroo	
	Iplex	
	Vinidex	Standard Drawing SEW-1306-V
Special Conditions	Couplings must be surface treated to ensure bonding to concrete These fittings are used as manhole couplings for inlets/outlets	


Nominal size (DN) mm	Application
100	INLETS & OUTLETS
150	INLETS & OUTLETS
225	INLETS & OUTLETS

Slip Coupling –SOC (RRJ) TO SOC (RRJ)

Material	PVC	
Brand(s)	Aymroo	
	Iplex (DN 225 – DN 300 Only)	
	Vinidex	Standard Drawing SEW-1500

Nominal size (DN)	Type
100	M
150	M
225	F
300	F

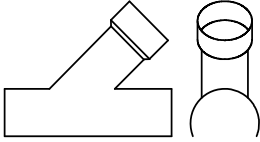
Plain Coupling – SOC (RRJ) TO SOC (RRJ)

Material	PVC	
Brand(s)	Vinidex	
		Standard Drawing

Nominal size (DN) mm	Type
150	RRJ socket to RRJ socket
225	RRJ socket to RRJ socket
300	RRJ socket to RRJ socket
375	RRJ socket to RRJ socket

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Saddle

Material	PVC		
Brand(s)	Vinidex		
Special Conditions	Not for use on new works. For retro-fitting of new branches on existing pipelines only.	Standard Drawing	

Nominal size (DN x DN x deg)
150 x 100 x 45
150 x 150 x 45
225 x 100 x 45
225 x 150 x 45
300 x 100 x 45
300 x 150 x 45
300 x 225 x 45
375 x 150 x 45
375 x 225 x 45

Note: This product is for retro-fitting of new branches on existing pipelines.

Sweep Junction with Inspection Opening

Material	PVC		
Brand(s)	Vinidex		
		Standard Drawing	

Nominal size (DN) mm	Inspection opening
100 X100	100
150 X 150	100
225 X 150	150

END SEALS

SCJ Cap

Material	PVC		
Brand(s)	Aymroo Vinidex		
		Standard Drawing	

Nominal size (DN) mm
100
150
225
300
375

Threaded Cap

Material	PVC		
Brand(s)	Iplex Vinidex		
	Independent Plastics Pty Ltd	Standard Drawing	SEW-1351-M, SEW-1107

Nominal size (DN) mm
100
150

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Plug

Material	PVC		
Brand(s)	Vinidex		
		Standard Drawing	SEW - 1107

Nominal size (DN) mm
150, 225, 300, 375

ELASTOMERIC SEALS

SPECIFICATION	Refer to the relevant Pipeline Material WSAA Product Specification for Elastomeric joint seals
Australian Standards	AS 1646-2007 : Elastomeric seals for waterworks purposes

PVC PIPES

Material	Chloroprene, SBR, EPDM.	
Brand(s)		
Special Conditions		
		Standard Drawing

Nominal size (DN) mm	Material
100	Chloroprene or SBR or EPDM
150	Chloroprene or SBR or EPDM
225	Chloroprene or SBR or EPDM
300	Chloroprene or EPDM
375	Chloroprene or EPDM

Note: Use for DN100, 150 and 225 restricted to joints to access chambers

Jointing Lubricant

Material	As supplied	
Installation	As per manufacturer's instructions	
Brand(s)	Thomas Grozier & Son	

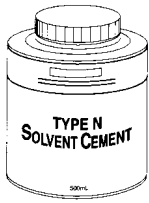
Solvent Cement Priming Fluid

Material	As Supplied	
Installation	As per manufacturer's instructions	
Brand(s)	Iplex	
	Vinidex	
	Tyco Water (MEK)	

Material
Solvent Cement – Priming Fluid

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Solvent Cement


Material	Solvent Cement	
Installation	As per manufacturer's instructions	
Brand(s)	Iplex Vinidex Tyco Water	

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GLASS REINFORCED PLASTIC (GRP) PIPELINES SYSTEMS

SPECIFICATION	WSA PS – 232 Glass Reinforced Plastic (GRP) Non-Pressure Pipe
	WSA PS – 237 Glass Reinforced Plastic (GRP) Non-Pressure Fittings
International Specification	ISO 10467:2004 : Plastics piping systems for pressure and non-pressure drainage and sewerage - Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin

CENTRIFUGALLY CAST CC - GRP NON-PRESSURE PIPE


Material	Unsaturated polyester (UP) resin, Chopped glass, filament reinforcement, sand.		
Brand(s)	Global Pipe (HOBAS Sewerline®)		
Special Conditions	Refer to HOBAS Chemical Resistance Guide for sewers that may carry industrial flow or trade waste. Minimum stiffness class SN 10000		
		Standard Drawing	SEW-1402-V
			SEW-1401-V

Nominal size (DN) mm	Global Pipe (HOBAS Sewerline®)
300	✓
350	✓
400	✓
450	✓
500	✓
600	✓
700 ^{*1}	✓
800 ^{*1}	✓
900 ^{*1}	✓
1000 ^{*1}	✓
1100 ^{*1}	✓
1200 ^{*1}	✓

^{*1} Use of larger sizes subject to project-specific approval.

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FILAMENT WOUND - GRP NON-PRESSURE PIPE

Material	Polyester resins Chopped continuous glass fibres Quartz sand (filler)		
Brand(s)	Iplex (Flowtite GRP)		
Special Conditions	Refer to Flowtite chemical resistance guide for sewers that may carry industrial flow or trade waste. Minimum stiffness class SN 10000		
		Standard Drawing	SEW-1402-V
			SEW-1401-V

Nominal size (DN) mm	Iplex (Flowtite GRP)
375	✓
450	✓
525	✓
600	✓
675	✓
750*1	✓
900*1	✓
1000*1	✓
1200*1	✓

*1 Use of larger sizes subject to project-specific approval.

Coupling


Material	Glass Reinforced Plastic (GRP)		
Special Conditions	Global Pipe (HOBAS Sewerline®)		
			Standard Drawing
			SEW-1401-V
			SEW-1402-V

Nominal size (DN) mm	Iplex (Flowtite GRP)	Global Pipe (HOBAS Sewerline®)
300	-	✓
350	-	✓
375	✓	-
400	-	✓
450	✓	✓
500	-	✓
525	✓	-

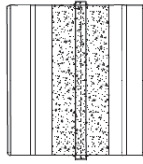
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600	✓	✓
675	✓	-
700	-	✓
750	✓	✓
800	✓ □	✓
900	✓	✓
1000	✓	✓
1200	✓	✓

Jointing Lubricant

Material	As supplied	
Installation	As per manufacturer's instructions	
Brand(s)	Thomas Grozier & Son	

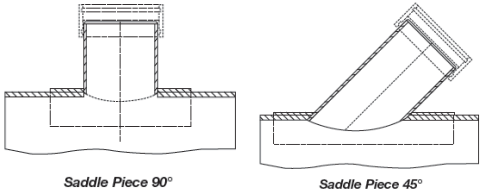
Access Chamber Connector

Material	Glass Reinforced Plastic (GRP)	
Brand(s)	Global Pipe (HOBAS CC-GRP)	
		Standard Drawing

Nominal size (DN) mm	Iplex (Flowtite GRP)	Global Pipe (HOBAS Sewerline®)
375	✓	-
400	-	✓
450	✓	✓
500	-	✓
525	✓	-
600	✓	✓
675	✓	-
700	-	✓
750	✓	-
800	✓	✓
900	✓	✓
1000	✓	✓
1100	-	✓
1200	✓	✓

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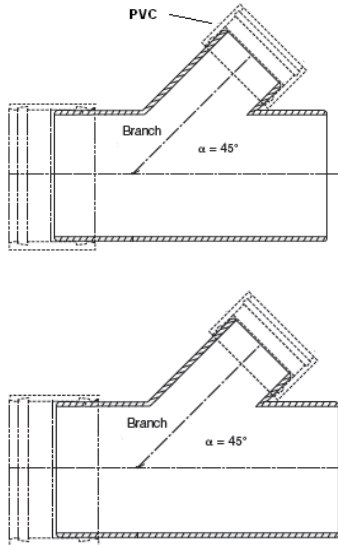
Saddle Tee Junction

Material	Glass Reinforced Plastic (GRP)	
Brand(s)	Global Pipe (HOBAS CC-GRP)	
	Not for use on new works. For retro-fitting of new branches on existing pipelines.	Standard Drawing

Nominal size (DN x DN x deg)	Moulded/ Fabricated	Iplex (Flowtite GRP)	Global Pipe (HOBAS Sewerline®)
300 x 100 x (45°, 90°)	F	✓	✓
300 x 150 x (45°, 90°)	F	✓	✓
350 x 100 x (45°, 90°)	F		✓
350 x 150 x (45°, 90°)	F		✓
375 x 100 x (45°, 90°)	F	✓	
375 x 150 x (45°, 90°)	F	✓	
400 x 100* x (45°, 90°)	F		✓
400 x 150* x (45°, 90°)	F		✓

Note: This product is for retro-fitting of new branches on existing pipelines.

Wye or Slope Junction – 45°

Material	Glass Reinforced Plastic (GRP)	
Special Conditions	<p>Wye or Slope junctions are used to connect GRP or PVC supply lines (other materials on request) to the main GRP Pipe System. Both the main body and the branch are fitted with couplings. If the branch pipe is made of PVC, the end of the Wye or slope branch is fitted with a suitable socket.</p> <p>(Alternatively, a Straub/Flex Seal coupling system may be used).</p> <p>CWW separate approval required for all Wye or Slope junctions > DN400.</p>	
		Standard Drawing

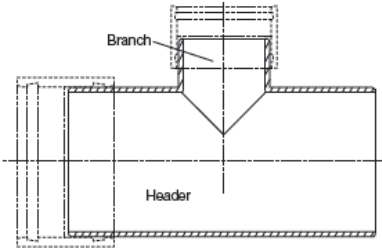
Nominal size (DN)	Angle	Moulded/ Fabricated	Iplex (Flowtite GRP)	Global Pipe (HOBAS CC-GRP)
	45°			
300 x 100	✓	F	✓	✓
300 x 150	✓	F	✓	✓
350 x 100	✓	F		✓

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350 x 150	✓	F		✓
375 x 100	✓	F	✓	
375 x 150	✓	F	✓	
400 x 100*	✓	F		✓
400 x 150*	✓	F		✓

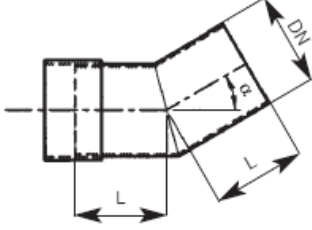
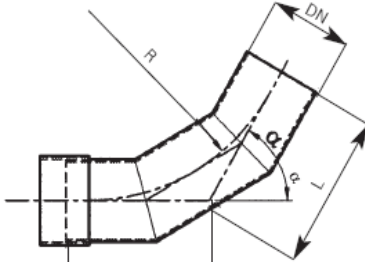
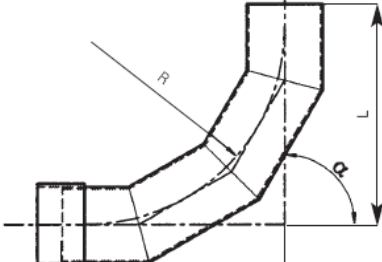
Note: Refer to limitation of use for Wye or Slope junctions > DN400

Tees

Material	Glass Reinforced Plastic (GRP)	

Nominal size (DN) X Nominal Branch (mm)	Iplex (Flowtite GRP)	Global Pipe (HOBAS CC-GRP)
300 x 300	✓	✓
375 x (300, 375)	✓	✓
450 x 450	✓	✓
525 x (450, 525)	✓	✓
600 x (450, 525,x600)	✓	✓

Bends

Material	Glass Reinforced Plastic (GRP)		
 <p data-bbox="261 551 405 586">$\alpha = 0 - 30^\circ$</p>	 <p data-bbox="628 658 772 694">$\alpha = 31 - 60^\circ$</p>	 <p data-bbox="1091 618 1235 654">$\alpha = 61 - 90^\circ$</p>	Standard Drawing


Nominal size (DN) mm	Iplex (Flowtite GRP)			Global Pipe (HOBAS CC-GRP)		
	Angle			Angle		
	11.25°, 22.5° 30°	45°- 60°	90°	0-30°	31-60°	61-90°
300	✓	✓	✓	✓	✓	✓
350				✓	✓	✓
375	✓	✓	✓			
400				✓	✓	✓
450	✓	✓	✓	✓	✓	✓
525	✓	✓	✓			
600	✓	✓	✓	✓	✓	✓
675	✓	✓	✓			
700				✓	✓	✓
750	✓	✓	✓			
900	✓	✓	✓			
1000	✓	✓	✓			
1200	✓	✓	✓			

Note: Not all manufacturers/product suppliers listed above manufacture all fitting sizes.

POLYETHYLENE SEWER SYSTEM


POLYETHYLENE (PE) PIPE NON PRESSURE PIPE FOR SEWERAGE

Specification	WSA PS – 242 Polyethylene (Plain Wall) Non-Pressure Pipe & Fittings
Australian Standard	AS/NZS 5065:2005 Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications

Material	PE 80 and PE 100		
Special Conditions	Minimum Stiffness Class SN 8 / SDR 21		
	Joining by butt welding & electrofusion.		
	RRJ subject to CWW approval		
Limits of Use	<ul style="list-style-type: none"> ▪ Butt welding and electrofusion for pipe sizes DN 90 PE and greater ▪ Pipe sizes greater than DN 315 PE subject to separate approval by CWW ▪ Not to be used in ground containing organic contaminants ▪ For operational reasons City West Water has limited the size of Polyethylene Pipe PE100 within its sewerage networks to DN 160, 180, 250, 280, 315, 355, 450 and larger sizes as listed in AS/NZS 4130 	Standard Drawing	SEW-1351-M

Supplier / Manufacturer	Brand Name	Type	Sizes	PN/SDR Ratings	Certification Schedule
No current Manufacturers manufacture PE pipe for non pressure applications to AS/NZS 5065:2005		PE 80 PE100	110 - 450	SDR 17, SN16 SDR 21, SN8	

POLYETHYLENE PIPE (PE) NON PRESSURE PIPE FOR SEWERAGE

SPECIFICATION	WSA PS - 207 – Polyethylene (PE) Pipe for Water Supply and Sewerage		
Australian Standard	AS/NZS 4130 : 2003 – Polyethylene Pipes for Pressure Applications		
Limits of Use	<ul style="list-style-type: none"> ▪ Butt welding and electrofusion for pipe sizes DN 90 PE and greater ▪ Pipe sizes greater than DN 315 PE subject to separate approval by CWW ▪ Not to be used in ground containing organic contaminants ▪ For operational reasons City West Water has limited the size of Polyethylene Pipe PE100 within its sewerage networks to: ▪ For gravity sewers, sizes DN 160, 180, 250, 280, 315, 355, 450 and larger sizes as listed in AS/NZS 4130 	Standard Drawing	SEW-1351-M

Supplier / Manufacturer	Brand Name	Type	Sizes	PN/SDR Ratings	Certification Schedule
PPI Corporation	PPI (including Hi-Vis Sewer)	PE 100	DN 160 PE – DN 500 PE*	PN 8 / SDR 21	
Iplex	Poliplex	PE 100	DN 160 PE – DN 800 PE*	PN 8 / SDR 21	
Vinidex	Vinidex	PE 100	DN 160 PE – DN 400 PE*	PN 8 / SDR 21	

*Subject to CWW approval

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POLYETHYLENE (PE) NON PRESSURE FITTINGS FOR SEWERAGE

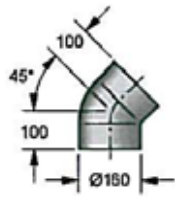
SPECIFICATION	WSA PS 242 - Polyethylene (Plain Wall) Non-Pressure Pipe and Fittings WSA PS 208 - Polyethylene (PE) Pressure Pipe Fittings for Water Supply and Sewerage - Moulded
Australian Standard	AS/NZS 5065:2005 - Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications
Special Conditions	Fabricated PE fitting using extrusion welding requires CWW prior approval

Supplier / Manufacturer	Brand Name	Type	Sizes	PN/SDR Ratings	Certification Schedule
No current approved Manufacturers					

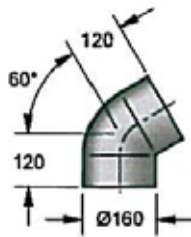
POLYETHYLENE (PE) NON PRESSURE FITTINGS FOR SEWERAGE

SPECIFICATION	WSA PS 242 - Polyethylene (Plain Wall) Non-Pressure Pipe and Fittings WSA PS 208 - Polyethylene (PE) Pressure Pipe Fittings for Water Supply and Sewerage - Moulded
Australian Standard	AS/NZS 4129:2008 – Fittings for polyethylene (PE) pipes for pressure applications
Other Standards	EN1519-1:2000 Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. Polyethylene (PE). Specifications for pipes, fittings and the system EN681-2:2000 Elastomeric seals. Material requirements for pipe joint seals used in water and drainage applications. Thermoplastic elastomers
Special Conditions	Fabricated PE fitting using extrusion welding requires CWW prior approval

Iplex Proplex D160PE x 45° Elbow

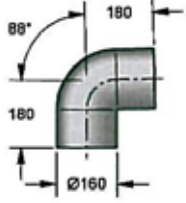
Material	PE80 SDR 21 PN 6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

Iplex Proplex D160PE x 60° Elbow

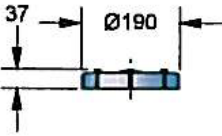
Material	PE80 SDR 21 PN 6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

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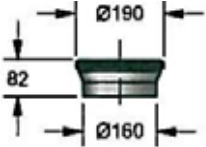
Iplex Proplex D160PE x 90° Elbow

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

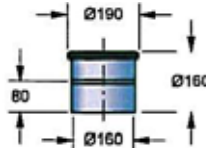
Iplex Proplex DN150 PVC DWV Screwed Cap

Material	DN150 PVC DWV Screwed Cap	
Brand(s)	Wavin / Iplex	
		Standard Drawing

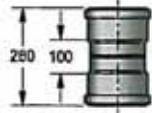
Iplex Proplex DN160 PE Threaded Coupling

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

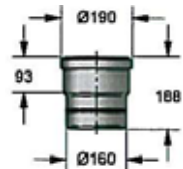
Iplex Proplex DN160 PVC DWV Threaded Coupling

Material	DN160 PVC DWV Screwed Cap	
Brand(s)	Wavin / Iplex	
		Standard Drawing

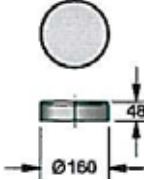
Iplex Proplex D160 PE RRJ Double Socket with Gasket

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

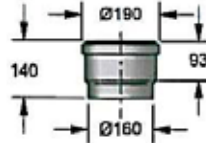
Iplex Proplex D160 PE RRJ End Cap with Gasket

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

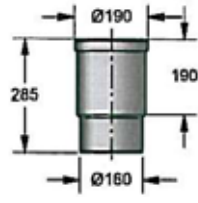
Iplex Proplex D160 PE End Cap

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

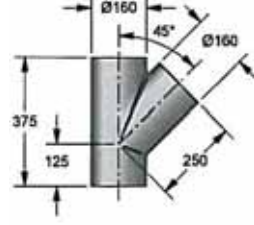
Iplex Proplex D160 PE Push Fit Socket RRJ with Gasket

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

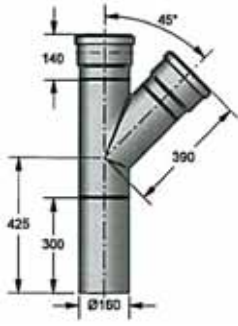
Iplex Proplex D160 PE Expansion Socket RRJ with Gasket

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

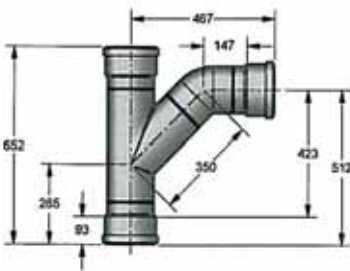
Iplex Proplex D160 PE x 45° Junction

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

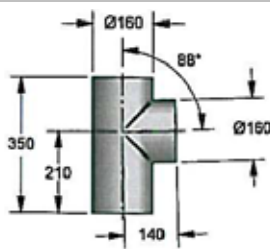
Iplex Proplex D160 PE x 45° Junction Spigot x Socket x Socket

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

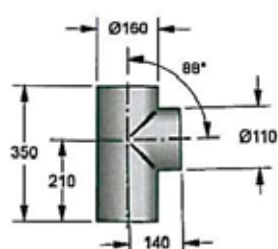
Iplex Proplex D160 PE x 90° Socket RRJ Sweep Junction

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing


Iplex Proplex D160 PE Equal Tee 88.5

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing


Iplex Proplex D160 x D110 PE Reducing Tee 88.5

Material	PE80 SDR 21 PN6.3	
Brand(s)	Wavin / Iplex	
		Standard Drawing

Iplex Proprex DN160 Monolip Seal

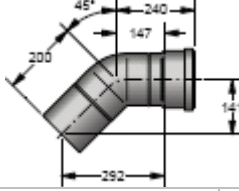
Material	SBR Styrene Butadiene Rubber	
Brand(s)	Wavin / Iplex	
		Standard Drawing

Iplex Proprex DN160 Gasket suitable for D160 PE Expansion Socket RRJ with Gasket

Material	SBR Styrene Butadiene Rubber	
Brand(s)	Wavin / Iplex	
		Standard Drawing

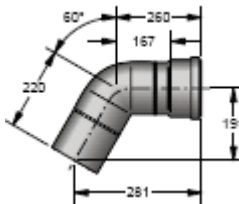
Iplex SWV Property Branch Assemblies (Type 1, 2 & 4) using Poliplex PE Pipes & SWV Proprex fitting

Type 'A' RRJ Assembly (45°)

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

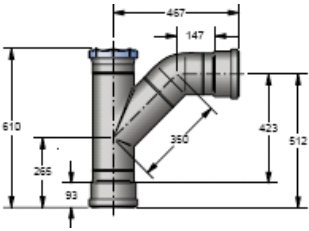
Nominal size (DN) mm
D 160 PE Type A RRJ Assembly

Type '2A' RRJ Assembly (60°)

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

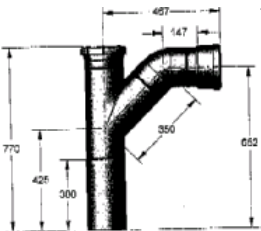
Nominal size (DN) mm
D 160 PE Type 2A RRJ Assembly

Type 'B' RRJ Assembly

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

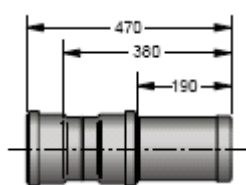
Nominal size (DN) mm
D 160 PE Type B RRJ Assembly

Type B1 SP x RRJ Assembly

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

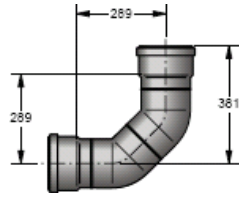
Nominal size (DN) (mm)
D 160 PE Type B1 Spigot x Socket RRJ Assembly

Type 'C' RRJ Assembly

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

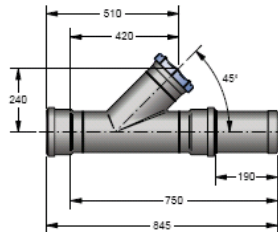
Nominal size (DN) (mm)
D 160 PE Type C RRJ Assembly

Type 'D' RRJ Assembly

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

Nominal size (DN) (mm)
D 160 PE Type D Spigot x Socket RRJ Assembly

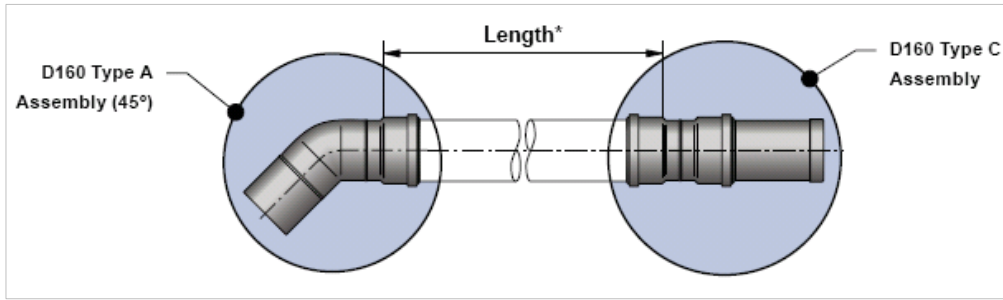
Type 'E' RRJ Assembly

Material	Polyethylene	
Supplier	Iplex	
Brand	WAVIN	
Special Conditions	Minimum stiffness SN10	Standard Drawing

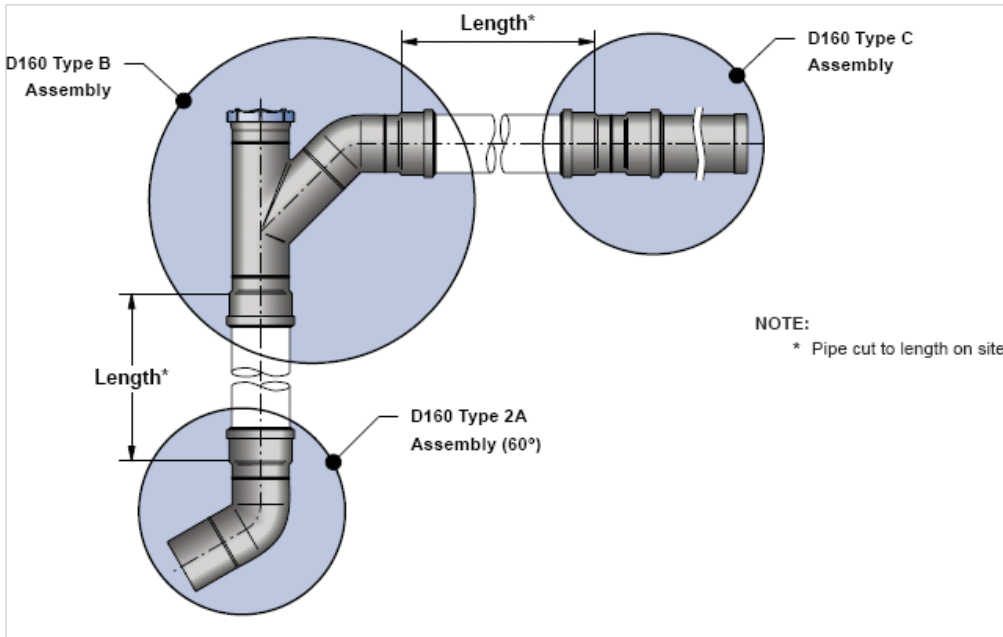
Nominal size (DN) mm
D 160 PE Type E RRJ Assembly

Note all dimensions are approximate only

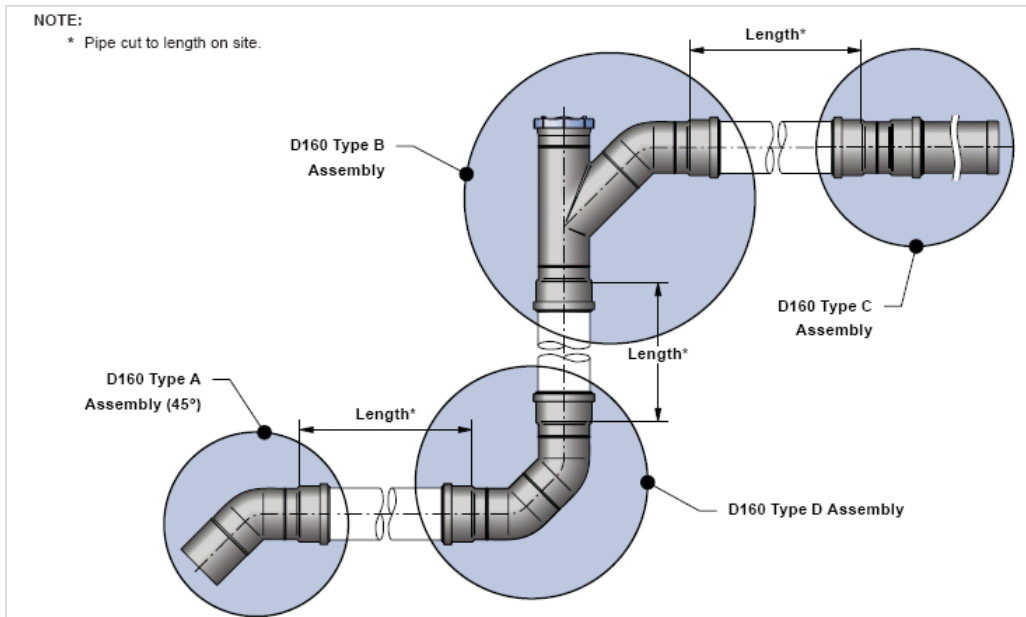
Property Connection Type 1 (Excluding Pipe) RRJ System



Property Connection Type 2 (Excluding Pipe) RRJ System



Property Connection Type 4 (Excluding Pipe) RRJ System



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VITRIFIED CLAY SYSTEM

SPECIFICATION	WSA PS-231 Vitrified Clay (VC) Pipe and Fittings
----------------------	--

PIPES

Vitrified Clay Pipe (socketless)

Material	Vitrified clay		
Brand(s)	Hepworth		
Suppliers	Leap Australasia Pty Ltd		
		Standard Drawing	SEW-1153-M

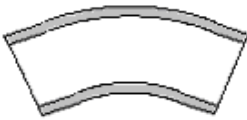
Nominal size (DN)	Hepworth "SuperSleve"
100, 150, 225, 300	✓

Note:

1. Compliance with European Standard EN 295 is accepted as equivalent to AS 1741 provided product complies with permeability and joint elastomer compression requirements of AS 1741.
2. For available lengths refer to manufacturer.

FITTINGS

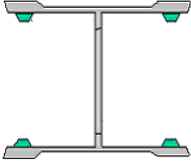
Bend

Material	Vitrified clay		
Brand(s)	Hepworth		
Suppliers	Leap Australasia Pty Ltd		
		Standard Drawing	

Nominal size (DN) mm	Bend (degrees)
100	15 , 30, 45, 90
150	15 , 30, 45, 90
225	15 , 30, 45, 90
300	15 , 30, 45, 90

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Jointing coupling

Other Standards	<ul style="list-style-type: none"> BS 65:1991 Specification for vitrified clay pipes, fittings and ducts, also flexible mechanical joints for use solely with surface water pipes and fittings BSEN 295-1 Euro norm 1991 Standards Requirements - Vitrified clay pipes and fittings and pipe joints for drains and sewers. 		
Material	Polypropylene with elastomeric seals		
Brand(s)	Hepworth		
Suppliers	Leap Australasia Pty Ltd	Standard Drawing	

Nominal size (DN) mm
100
150
225
300

Note:

- Used to joint spigoted VC pipes.
- A jointing lubricant is supplied for use with this product.
- Hepworth "SuperSleve" couplings suit Hepworth pipes.

Jointing 'O' Ring

Material	Refer to table below		
Brand(s)	Hepworth		
Suppliers	Leap Australasia Pty Ltd		
		Standard Drawing	

Nominal size (DN) mm
SBR (Styrene butadiene rubber)
EPDM (ethylene propylene diene monomer) Rubber
NBR (Nitrile butadiene rubber)

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Curved Square Junction

Material	Vitrified clay	
Brand(s)	Hepworth	
Suppliers	Leap Australasia Pty Ltd	
		Standard Drawing

Nominal size (DN x DN) (mm x mm)
100 x 100
150 x (100, 150)
225 x (100, 150, 225, 250)
300 x (100, 150, 200, 225, 250, 300)

Junction – Oblique

Material	Vitrified clay	
Brand(s)	Hepworth	
Suppliers	Leap Australasia Pty Ltd	
		Standard Drawing

Nominal size (DN x DN) (mm x mm)
100 x 100
150 x (100, 150)
225 x (100, 150, 225)
300 x (100, 150, 225, 300)

Junction – Square

Material	Vitrified clay	
Brand(s)	Hepworth	
Suppliers	Leap Australasia Pty Ltd	
		Standard Drawing

Nominal size (DN x DN) (mm x mm)
100 x 100
150 x (100, 150)
225 x (100, 150, 225)
300 x (100, 150, 225, 300)

Plug

Material	Polypropylene	
Brand(s)	Hepworth	
Suppliers	Leap Australasia Pty Ltd	

Nominal size (DN) mm
100
150

Taper Pipe

Material	Vitrified clay	
Brand(s)	Hepworth	
Suppliers	Leap Australasia Pty Ltd	

Nominal size (DN x DN) (mm x mm)
100 x 150
150 x 225
225 x 300

Vitrified Clay Pipe (socketed)

Material	Vitrified clay		
Brand(s)	Keramo Steinzeug		
Suppliers	Humes		
		Standard Drawing	SEW-1153-M
			SEW-1350-M

Nominal size (DN) mm	Keramo Steinzeug
400, 450, 500, 600, 700, 800, 900, 1000, 1200	✓

Note:

1. Compliance with European Standard EN 295 is accepted as equivalent to AS 1741 provided product complies with permeability and joint elastomer compression requirements of AS 1741.
2. Only pipes with socket controlled jointing system "C" are approved.
3. For available lengths refer to manufacturer.

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Vitrified Clay Pipe Fittings (socketed)

Material	Vitrified clay	For range refer to supplier	
Brand(s)	Keramo Steinzeug		
Suppliers	Humes		
		Standard Drawing	SEW-1350-M

Nominal size (DN) mm	Keramo Steinzeug
100 – 1200	✓

Note: Only fittings with socket controlled jointing system "C" approved

Hydrophilic Rubber


Material	Rubber		
Brand(s)	Parchem		
	Iplex Pipelines		
	Leap Australasia Pty Ltd		
Special Conditions	Hydrophilic rubber seals may be used when connecting pipelines to concrete access chambers.	Standard Drawing	

DUCTILE IRON PIPELINE SYSTEM

DUCTILE IRON PIPE FOR GRAVITY SEWERS


SPECIFICATION	WSA PS-234 Ductile Iron Pipe for Gravity Sewers
	WSA PS 239 Ductile Iron Fittings for Gravity Sewers

Ductile Iron Cement Lined (DACL)

Australian Standard	AS/NZS 2280: 2004 Ductile iron pipes and		
Material	Ductile iron		
Brand(s)	Tyco Water		
Special Conditions	Subject to separate approval by CWW Pipe & fittings must be sleeved with polyethylene		
		Standard Drawing	SEW- 1406
			SEW- 1404

Nominal size (DN) (mm)	Crevet Pipelines	Tyco Water
100 – 600	✓	✓

Ductile iron internally lined with polyurethane

Material	Ductile Iron		
Brand(s)	Von Roll		
Special Conditions	“Ecopur” – lined internally & externally with polyurethane. “Ducpur” – lined internally with polyurethane and externally with bitumen.		
			Standard Drawing
			SEW- 1404

Nominal size (DN) (mm)	Von Roll Ducpur & Ecopur
80 - 700	✓

DUCTILE IRON FITTINGS FOR GRAVITY SEWERS

For details refer to the Pressure Pipeline Systems Products Catalogue.

Cement lined fittings with calcium aluminate are permitted. Specific approval from the Water Company is required.

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STEEL PIPELINE SYSTEMS

SPECIFICATION	WSA PS – 203 Steel Pipe for Water Supply and Sewerage
	WSA PS – 204 Steel Fittings for Water Supply and Sewerage


PIPES AND FITTINGS

Refer to the Pressure Pipeline Systems Products catalogue for a range of approved Steel pipes and fittings.

ABS PIPELINE SYSTEMS

SPECIFICATION	WSA PS-238 ABS Non-Pressure Pipe and Fittings
	WSA PS-212 Ductile Iron Fittings for Plastics Pressure Pipe for Water Supply and Sewerage

ABS Pipe

Material	ABS	
Brand(s)	Tyco Water	
Special Conditions	Series 1	
	Fittings currently PN 6 and PN 9	
		Standard Drawing

Nominal size (DN) (mm)	Tyco Water
100 – 750	✓

ABS Fittings



Material	ABS	
Brand(s)	Tyco Water	
Special Conditions	Series 1	
		Standard Drawing

Fitting	Nominal size (DN) mm
Couplings Soc/Soc	100 - 750
90 deg bends Spig/Spig (short & long radius)	375 - 750
45 deg bends Spig/Spig (short & long radius)	375 - 750
Rubber Ring Socket (short & long)	100 - 750

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POLYPROPYLENE SEWER SYSTEM

PROFILE WALL POLYPROPYLENE SEWERAGE PIPELINES (RRJ)

SPECIFICATION	WSA PS - 240 – Polypropylene (Ribbed Construction) Non-Pressure Pipe and Fittings	 
Australian Standard	AS/NZS 5065:2005 - Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.	
Special Condition	<ul style="list-style-type: none"> SewerPRO is not designed for pipe jacking or boring applications. Minimum pipe stiffness SN 10 Length 3 metres for SewerPRO™ and SewerMAX™ Elastomeric seal EPDM or SBR to AS 1646 	
		<p>SewerMAX SewerPRO</p> <p>Standard Drawing</p>

Supplier / Manufacturer	Brand Name	Sizes	Limits of Use	Certification Schedule
Vinidex	SewerPRO™	DN 150, 225, 300, 375, 450, 525, 600, 750, 900		Vinidex SewerPRO Certification Schedule
Iplex	SewerMAX™	DN 225, 300, 375, 450, 525 & 600		Iplex SewerMAX Certification Schedule

POLYPROPYLENE FITTINGS

SPECIFICATION	WSA PS - 240 – Polypropylene (Ribbed Construction) Non-Pressure Pipe and Fittings
Australian Standard	AS/NZS 5065:2005 - Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.
Special Conditions	<ul style="list-style-type: none"> Minimum Stiffness SN10 Vinidex Injection Moulded Polypropylene Fittings ≤ DN 150

Supplier	Brand Name	Nominal Size	Fitting Type*	SN Ratings	Additional Fittings	Certification Schedule
Vinidex	SewerPRO™ (Uniplas Mouldings International Pty Ltd)	See according to Types (below)	1 - 14	SN 10		

* Fitting Type

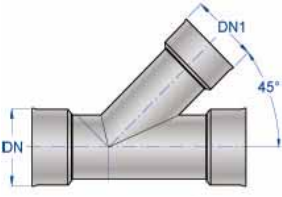
1 Coupling PP DN 150	2 Adaptor Couplings PP – PVC RRJ DN 150
3 Junctions PP – 88° DN 150	4 Bends PP – 90° DN 150
5 Adaptor Couplings PP – Ultra Rib DN 150	6 Junctions PP – 45° DN 150 x 100 PVC Branch to DN 450 x 150 PVC Branch
7 Tees PP DN 150 x 150	8 Inspection Tees PP DN 150 x 150
9 Adaptor Coupling PP – VC DN 450mm	10 Junctions PP – 88° DN 150 x 100 PVC Branch
11 Adaptor Couplings PP – PVC SWJ DN 150	12 Push On Caps PP DN 150
13 Bends PP – 45° DN 150	14 Junctions PP – 45° DN 150

* Subject to CWW approval

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PE FITTINGS FOR PROFILE WALL POLYPROPYLENE SEWERAGE PIPELINES

Reducing PE Junctions: Socket x Socket, 45°

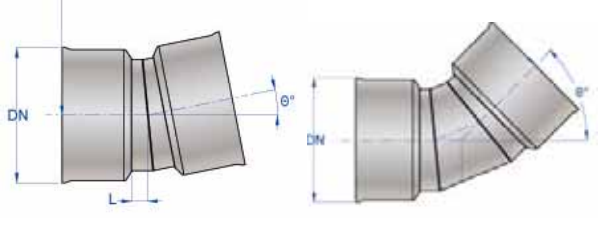
Material	Polyethylene	
Supplier	Iplex	
Brand	SewerMAX™	
Special Conditions	Minimum stiffness SN10	Standard Drawing

Nominal Size (DN) (mm)	Branch Size (DN1) (mm)
225	160

Refer to the Polyethylene PE Sewerage System section for details of Iplex range of polyethylene pipe and fittings, used in conjunction with the Iplex PE SWV Property connection pipe work for Polyethylene and Polypropylene Sewer Systems.

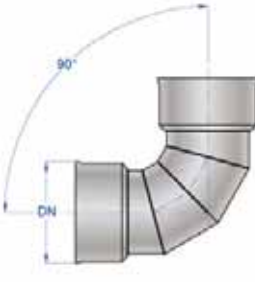
GRP FITTINGS FOR PROFILE WALL POLYPROPYLENE SEWERAGE PIPELINES

Bend GRP x 15°, 30°, 45°, SOC – SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10	
		Standard Drawing

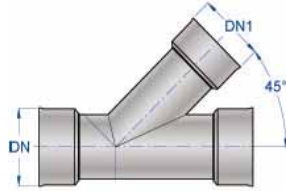
Nominal Size (DN) (mm)	Bend Angle (θ)			Moulded/Fabricated
	15°	30°	45°	
225 – 600	✓	✓	✓	F

Bend GRP x 90°, SOC – SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10	
		Standard Drawing

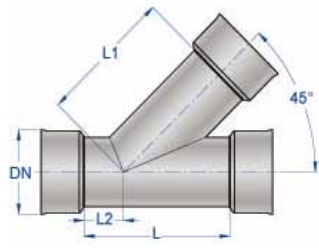
Nominal Size (DN) (mm)	Bend Angle (θ)	Moulded/Fabricated
	90°	
225 – 600	✓	F

Reducing Junctions GRP x 45° SOC – SOC– SOC

Material	Polyethylene	
Supplier	Iplex	
Brand	SewerMAX™	
Special Conditions	Minimum stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	Standard Drawing

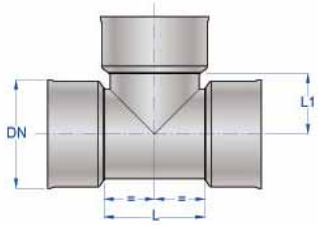
Nominal Size (DN) (mm)	Branch Size (DN1) (mm)
225-600	100 - 525

Equal Junction GRP x 45° SOC – SOC– SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	
		Standard Drawing

Nominal Size (DN) (mm)
225 -600

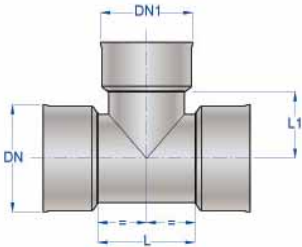
Equal Tees GRP x 90° SOC – SOC– SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	
		Standard Drawing

Nominal Size (DN) (mm)
225-600

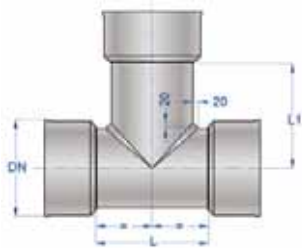
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Reducing Tees GRP x 90° SOC – SOC– SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	
		Standard Drawing

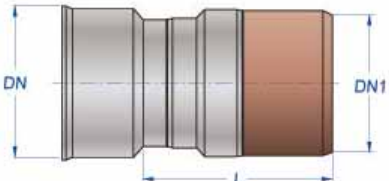
Nominal Size (DN) (mm)	Branch Size (DN1) (mm)
225-600	100 - 525

Drop Junction GRP

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	
		Standard Drawing

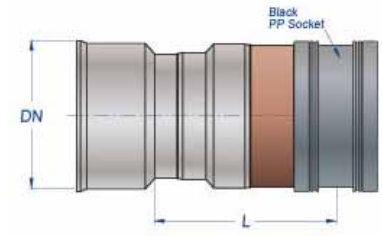
Nominal Size (DN) (mm)
225

Adaptor GRP SOC x VC SPIG

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10 DN100 & DN150 Off takes are available for PVC & VC connections	
		Standard Drawing

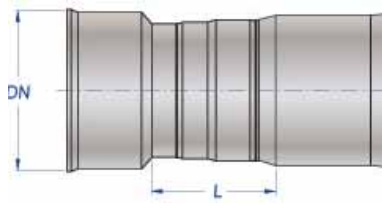
Nominal Size (DN) (mm)
225

Adaptor GRP SOC x VC SOC RRJ

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10	
		Standard Drawing

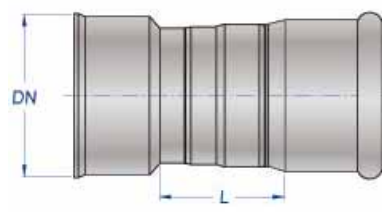
Nominal Size (DN) (mm)
225

Adaptor GRP SOC x DWV SWJ SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10	
		Standard Drawing

Nominal Size (DN) (mm)
225

Adaptor GRP SOC x DWV RRJ SOC

Material	GRP	
Brand(s)	Iplex	
Special Conditions	Minimum pipe stiffness SN10	
		Standard Drawing

Nominal Size (DN) (mm)
225

PVC COMPOSITE FITTINGS FOR PROFILE WALL POLYPROPYLENE SEWERAGE PIPELINES

PVC-U composite fittings may be used with profiled wall polypropylene sewerage pipelines subject to CWW prior approval.

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JACKING PIPE SYSTEM

VITRIFIED CLAY JACKING PIPE SYSTEM

International Specification	
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Vitrified Clay Jacking Pipe

Material	Vitrified Clay	
Brand(s)	Humes Keramo Steinzeug Jacking Pipe	
Special Conditions	<p>Effective lengths:</p> <ul style="list-style-type: none"> ▪ DN150: 497 ± 2 mm or 997 ± 2 ▪ DN200: 996 ± 2 mm ▪ DN250 to DN300: 995 or 1995 mm ▪ DN400: 990 or 1990mm ▪ DN500: 984 or 1984 mm ▪ DN600 to DN1200: 1981 mm <p>The use and application of Humes Keramo Steinzeug Jacking Pipe Systems is a specialised area of pipeline design, it is recommended that engineers and designers should contact Humes for further information regarding the jacking pipe product and installation contractors.</p>	
		<p>Figure 1</p> <p>Figure 2</p> <p>Figure 3</p> <p>Standard Drawing</p>

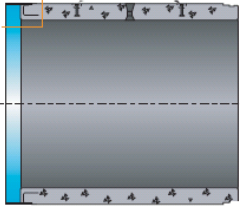
Nominal size (DN) mm	Humes Keramo Steinzeug Vitrified Clay Jacking Pipe
DN150	With polypropylene sleeve sliding couplings glass fibre reinforced, with rubber casing (SBR – Rubber Coupling) Figure 1
DN200 – DN500	With V4A Type 1 stainless steel coupling Figure 2
DN600 – DN1200	With V4A Type 2 stainless steel coupling Figure 3

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STEEL REINFORCED CONCRETE JACKING PIPE SYSTEMS

International Specification	
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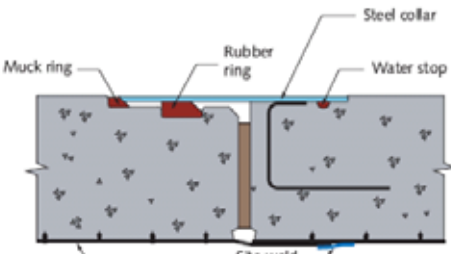
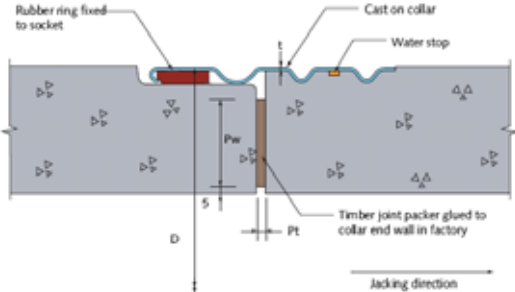
Steel Reinforced Concrete Jacking Pipe

Material	Steel reinforced concrete	
Brand(s)	Humes S & J-Series Jacking Pipe	
Special Conditions	Effective lengths: <ul style="list-style-type: none"> ▪ S-Series is 2.4 m for DN300 to DN700 ▪ J-Series – 0.12m for DN800 to DN1200 and 0.16m for DN1350 to DN2000 	
		Standard Drawing

Nominal size (DN) mm	Humes Steel Reinforced Concrete Jacking Pipe	
	S-Series *	J-Series
DN 300 – DN 700	✓	
DN 800 – DN 2000		✓

* Approved for use as an jacked encasing pipe only

Steel Collar

Material	Usually Grade 316 stainless steel but can be supplied in 304 stainless steel if specified by the project designer	
	 <p style="text-align: center;">J-Series</p>	 <p style="text-align: center;">S-Series</p>

Nominal size (DN) mm	Grade 316 Stainless steel
DN 300 – DN 700	✓
DN 800 – DN 2000	✓

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CENTRIFUGALLY CAST CC - GLASS REINFORCED PLASTIC (GRP) JACKING PIPE SYSTEMS

International Specification	ISO 10467:2004 : Plastics piping systems for pressure and non-pressure drainage and sewerage - Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin
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Centrifugally Cast CC - GRP Jacking Pipe

Material	Unsaturated polyester (UP) resin, Chopped glass, filament reinforcement, sand.	
Brand(s)	Global Pipe - HOBAS CC-GRP Jacking Pipe	
Special Conditions	Effective lengths 1, 2, 3 or 6 m. Additional effective length on request.	
		Standard Drawing

Nominal size (DN) mm	Global Pipe (HOBAS CC-GRP Jacking Pipe)
220 - 2100	✓

Pipe Coupling

Material	Glass Reinforced Plastic (GRP) and Stainless Steel	
Sealtight Flush Coupling (Gasket Size S)	Sealtight Flush Bell-Spigot (Gasket Sizes M, L, XL)	Stainless Steel Coupling (Gasket Sizes FS3-FS5)

Nominal size (DN) mm	Stainless steel	GRP sleeves
220 - 2100	✓	✓
1600 - 2100		✓

Note

Joint type depends on Maximum allowable jacking (compression) load and diameter of jacking pipe


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MAINTENANCE STRUCTURES

MAINTENANCE SHAFTS


SPECIFICATION	WSA PS-321 Maintenance Shafts – PVC-U
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PVC-U Maintenance shaft – MS Inline (180°)

Material	PVC-U (Moulded)			
Brand(s)	Aymroo			
Product	300 moulded Tee with Level Invert Taper solvent welded into sockets to DN225 or DN150 as required.			
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002 Do not use MS where depth to invert exceeds 4 m.			
		Standard Drawings	SEW-1314-V	SEW-1315-V
			SEW-1316	SEW-1317

MS Inline (180°)	
Nominal Size DN x Bend Angle	Aymroo
150 x 150	✓
225 x 225	✓

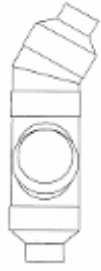
PVC-U Maintenance shaft – Elbow MS (1° to 30°) DN 150 Only

Material	PVC-U (Moulded)			
Brand(s)	Aymroo			
Product	300 moulded Tee, Level Invert Taper, curved adapter with (1° to 30°) vario bend upstream of the MS.			
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m. For the moulded variety DN 150 PVC-U MS the maximum deflection achieved using authorised propriety long radius bends is 30°.			
		Standard Drawings		
			SEW-1314-V	SEW-1315-V
			SEW-1316	SEW-1317

Elbow MS (1° to 30°)	
Nominal Size DN x Bend Angle	Aymroo
150 x (1° to 30°) Left	✓
150 x (1° to 30°) Right	✓


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PVC-U Maintenance shaft – Elbow MS (1° to 30°) DN 225 Only

Material	PVC-U (Moulded)		
Brand(s)	Aymroo		
Product	300 moulded Tee with 300 x (1 to 30°) M&F Elbows and 300 to 225 Level Invert Taper.		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawings	
		SEW-1317	SEW-1315-V
		SEW-1314-V	SEW-1316

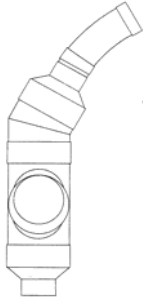
Elbow MS (1° to 30°)	
Nominal Size DN x Bend Angle	Aymroo
225 x (1° to 30°) Left	✓
225 x (1° to 30°) Right	✓

PVC-U Maintenance shaft – Elbow MS (30° to 60°) DN 225 Only

Material	PVC-U (Moulded)		
Brand(s)	Aymroo		
Product	300 moulded Tee with 2 * 300 x (1 to 30°) M&F Elbows and 300 to 225 Level Invert Tapers.		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawings	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

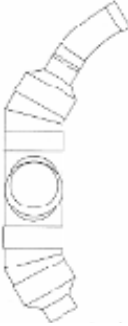
Elbow MS (30° to 60°)	
Nominal Size DN (mm) x Bend Angle	Aymroo
225 x 2 * (30° to 60°) Left	Subject to CWW Approval
225 x 2* (30° to 60°) Right	Subject to CWW Approval

PVC-U Maintenance shaft – Elbow MS (30° to 60°) – DN 150 only

Material	PVC-U (Moulded)		
Brand(s)	Aymroo		
Product	300 moulded Tee with 300 x (1° to 30°) M&F Elbows, 300 to 150 Level Invert Taper, curved adapter with optional 30° vario bend upstream of the MS to achieve 60° deflection.		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawings	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

Elbow MS (30° to 60°)	
Nominal Size DN x Bend Angle	Aymroo
150 x (30° to 60°) Left	✓
150 x (30° to 60°) Right	✓


PVC-U Maintenance shaft – Elbow MS (60° to 90°) – DN 150 Only

Material	PVC-U (Moulded)		
Brand(s)	Aymroo		
Product	300 moulded Tee with 300 x (30°) M&F Elbows, 300 to 150 Level Invert Taper, curved adapter with optional 30° vario bend upstream of the MS to achieve 90° deflection.		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawing	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

Elbow MS (60° to 90°)	
Nominal Size DN x Bend Angle	Aymroo
150 x (60° to 90°) Left	✓
150 x (60° to 90°) Right	✓

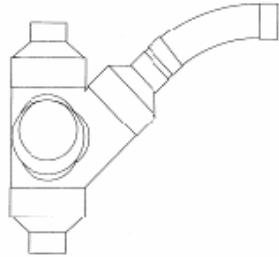
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**PVC-U Maintenance shaft – Elbow MS (45° Optional Vario Bend for combined deflection < 75°)
DN 150 Only**

Material	PVC-U (Moulded)	
Brand(s)	Aymroo	
Product	300 moulded Tee with 300 x (45°) M&F Elbows, 300 to 150 Level Invert Taper, curved adapter with optional 30° vario bend upstream of the MS to achieve 90° deflection.	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m.	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Elbow MS (45° to 90°) – Moulded	
Nominal Size DN x Bend Angle	Aymroo
150 x (45° or 90°) Left	Subject to CWW Approval
150 x (45° or 90°) Right	Subject to CWW Approval


PVC-U Maintenance shaft – Junction MS (45° Optional Vario Bend for combined deflection ≤ 75°)

Material	PVC-U (Fabricated)	
Brand(s)	Aymroo	
Product	300 moulded Tee and 45° fabricated branch all fitted with Level Invert Taper as required. A curved adapter and an optional 30° vario bend upstream of MS on the off-take to achieve a maximum 75° deflection.	
Use Limits	Subject to CWW Job Specific Approval Do not use MS where depth to invert exceeds 4 m. MS's shall not be used in lieu of MH's at complex sewer junction configurations (i.e. confluence of opposing reticulation sewers - where sewer flows meet from opposing direction.)	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Junction MS – Fabricated	
Nominal Size DN x Bend Angle	Aymroo
150 x 150 x 150 x 45° Left	Subject to CWW Job Specific Approval
150 x 150 x 150 x 45° Right	Subject to CWW Job Specific Approval
225 x 225 x 150 x 45° Left	Subject to CWW Job Specific Approval
225 x 225 x 150 x 45° Right	Subject to CWW Job Specific Approval
225 x 225 x 225 x 45° Left	Subject to CWW Job Specific Approval
225 x 225 x 225 x 45° Right	Subject to CWW Job Specific Approval

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PVC-U Maintenance shaft – Terminal MS

Material	PVC-U (Moulded)		
Brand(s)	Aymroo		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m.		
		Standard Drawing	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

Nominal Size DN (mm)	Aymroo
150 x 150	✓
225 x 225	✓

SPECIFICATION	WSA PS-322 Maintenance Shafts – PE
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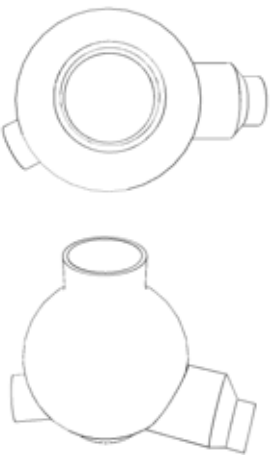
LMDPE Maintenance shaft – Inline MS (180°) DN 600

Material	Linear Medium Density Polyethylene		
Brand(s)	Wormall International Proprietary Ltd (Poo Pit)		
Product – 2 way (Downstream Spigot only plus one upstream spigot).	Linear medium density polyethylene (LMDPE) sphere of DN 600 with either a DN150 or DN225 outlet and a DN225 riser, with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter. The upstream PE spigot DN100 – DN225 fitted with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.		
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 6 m. Sewers using Poo Pits should be vacuum tested. Where air or hydrostatic testing is employed attention is drawn to the need to establish safe work practices to prevent the riser pipe being dislodged from the base unit.		
		Standard Drawing	
		SEW-1315-V	SEW-1316
		SEW-1317	SEW-1314-V

Nominal Size DN	Wormall International Proprietary Ltd	
	Hepworth RRJ Coupler	PE Welded Joint
100	✓	✓
150	✓	✓
225	✓	✓

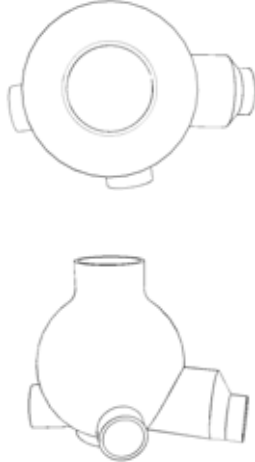
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LMDPE Maintenance shaft – Elbow MS (90° or 270°)

Material	Linear Medium Density Polyethylene	
Brand(s)	Wormall International Proprietary Ltd (Poo Pit)	
Product – 2 way (Downstream Spigot only plus one upstream spigot).	<p>Linear medium density polyethylene (LMDPE) sphere of DN 600 with either a DN150 or DN225 outlet and a DN225 riser, with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.</p> <p>The upstream PE spigot DN100 – DN225 fitted with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.</p>	
Use Limits	<p>Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002</p> <p>Do not use MS where depth to invert exceeds 6 m.</p> <p>Sewers using Poo Pits should be vacuum tested. Where air or hydrostatic testing is employed attention is drawn to the need to establish safe work practices to prevent the riser pipe being dislodged from the base unit.</p>	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

* Note: For DN 100 sewers 150 x (90° or 270°) MS fitted with DN150 - 100 Reducer.

LMDPE Maintenance shaft – Elbow MS (90° and 270°)

Material	Linear Medium Density Polyethylene	
Brand(s)	Wormall International Proprietary Ltd (Poo Pit)	
Product – 3 way (Downstream Spigot only plus two upstream spigots)	<p>Linear medium density polyethylene (LMDPE) sphere of DN 600 with either a DN150 or DN225 outlet and a DN225 riser, with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.</p> <p>The upstream PE spigot DN100 – DN225 fitted with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.</p>	
Use Limits	<p>Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002</p> <p>Do not use MS where depth to invert exceeds 6 m.</p> <p>MS's shall not be used in lieu of MH's at complex sewer junction configurations (i.e. confluence of opposing reticulation sewers - where sewer flows meet from opposing direction.)</p> <p>Sewers using Poo Pits should be vacuum tested. Where air or hydrostatic testing is employed attention is drawn to the need to establish safe work practices to prevent the riser pipe being dislodged from the base unit.</p> <p>Opposing 90°/270° inlet configurations to be avoided by using a 60° inlet with a 30° external bend opposite the 270° inlet.</p>	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

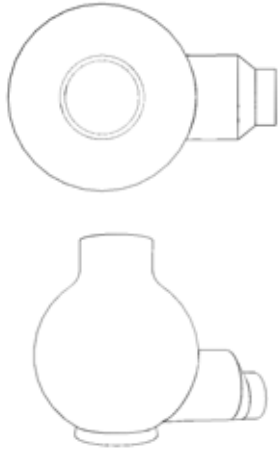
Elbow MS (90° and 270°)	
Nominal Size DN x Bend Angle	Wormall International Proprietary Ltd
150 x (270°) *	✓
150 x (60°) *#	✓
225 x (270°)	✓
225 x (60°)#	✓

Note: *150 x (90° & 270°) MS fitted with DN150 – 100 Reducer.

Opposing 90°/270° inlet configurations shall be avoided by using a 60° inlet with a 30° external bend opposite the 270° inlet.

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LMDPE Maintenance shaft – Terminal MS

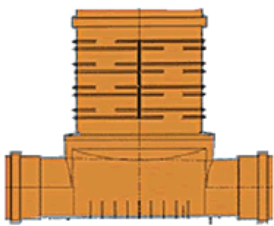
Material	Linear Medium Density Polyethylene	
Brand(s)	Wormall International Proprietary Ltd (Poo Pit)	
Product – (Downstream Spigot only).	Linear medium density polyethylene (LMDPE) sphere of DN 600 with either a DN150 or DN225 outlet and a DN225 riser, with optional Hepworth RRJ socketed coupler and moulded PVC-U adapter.	
Use Limits	<p>Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002</p> <p>Do not use MS where depth to obvert exceeds 6 m.</p> <p>Sewers using Poo Pits to be vacuum tested. Where air or hydrostatic testing is employed attention is drawn to the need to establish safe work practices to prevent the riser pipe being dislodged from the base unit.</p>	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Terminal MS	
Nominal Size DN x Bend Angle	Wormall International Proprietary Ltd
150 *	✓
225	✓

Note: For DN 100 sewers the 150 TMS is fitted with DN150 – 100 Reducer.

SPECIFICATION	WSA PS 322 Maintenance Shafts – Polypropylene (PP)
	WSA 100 & AS/NSZ 4999 (Int)


PP Maintenance shaft - MS Inline (180°)

Material	Polypropylene (PP)	
Brand(s)	Sewer Maintenance Shaft P/L	
Product	DN 300 x 150 PP base unit, DN300 X225 PVC-U Reducer (for riser shaft), DN225 PVC-U Riser Shaft pipe, DN225 push on riser cap, DN 150 stopper plugs.	
Use Limits	<p>Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002</p> <p>Do not use MS where depth to invert exceeds 6 m.</p>	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Sewer Maintenance Shaft P/L
✓

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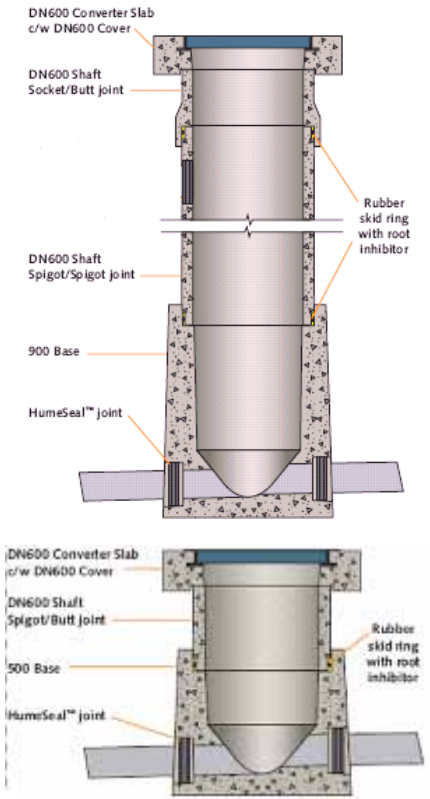
PP Maintenance shaft – Multiple Entry (1 x 45°, 1 x 180° and 1 x 270°)

Material	Polypropylene (PP)	
Brand(s)	Sewer Maintenance Shaft P/L	
Project:	DN 300 x 150 PP base unit, DN300 X225 PVC-U Reducer (for riser shaft), DN225 PVC-U Riser Shaft pipe, DN225 push on riser cap, DN 150 stopper plugs.	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 6 m.	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Sewer Maintenance Shaft P/L
✓

SPECIFICATION	WSA PS-323 Maintenance Holes – Precast Concrete
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Precast Concrete DN 600 Maintenance Shaft with DN 600 access cover and frame

Material	Precast Concrete	
Brand(s)	* Humes™ Quicktee™	
Product	<p>900mm base MS Shaft</p> <ul style="list-style-type: none"> A precast concrete 900mm conical benched base; DN600 shaft sections (Spigot / Spigot joint and Socket / Butt joint); and DN600 Converter Slab (with DN600 cover supplied by others) <p>500mm base MS Shaft</p> <ul style="list-style-type: none"> A precast concrete 500mm conical benched base; DN600 shaft Spigot / Butt joint; and DN600 Converter Slab (with DN600 cover supplied by others) 	
Use Limits	<ul style="list-style-type: none"> In-line and Terminal Maintenance Shafts (TMS) only; To be used on reticulation sewer size \leq DN225; All connections to be RRJ (Rubber Ring Joints); Maximum depth 6 metres to Obvert of the Tee; Suitable for trafficable areas; Lateral connections are not permitted; and Other constraints as referred in Part 1 (Planning & Design) Clause 6.2 & 6.3 of the MRWA Ver 1.0 of Sewerage Code of Australia WSA 02-2002. 	
		Standard Drawing
		SEW-1316, SEW-1317, SEW-1314-V, SEW-1315-V

* Not presently available

Nominal Size	Humes™ Quicktee™
DN 600 MS with DN 600 access cover	✓

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Precast Concrete DN 600 Maintenance Shaft with DN 300 access cover and frame

Material	Precast Concrete	
Brand(s)	* Humes™ Quicktee™	
Product	<p>900mm base MS Shaft</p> <ul style="list-style-type: none"> • A precast concrete 900mm conical benched base; • DN600 shaft sections (Spigot / Spigot joint and Socket / Butt joint); and • DN600 Converter Slab (with DN 300 cover supplied by others) <p>500mm base MS Shaft</p> <ul style="list-style-type: none"> • A precast concrete 500mm conical benched base; • DN600 shaft Spigot / Butt joint; and • DN600 Converter Slab (with DN 300 cover supplied by others) 	
Use Limits	<ul style="list-style-type: none"> • In-line and Terminal Maintenance Shafts (TMS) only; • To be used on reticulation sewer size \leq DN225; • All connections to be RRJ (Rubber Ring Joints); • Maximum depth 6 metres to Obvert of the Tee; • Suitable for trafficable areas; • Lateral connections are not permitted; and • Other constraints as referred in Part 1 (Planning & Design) Clause 6.2 & 6.3 of the MRWA Ver 1.0 of Sewerage Code of Australia WSA 02-2002. 	<p>Standard Drawing</p> <p>SEW-1316, SEW-1317, SEW-1314-V, SEW-1315-V</p>

* Not presently available

Nominal Size	Humes™ QuickTee™
DN 600 MS with DN 300 access cover	✓

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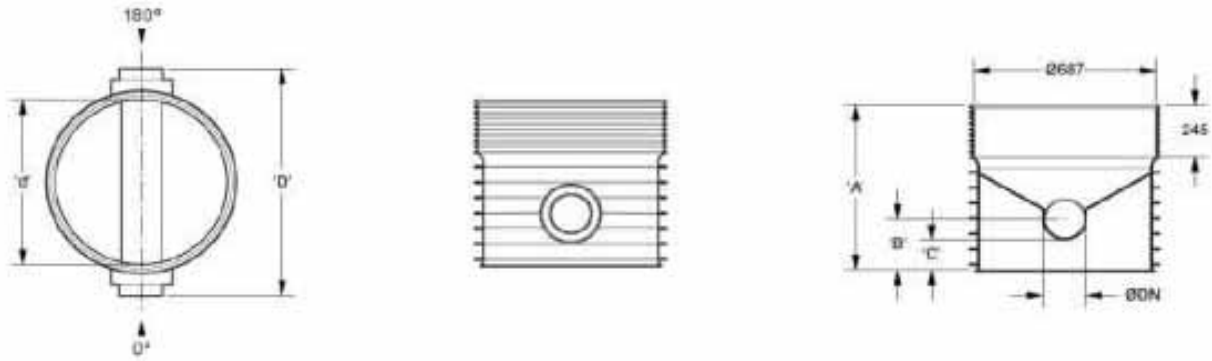
Polypropylene Maintenance Shaft

SPECIFICATION	WSA PS-322 Maintenance Shafts – PE AS/NZS 4798(Int):2005 Polyethylene maintenance shafts
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Material	Co-polymer Polypropylene (PP-R).			
Brand(s)	Iplex EZIpit™			
Product	<ul style="list-style-type: none"> ▪ DN 600 Base & Shaft - Polypropylene ▪ Cover arrangement - Ductile Iron ▪ Cap and lid DN300 shroud ▪ Rubber ring - SBR (Styrene butadiene rubber) <p>The cover arrangement is suitable for no-trafficable (class B) loading in depths ranging from 1.2m to 5m.</p> <p>Colour: base (black), shaft (light grey)</p>			
Use Limits	<ul style="list-style-type: none"> ▪ Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 – 2002. ▪ Do not use MS where depth to invert exceeds 5 m. ▪ MS's shall not be used in lieu of MH's at complex sewer junction configurations (i.e. confluence of opposing reticulation sewers - where sewer flows meet from opposing direction.) ▪ Opposing 90°/270° inlet configurations to be avoided by using a 60° inlet with a 30° external bend opposite the 270° inlet. ▪ No 'High-level connections and drop structures' are permitted into the MS. ▪ Not to use in trafficable area 	Standard Drawings	SEW-1314-V	SEW-1315-V
			SEW-1316	SEW-1317

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Tegra™ Base: Straight through (180°) channel with RRJ adjustable connections suitable for PVC DWV pipe

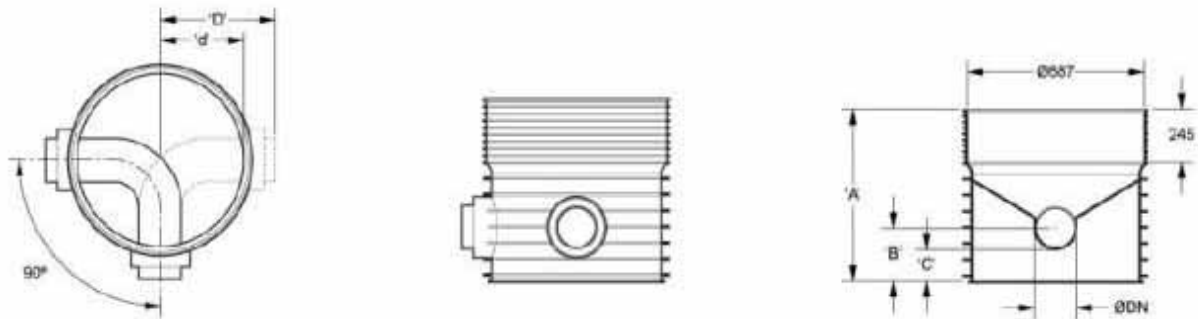


Product Code	Description	'A' (mm)	'B' (mm)	'C' (mm)	"D" (mm)	'd' (mm)	Kg (each)	m3 (each)
TGB600150	DN600 x 150 base x 180° Channel	679	163	88	756	566	23.3	0.53
TGB600225	DN600 x 225 base x 180° Channel	738	222	103	775	507	27.0	0.56
TGB600300	DN600 x 300 base x 180° Channel	738	222	74	762	452	29.2	0.56 *

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

* Subject to CWW approval.

Tegra™ Base: Bend (90°) channel with RRJ adjustable connections suitable for PVC DWV pipes

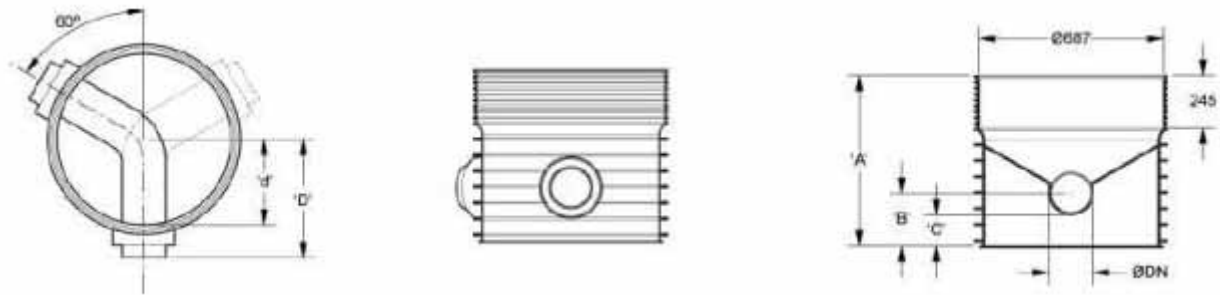


Product Code	Description	'A'(mm)	'B'(mm)	'C'(mm)	'D'(mm)	'd'(mm)	Kg(each)	m3(each)
TGB60015090	DN600 x 150 base x 90° Channel	679	163	88	376	283	23.3	0.53
TGB60022590	DN600 x 225 base x 90° Channel	738	222	103	388	254	27.0	0.56
TGB60030090	DN600 x 300 base x 90° Channel	738	222	74	381	226	29.2	0.56

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

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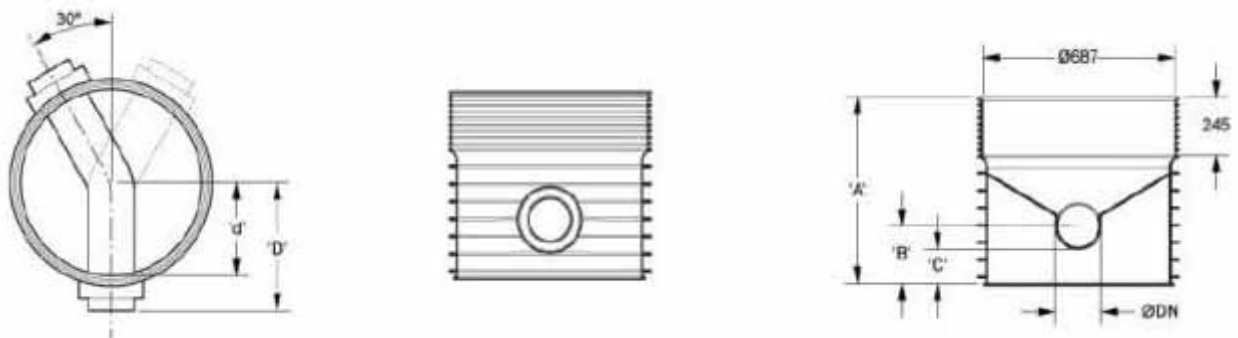
Tegra™ Base: Bend (60°) channel with RRJ adjustable connections suitable for PVC DWV pipes



Product Code	Description	'A'(mm)	'B'(mm)	'C'(mm)	'D'(mm)	'd'(mm)	Kg(each)	m3(each)
TGB600150120	DN600 x 150 base x 60° channel	679	163	88	378	283	23.3	0.53
TGB600225120	DN600 x 225 base x 60° channel	738	222	103	388	254	27.0	0.56

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

Tegra™ Base: Bend (30°) channel with RRJ adjustable connections suitable for PVC DWV pipes



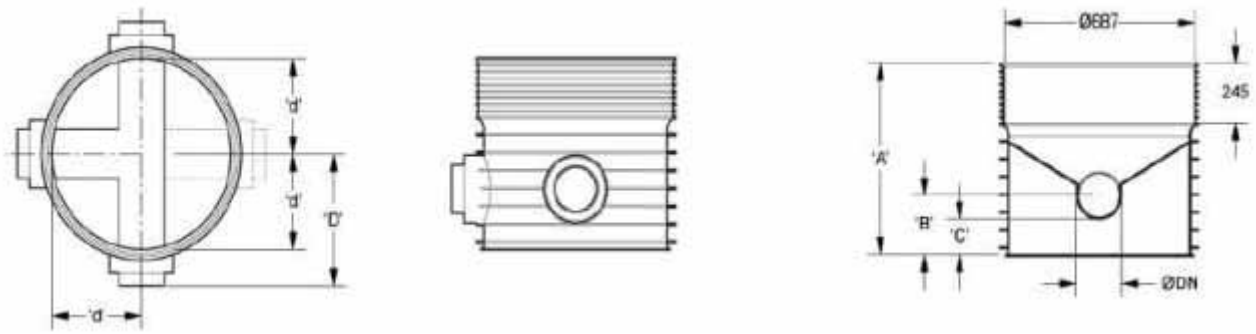
Product Code	Description	'A'(mm)	'B'(mm)	'C'(mm)	'D'(mm)	'd'(mm)	Kg(each)	m3(each)
TGB600150150	DN600 x 150 base x 30o channel	679	163	88	378	283	23.3	0.53
TGB600225150	DN600 x 225 base x 30o channel	738	222	103	388	254	27.0	0.56
TGB600300150	DN600 x 300 base x 30o channel	738	222	74	381	226	29.2	0.56 *

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

* Subject to CWW approval.

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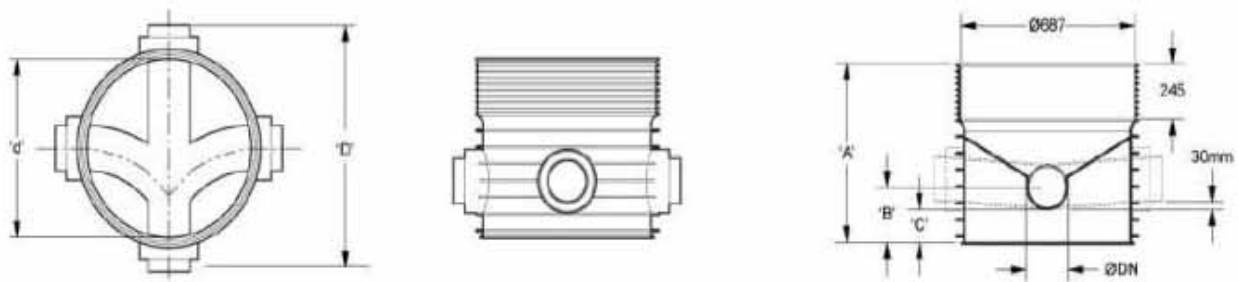
Tegra™ Base: Tee channel with RRJ adjustable connections suitable for PVC DWV pipes



Product Code	Description	'A'(mm)	'B'(mm)	'C'(mm)	'D'(mm)	'd'(mm)	Kg (each)	m3(each)
TGB600T150	DN600 x 150 base Tee channel	679	163	88	378	283	23.9	0.53
TGB600T225	DN600 x 225 base Tee channel	738	222	103	388	254	29.1	0.56
TGB600T300	DN600 x 300 base Tee channel	738	222	74	381	226	32.6	0.56

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

Tegra™ Base: Double tee channel with RRJ adjustable connections suitable for PVC DWV pipes

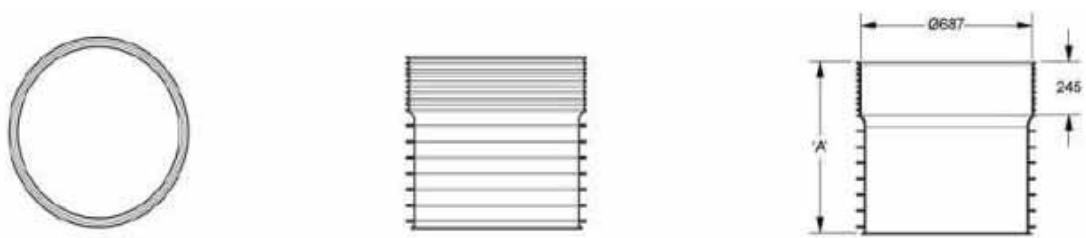


Product Code	Description	'A'(mm)	'B'(mm)	'C'(mm)	'D'(mm)	'd'(mm)	Kg(each)	m3(each)
TGB600X150	DN600 x 150 base Double Tee	679	163	88	756	566	24.9	0.53
TGB600X225	DN600 x 225 base Double Tee	738	222	103	775	507	30.9	0.56

Note: All dimensions, masses & volumes are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

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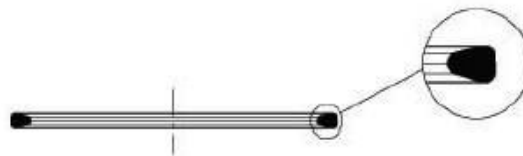
Tegra™ Base: Empty Base



Product Code	Description	'A'(mm)	Kg (each)	m3(each)
TGB600	Empty Base	753	20.3	0.41

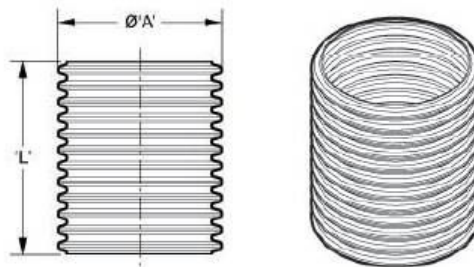
Note: Mass & volume are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

EZIpit™ Rubber Ring



Product Code	Description	Kg(each)
GERSEW600	DN600 EZIpit Rubber Ring	2.2

EZIpit™ Shaft

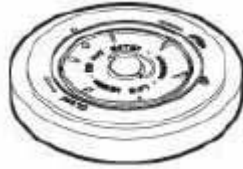


Product Code	Description	' A' (mm)	Kg>(each)
TGPP600A	DN600 x 1000mm EZIpit™ Shaft	682.8	22.5
TGPP600AV	DN600 x 1500mm EZIpit™ Shaft		45.1
TGPP600B	DN600 x 2000mm EZIpit™ Shaft		33.8
TGPP600C	DN600 x 3000mm EZIpit™ Shaft		67.6
TGPP600DV	DN600 x 4500mm EZIpit™ Shaft		101.4
TGPP600F	DN600 x 6000mm EZIpit™ Shaft		135.2

Note: All dimensions and masses & are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

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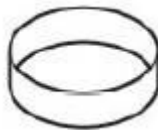
EZIpit™ Cap and Lid Arrangement



Product Code	Description	Kg(each)	M3 (each)
GME300S6C	DN600 EZIpit™ Cap and Lid	33	0.07

Note: Mass & volume are approximate only. If critical contact Iplex Pipelines. (Unless otherwise stated all dimensions are in mm).

EZIpit™ Shroud (For non trafficable conditions only)



Product Code	Description	Kg(each)	M3 (each)
POH04800T	DN800 X 300mm EZIpit™ Shroud (non trafficable conditions)	14.4	0.15

Note: Mass & volume are approximate only. If critical contact Iplex Pipelines.

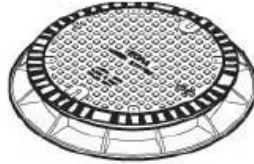
EZIpit™ Concrete Support Ring (for trafficable conditions only)



Product Code	Description	Kg(each)	M3 (each)
GMTG300CR	EZI pit Concrete Support Ring	140.0	0.120

Note: Mass & volume are approximate only. If critical contact Iplex Pipelines.

EZIpit™ Frame and Access Cover Arrangement (Class B)



Product Code	Description	Kg(each)	M3 (each)
GME300S6B2	DN600 EZIpit™ Frame and Cover – Class B	92	0.14

Note:

1. Mass & volume are approximate only. If critical contact Iplex Pipelines
2. Refer to Access Covers and Frames in the Non Pressure Pipeline Systems Products Catalogue

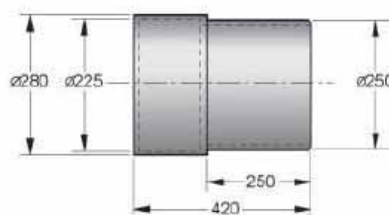
EZIpit™ Frame and Access Cover Arrangement (Class D)



Product Code	Description	Kg(each)	M3 (each)
GME300S6D2	DN600 EZIpit™ Frame and Cover – Class D	113	0.14

Note: Mass & volume are approximate only, If critical contact Iplex Pipelines

SewerMAX™ Pipe Adapter, Spigot x Socket



Product Code	Description	Kg(each)	M3 (each)
GPR60225	DN225 SewerMAX™ Pipe Adapter, Spigot x Socket	4.15	0.023

Note: Mass & volume are approximate only. If critical contact Iplex Pipelines

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Rubber Ring Seal for Adjustable Socket (Spare parts only)



Product Code	Description	Kg (each)
TGRS150	DN150 Adjustable pipe connector rubber ring seal	0.0036
TGRS225	DN225 Adjustable pipe connector rubber ring seal	0.0560
TGRS300	DN300 Adjustable pipe connector rubber ring seal	0.2040
TGRS375	DN375 Adjustable pipe connector rubber ring seal	0.60

Gatic Sealing Compound

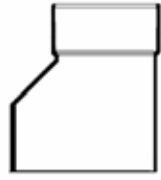
Product Code	Description	Kg (each)
GM37504	Gatic Sealing compound x 4 Kg	4
GME37520	Gatic Sealing Compound x 20 Kg	20

Iplex PVC Pipe Lubricant

Product Code	Description	Kg (each)
JL010500	Iplex PVC Pipe Lubricant 0.5 Kg	0.5
JL011000	Iplex PVC Pipe Lubricant 1 Kg	1
JL014000	Iplex PVC Pipe Lubricant 4 Kg	4

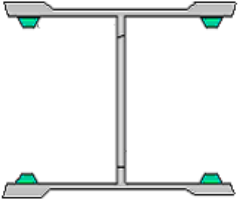
MAINTENANCE SHAFTS – MISCELLANEOUS FITTINGS

Reducer (SOC- SPIG)

Material	PVC-U	
Brand(s)	Supplied by Installer from CWW list of approved Suppliers	
Product	DN300 x 225 PVC-U Reducer (for riser shaft)	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002	
		Standard Drawing

Nominal Size DN x dn	Sewer Maintenance Shaft (SMS) Pty Ltd
300 x 225	✓

Hepworth SuperSleeve Couplings

Material	Polypropylene	
Brand(s)	Leap Australasia Pty Ltd	
Use Limits	The Hepworth SuperSleeve couplings are fitted to the Poo Pit spigots to enable a PVC DWV pipe connection.	
		Standard Drawing

Nominal Size DN	Wormall International Proprietary Ltd	Leap Australasia Pty Ltd
150	✓	✓

Hepworth SuperSleeve VC to PVC Adapter

Material	Polypropylene	
Brand(s)	Leap Australasia Pty Ltd	
		Standard Drawing

Nominal Size DN	Wormall International Proprietary Ltd	Leap Australasia Pty Ltd
150	✓	✓

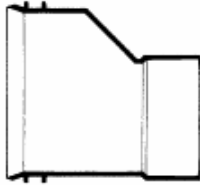
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Hepworth SuperSleeve Stoppers (Plugs)

Material	Polypropylene	
Brand(s)	Leap Australasia Pty Ltd	
		Standard Drawing

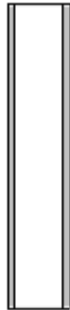
Nominal Size DN	Wormall International Proprietary Ltd	Leap Australasia Pty Ltd
150	✓	✓

PVC-U Reducer

Material	PVC-U	
Brand(s)	Leap Australasia Pty Ltd Aymroo	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002	
		Standard Drawing

Nominal Size DN (mm x mm)	Aymroo	Wormall International Proprietary Ltd	Leap Australasia Pty Ltd
150 x 100	✓	✓	✓
225 x 150		✓	✓

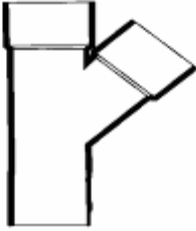
PE Vertical Riser

Material	Polyethylene	
Brand(s)	Supplied by Installer from CWW list of approved Suppliers	
Product	AS/NZS 5065 250 mm PE80 SDR 21 (Class SN8)	
		Standard Drawing

Nominal Size DN	Wormall International Proprietary Ltd	The Excel Group Pty Ltd
250	✓	✓

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PVC-U Drop Junctions (Oblique Junction – SP – SOC – SOC)

Material	PVC-U (Fabricated)	
Brand(s)	Fabit	
Product	AS/NZS 1260 DN225 CWV SN8 PVC-U	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002	
		Standard Drawing SEW-1316

Nominal Size (DN x dn) x Angle			Joining Method
225 x 100 x 45°	Female / Female	Male / Female	SCJ / RRJ
225 x 150 x 45°	Female / Female	Male / Female	SCJ / RRJ

PE Drop Junctions

Material	PE	
Brand(s)	Wormall International Proprietary Ltd	
Product	AS/NZS 5065 250 mm PE80 SDR 21 (Class SN8)	
Use Limits		
		Standard Drawing

Nominal Size (DN x dn)	Joining Method
250 x 160	Welded


PE Vertical Riser Cap

Material	PE (Refer Product Specifications below)	
Brand(s)	Beaufox Industries	
Product	A DN 225 PVC-U, SCJ cap SCJ to a soc-spig adapter is then RRJ to the PE Riser.	
Use Limits		
		Standard Drawing

Nominal Size (DN)
225

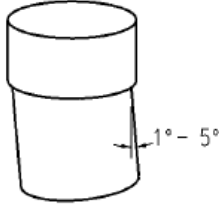
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Long Radius Bend

Material	PVC-U	
Brand(s)	Aymroo	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V


Nominal size (DN) (mm)	Radius		Moulded / Fabricated
	635 mm centre line radius	3000 mm centre line radius	
150	✓	✓	M

Short radius riser bends (Kicker Bend) SOC-SPI

Material	PVC-U	
Brand(s)	Aymroo	
Product	The Kicker bend is used to adjust the riser to vertical	
Use Limits	Refer to Clause 6 and Table 6.1 MRWA Edition of WSA 02 - 2002 Do not use MS where depth to invert exceeds 4 m.	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

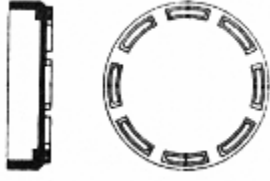
Nominal Size DN (mm) x Bend Angle	Aymroo
225 x 1°	✓
225 x 2°	✓
225 x 3°	✓
225 x 4°	✓
225 x 5°	✓

PVC-U Vertical Riser (Shaft)

Material	PVC-U	
Brand(s)	Supplied by Installer from CWW list of approved Suppliers	
Use Limits	Minimum Stiffness Class SN 8. Solvent cement pipes are used for DN225.	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V



Nominal Size (DN) mm
225

PVC-U Vertical Riser Cap

Material	PVC-U (Moulded)	
Brand(s)	Beaufox Industries	
Product	AS/NZS 1260 DN225 CWV SN8 PVC-U – SCJ WITH SCREW LID AND RR SEAL	
Use Limits		
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Nominal Size (DN)
225

Riser Bayonet Cap

Material	PVC-U	
Brand(s)	Aymroo Wormall International Proprietary Ltd	
		Standard Drawing
		SEW-1315-V SEW-1316
		SEW-1317 SEW-1314-V

Nominal Size (DN) mm	Wormall International Proprietary Ltd	Aymroo
225	✓	✓

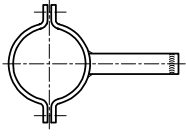
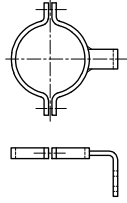
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MAINTENANCE HOLE – ACCESSORIES

SPECIFICATION	WSA PS-315 Fixed Ladders
	WSA PS-317 Ladders, Hot Dipped Galvanised
	WSA PS-328 Step Irons, Galvanised Ferrous or Stainless Steel

ACCESS CHAMBER FITTINGS

Clamps – for access chamber drop

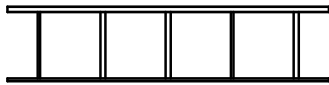
Material	Galvanised steel		
Brand(s)	A & P Steel Fabrications		
	Central Springsworks		
	Four B. Engineering		
	J.T.Chapman Engineering		
			
		Standard Drawing	SEW-1306-V

Nominal size (DN) mm
(A) For cast in situ access chambers
100
150

Nominal size (DN) mm
(B) For precast access chambers
100
150


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Ladder

Material	Galvanised steel		Standard Drawing	SEW-1307-V
	Glass-Fibre Reinforced Plastic ladder			
Brand(s)	Central Springsworks			
	Nextep Miyama			
	Add-A-Step (Industrial Steps and Ladders)			

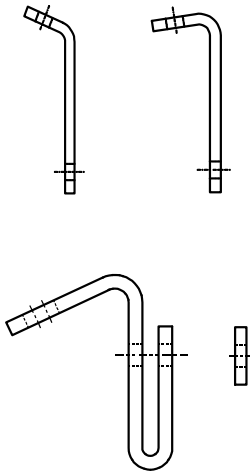
Length (mm)
See manufacturer for details

Ladder fixing component – floor fixing attachment

Material	Galvanised steel		Standard Drawing	SEW-1307-V
Brand(s)	A & P Steel Fabrications			
	Central Springsworks			
	Four B Engineering			
	J.T.Chapman Engineering			
Special Conditions	For compatible Galvanised steel ladders.			


Component
Floor fixing attachment

Ladder fixing component – holdfast

Material	Galvanised steel		Standard Drawing	SEW-1307-V
Brand(s)	Central Springsworks			
	Four B Engineering			
	J. T. Chapman Engineering			
Special Conditions	For compatible Galvanised steel ladders.			

Type
Circular access chamber opening
Circular access chamber walls
Precast concrete access chamber

Ladder fixing component – splice plate

Material	Galvanised steel	
Brand(s)	Central Springsworks	
	Four B Engineering	
	J.T.Chapman Engineering	
Special Conditions	For compatible Galvanised steel ladders.	
		Standard Drawing SEW-1307-V

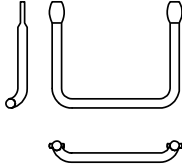
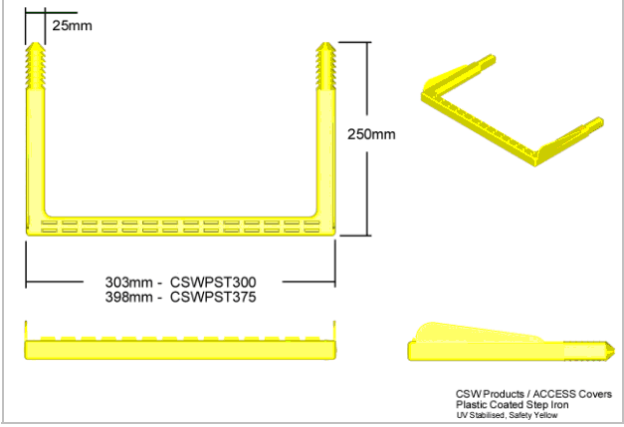

Masonry fasteners

Material	Stainless Steel	
Brand(s)	Powers Fasteners Australasia	
	Ramset	
	Hilti	
		Standard Drawing SEW-1307-V

Type	Size	Supplier
(A) For drop pipe clamps		
Throughbolt	M10 x 80	Powers Fasteners Australasia
Trubolt	M10 x 60	Ramset
HSC - AR	M10 x 40	Hilti
(B) For ladders in precast access chambers		
Throughbolt	M12 x 80	Powers Fasteners Australasia
Trubolt	M12 x 67	Ramset
HSC - AR	M12 x 60	Hilti
(C) For ladders in cast in situ access chambers		
Socket Anchor	M16	Powers Fasteners
Throughbolt	M16 x 105	Powers Fasteners Australasia
Trubolt	M16 x 125	Ramset
HST - R	M16 x 140	Hilti

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Step Iron

Material	Galvanised steel, Stainless steel – Grade 316, Plastic encapsulated steel				
Brand(s)	Aymroo (Plastic encapsulated steel only)			 <p style="text-align: right; font-size: small;">CSW Products / ACCESS Covers Plastic Coated Step Iron UV Stabilised, Safety Yellow</p>	
	A & P Fabrications				
	Central Spring Works / Access Covers Australia (plastic encapsulated Grade 300 mild steel only)				
	CSWPST300 – 303 mm width CSWPST375 – 398mm width				
Special Conditions	Industrial Steps & Ladders (12 month Interim approval from 21.06.2011) Product Code <ul style="list-style-type: none"> ▪ M051 (400 mm wide) ▪ M052 (286 mm wide) 	<p style="text-align: center;">CSW/ACA step iron</p> 			
	Minimum width 283mm centres				
	Steps must be cast insitu				


Notes: All step irons must have a foot stop each side.

Some plastic encapsulated step irons may not be compatible with some access chamber formwork.

SURFACE FITTINGS

SPECIFICATION	WSA PS-290 Access Covers for Water Supply and Sewerage to AS 3996
	WSA PS-291 Access Covers for Water Supply and Sewerage to EN 124
Australian Standards	AS 3996 -2006 Access Covers and Grates

Circular Access Cover and Frame

Material	Cast Iron / Ductile Iron		Standard Drawing SEW-1308-V
Brand(s)	Access Covers Australia		
	ACO PolyCrete Pty Ltd		
	Beverley Concrete Products Pty Ltd (BCP Pty Ltd)		
	Durham & Son Pty Ltd		
	Godfrey & Synon		
	Havestock		
	Icon Industries Pty Ltd (Ci&D Pty Ltd)		
	Webforge		
	Milnes-Gatic		
	Rolca		
	SVC Products		
Upwey Group			
Special Conditions	<p>Covers shall not dislodge when subject to vehicle traffic. For Class D covers used in carriageways of roads or reserves in remote or isolated areas:</p> <p>(a) The cover insert depth shall not be less than 57mm.</p> <p>(b) Solid top metal access covers shall not be used in carriageway of roads without CWW prior approval.</p> <p>Note: Bolt-down covers may only be specified in certain situations as nominated by CWW. Where bolt down covers are approved they shall be secured by 10mm socket head stainless steel bolt which could be removed by an 8mm alley key.</p> <p>Concrete infill covers to be filled in accordance with AS3996 A minimum concrete strength of 32MPa at 28 days and cement content of 400 kg/m³ is recommended. Concrete should be vibrated to eliminated air pockets</p> <p>Gas tightness is required for all covers.</p> <p>Metal to Metal seal shall be used with approved manhole sealing grease.</p> <p>Vegetation rings are required when not in a sealed or paved surface.</p>		

Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
600 dia	ACO Polycrete Pty Ltd	M60B	Class B, 604 or 615 mm dia Circular DI access cover and cast iron frames 'Rinocast', solid top	Optional plain frame or bolt down frame to concrete MH ACO Covers are manufactured bolt down as a standard ACO Polycrete certification
		600SD	Class D, 604 or 615 mm dia DI access cover and cast iron frames 'Rinocast', solid top	
		600RB	Class B, 615 mm dia clear opening recessed Circular DI access cover and cast iron frames 'Rinocast' Concrete Infill	
		600RD	Class D, 615 mm dia clear opening recessed Circular DI access cover and cast iron frames 'Rinocast' Concrete Infill	

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Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
600 dia	Access Covers Australia	61 B	Class B, 600 mm dia clear opening, Circular DI access cover & frame, solid top	
		61 D	Class D, 600 mm dia clear opening, Circular DI access cover & frame Concrete Infill	
		ST616BR	Class B, DI Access Cover and adaptor frame for replacement of existing concrete covers only. Not for use in roadways – Solid Top	
		CF616CR	Class C, DI Access Cover and adaptor frame for replacement of existing concrete covers only. Not for use in roadways Concrete Infilled	
	Beverley Concrete Products Pty Ltd	MHC-DUC-B600C	Class B, 600 mm dia clear opening, Circular DI access cover & frame, solid top	
		MHC-DUC-D600C	Class D, 600 mm dia clear opening, Circular DI access cover & frame, solid top	
	B.R Durham & Son Pty Ltd	WA60BS	Class B, 600 mm dia clear opening Circular DI access cover and frame, solid top	Optional bolt down cover to frame using stainless steel bolts
		WA 60DS	Class D, 600 mm dia clear opening Circular DI access cover and frame, solid top	
	Webforge ¹	DCC6B	Class B, 615 mm dia clear opening Circular DI access cover and frame, solid top	Optional bolt down cover to frame using stainless steel bolts Refer to Note 1 Snap-lock fastening device feature to prevent dislodgement by traffic, unrestricted access or backpressure resistance.
		DCC6BW	Class B, 615 mm dia clear opening Circular DI access cover and wide frame option, solid top	
		DCC6D	Class D, 615 mm dia clear opening Circular DI access cover and wide frame option, solid top	
		DCC6BPAC	Class B, 615 mm dia clear opening Circular DI access cover with deep flange frame, suitable for Precast Sewer Manholes	
		DCC6DPAC	Class D, 615 mm dia clear opening Circular DI access cover with deep flange frame suitable for use with Cast-In-Situ Sewer Manholes.	
	Havestock	LA60B Sew	Class B, 605 mm dia clear opening, Circular CI access cover and frame, solid top	
		LA60D Sew	Class D, 605 mm dia clear opening, Circular CI access cover and frame, solid top	
		A60B	Class B 614 mm dia clear opening, Circular DI access cover and frame, Concrete Infill	Optional bolt down cover to frame using M10 Socket Head stainless steel bolts
		A60D	Class D, 614 mm dia clear opening, Circular DI access cover and frame, Concrete Infill	
		UA60B Sew	Class B 600 mm dia clear opening, Circular DI access cover and frame, Concrete Infill	Riser Rings are only used with Class D cover and Frames
		UA60D Sew	Class D, 600 mm dia clear opening, Circular DI access cover and frame, Concrete Infill	
UA50RR		BCC 600 mm dia clear opening, Rising Rings		
UA75RR		BCC 600 mm dia clear opening, Rising Rings		
UA90RR		BCC 600 mm dia clear opening, Rising Rings		
UA105RR		BCC 600 mm dia clear opening, Rising Rings		

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Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
600 dia	Icon Industries Pty Ltd	CC600B	Class B 600 mm dia clear opening, Circular Cast Grey Iron access cover & frame (Concrete Infill)	Optional SS bolt down frame
		CC600D	Class D 600 mm dia clear opening, Circular Ductile Iron access cover & frame (Concrete Infill)	
		CS600B	Class B 600 mm dia clear opening, Circular Ductile Iron access cover & frame, Solid Top	
		CS600D	Class D, 600 mm dia clear opening, Circular Ductile Iron access cover & frame Solid Top	
	Milnes-Gatic	300S6B	Class B, 610 mm dia clear opening Circular DI access covers and frames, solid top	Optional M10 SS bolts bolt down cover to frame and frame to concrete manhole. Bolt removable using 8mm alley key
		300S6D	Class D, 610 mm dia clear opening Circular DI access covers and frames, solid top	
		300C6B	Class B, 610 mm dia clear opening Circular DI access covers and frames, concrete infill	
		300C6D	Class D, 610 mm dia clear opening Circular DI access covers and frames, concrete infill	
		310C6B	Class D 610 mm dia clear opening Circular DI access cover and frames, concrete encased	
		310C7B	Class D 610 mm dia clear opening Circular DI access cover, with frames encased in a concrete surround – Concrete Infilled	
		310C7D	Class D 610 mm dia clear opening Circular DI access cover, with frames encased in a concrete surround – Concrete Infilled	
		310C9B	Class B Circular DN610 clearing opening DI access cover, with frames encased in a concrete surround – Concrete Infilled	
		310C1D	Class D 610 mm dia clear opening Circular DI access cover, with frames encased in a concrete surround – Concrete Infilled	
	Upwey Group ²		Class B, D & E, DI & concrete infill	See Note 2 below for limitations of use.
			Class B & D, retrofit covers for the replacement of heavy "diamond" covers	
	SVC Products	AC60B	Class B, 610 mm dia clear opening, Circular Cast Iron access cover and frame, concrete infill	
		AC60D	Class D, 600mm dia clear opening, circular Cast Iron access cover and frame, concrete infill	
	Rocla	XG1015LW	Class B Circular DI access cover and frame with concrete surround Solid top	
		XG1015HW	Class D Circular DI access cover and frame with concrete surround Solid top	
		XG1015FL	Class B Circular DI access cover and frame with concrete surround Concrete infill	
XG1015FH		Class D Circular DI access cover and frame with concrete surround Concrete infill		
CSA60B2SW		Class B sealed Circular DI access cover and frame Solid top		
CSA60D1SW		Class D sealed Circular DI access cover and frame Solid top		

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Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
600 dia	Hygrade Water	CSA60B2SW	Class B sealed Circular DI access cover and frame Solid top	This is a bolt-down cover
		CSA60D1SW	Class D sealed Circular DI access cover and frame Solid top	

Note 1 The Snap-lock fastening device feature to prevent dislodgement by traffic, unrestricted access or backpressure resistance has not been approved for used within CWW licensed area.

Note 2 Upwey Group Retrofit MH covers shall be restricted to areas that are not subject to future surface alterations, i.e. they may be used in bluestone laneways, footpaths, nature strips, etc, but not within bitumen pavements; shall not be used where they might be subject to levels of traffic that might be in excess of what you might expect in a laneway; -securing pins and locking bolts shall not be used expect with the express permission of City West Water.

Pre Cast Access Chamber Covers

Material	Reinforced concrete cast around an access cover and frame		
Brand(s)	Access Covers Australia		
	CSR Humes		
	Milnes-Gatic		
	Rocla		
	SVC Products		
	Webforge		
	Durham & Son Pty Ltd		
		Standard Drawing	SEW-1308-V
Special Conditions	<p>Covers shall not dislodge when subject to vehicle traffic. For Class D covers used in carriageways of roads or reserves in remote or isolated areas:</p> <p>(c) the cover insert depth shall not be less than 57mm.</p> <p>(d) covers with an insertion depth less than 57mm shall be fitted with a fastening device feature to prevent dislodgement by traffic, unrestricted access or backpressure resistance .</p> <p>(e) Solid top metal access covers shall not be used in carriageway of roads without CWW prior approval.</p> <p>Note: Bolt-down covers may only be specified in certain situations as nominated by CWW.</p> <p>Concrete infill covers to be filled in accordance with As3996 A minimum concrete strength of 32MPa at 28 days and cement content of 400 kg/m³ is recommended. Concrete should be vibrated to eliminated air pockets</p> <p>Gas tightness is required for all covers.</p> <p>Metal to Metal seal shall be used with approved manhole sealing grease.</p>		

Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
Refer to Circular Access Cover and Frame Table above				

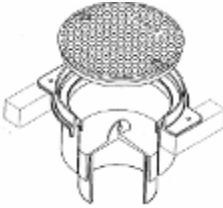
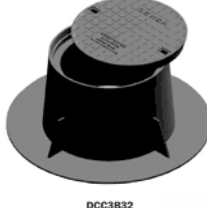

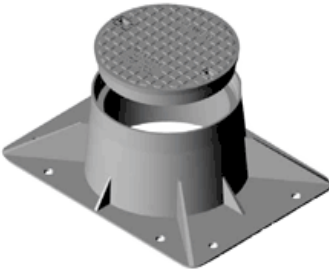
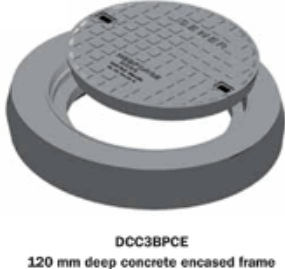
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Single Part Square Access Cover and Frame

Material	Cast Iron / Ductile Iron / Steel		
Brand(s)	Access Covers Australia Pty Ltd		
	ACO Polycrete Pty Ltd		
	Durham & Son Pty Ltd		
	Icon Industries Pty Ltd		
	Milnes-Gatic		
	SVC Products		
HaveStock			
Special Conditions	Single part square and rectangular solid top access covers come with an antislip solid surface	Standard Drawing	SEW-1308-V

Clear opening size (mm)	Supplier	Supplier's Product Code	Description	Options
750 x 750	Access Covers Australia Pty	C7575D	Class D, Cast Iron Access Cover and Frames Concrete Infill	Optional bolt down cover to frame and frame to concrete manhole using stainless steel bolts
750 x 750	ACO Polycrete	DIS77D	Class D, recessed DI Access Cover and Cast Iron Frames Concrete Infill	
750 x 750	SVC Products	AC77D	Class D, Access Cover & Frames Concrete Infill	
762 x 762	Milnes-Gatic	301C77D	Class D, Access Cover & Frames Concrete Infill	
750 x 750	Icon Industries Pty Ltd	CICIN77D	Class D, Ductile Iron Access Cover & Frames Concrete Infill	
750 x 750	Havestock	AC77D	Class D, Access Cover & Frames Concrete Infill	
762 x 762	Durham & Son Pty Ltd	AC77D	Class D, Access Cover & Frames Concrete Infill	

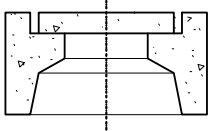
Maintenance Shaft Covers

Material	Cast Iron / Ductile Iron / Steel	 <p>DCC3BCE</p>	 <p>DCC3B32</p>	 <p>TC40 & TC40D</p>	
	Brand(s)				Milnes-Gatic
					Havestock
					Webforge
 <p>DCC4D32</p>		 <p>DCC3BPCE 120 mm deep concrete encased frame</p>			
Standard Drawing		SEW-1314-V, SEW-1315-V, SEW-1316, SEW-1317			

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Clear opening size (mm)	Supplier	Product Code	Description	Options
375 dia	Havestock	TC40B	Class B DI solid top for use with MS's - 'TRADCAST'	Clear Opening of 400 mm
		TC40D	Class D, DI solid top for use with MS's - 'TRADCAST'	
	Milnes-Gatic	300S37D8	Class B, C&F DN375 DI solid top for use with MS's Low Frame	Optional metal or rubber seal, bolt down or non-bolt down. Shroud pipe DN375 PVC pipe required. Concrete Surround required
		300S37D7	Class B, C&F DN375 DI solid top for use with MS's High Frame	Optional metal or rubber seal, bolt down or non-bolt down. No Shroud required.
		300S37D8	Class D, C&F DN375 DI solid top for use with MS's Low Frame	Optional metal or rubber seal, bolt down or non-bolt down. Shroud pipe DN375 PVC pipe required. Concrete Surround required
		300S37D7	Class D, C&F DN375 DI solid top for use with MS's High Frame	Optional metal or rubber seal, bolt down or non-bolt down. No Shroud required
	Webforge	DCC3BP	Class B - 370 mm dia clear opening solid top access cover and frame	without concrete surround , Support beans to span trench required, Plastic shroud required
		DCC3BPCE	Class B - 370 mm dia clear opening access cover and 120mm deep Concrete encased frame	Support beans to span trench required, Plastic shroud required
		DCC3BP32	Class B - 370 mm dia clear opening solid top access cover with truncated Circular Frame	Without concrete surround
		DCC4D32	Class D - 432 mm dia clear opening solid top access cover with truncated rectangular wide Frame	Without concrete surround. Optional metal or rubber seal, bolt down or non-bolt down. No Shroud required. Suitable for trafficable area with bolt down cover.

Inspection cover


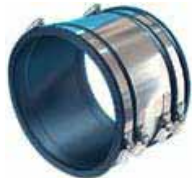
Material	Reinforced concrete, recycled plastic or cast iron		
Brand(s)	Access Covers Australia		
	Australian Recycling Technologies (recycled plastic)		
	Everlevel (cast iron)		
	Geelong Precast		
	SVC Products	Standard Drawing	SEW-1317
Special Conditions	Cover must display the word Sewer	SEW-1350-M	SEW-1351-M

Type	Material	Special Conditions
Frame	Reinforced concrete	
Frame	Recycled plastic	Non-trafficable. Private properties clear of driveways
Frame – extra light	Reinforced concrete	Non-trafficable, but approved for use in driveways and footpaths
Lid	Reinforced concrete	Non-trafficable, but approved for use in driveways and footpaths
Frame and Lid (Heavy Duty)	Cast iron	Acceptable in carriageway of roads, with bolt down cover.

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REPAIR FITTINGS

Flexible Connector / Jointing Coupling (Type B)

Material	Elastomeric PVC or Rubber (Type B)		
	Grade 316 Stainless Steel Clamping Ring		
Brand(s)	See Below	Standard Drawing	SEW-1500

Nominal size (DN) mm
100 – 600

Brand	Supplier / Manufacturer
Fernco Plumbqwik	Fernco Australia Pty Ltd
Band Seal	CSR Humes
Jenco™ PVC Joiner	Deks Industries Pty Ltd
Hepworth "Flex-Seal" Coupling	Hepworth / Leap Australasia Pty Ltd

Note:

- For repair purposes only and not to be used in new installations.
- Not to be used as expansion joints.
- For sizes and details of pipes which can be jointed, consult the suppliers.

PVC Repair Kit

Material	PVC	
Brand(s)	Iplex	
	Thor	
	Vinidex	Standard Drawing

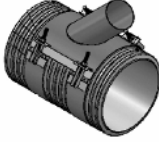

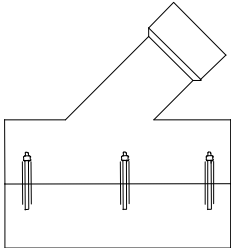
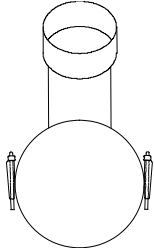
Nominal Size (DN) mm
100
150

Note:

1. For repair purposes only. Not to be used for new works.
2. Used for repair of PVC and VC pipelines.
3. Not to be used for repair of concrete pipelines as it may create difficulties if the pipeline is ever renewed, eg. By the "Grundomat" technique.

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Stainless Steel OB Clamp

SPECIFICATION		   
Australian Standard	AS 4181 : 1999 – Stainless Steel Clamps for Waterworks Purposes	
Material	Stainless Steel, integral elastomeric gasket	
Material	Stainless Steel 316	
Brand(s)	Wang Industries, Rapid Clamps, Crevet	
Special Conditions	<ul style="list-style-type: none"> ▪ The clamp shall consist of a Stainless Steel (SS) 316 clamp with a clamping system fully lined with an integral elastomeric gasket. (Nitrile Rubber or EPDM) ▪ Stainless Steel OB bands CAN be used on retrofits and renewals ▪ Stainless Steel OB bands must NOT be used on basic size new works. ▪ Where bands are used on concrete pipes the location must be recorded. ▪ Suitable to be used on most types of sewer pipe. ▪ 100mm to 600 mm size range available ▪ Available with a 100, 150 and 225mm off take (depending on host pipe size). 	
		Standard Drawing SEW-1501-V

Supplier	Nominal Size (DN)	Off take Size (dn)	No of Parts	No of Bolts (Min)	Clamp Length (mm)	Pipe OD Range (mm)
Cascade (Rapid Clamps)	100 - 450	100	2	6	300	Refer to AS 4181: 1999 and Manufacturer's specification
	150 - 450	150	2	6	400	

Supplier	Nominal Size (DN)	Off take Size (dn)	No of Parts	No of Bolts	Clamp Length	Pipe OD Range (mm)
Tyco (Wang Industries)	100 - 450	100	2	6	300	Refer to AS 4181: 1999 and Manufacturer's specification
	150 - 450	150	2	10	400	
	300 - 450	225	2	14	600	

Supplier	Nominal Size DN (DN)	Off take Size (dn)	No of Parts	No of Bolts	Clamp Length	Pipe OD Range (mm)
Iplex (Crevet)	225, 300 & 375	100	2	4	300	Refer to AS 4181: 1999 and Manufacturer's specification
	225, 300 & 375	150	2	5	400	
	450, 525 & 600	100	2	5	400	
	450, 525 & 600	150	2	8	600	

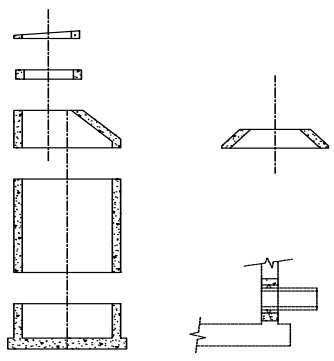
525* subject to CWW approval

600* subject to CWW approval

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ACCESS CHAMBER SYSTEMS

Precast Concrete Access Chamber Systems

Material	Concrete (reinforced or un-reinforced)		
Brand(s)	CSR Humes Rocla		
Special Conditions	Precast MH cannot be used: <ol style="list-style-type: none"> 1. In trafficable areas 2. Industrial areas 3. Water charged ground – areas subject to surcharge where greater than 6m in depth 4. Surcharged sewers 		
		Standard Drawing	SEW - 1300 - V

Note:

1. Actual product sizes and masses may vary. Consult manufacturers.
2. Components may include factory installed plastic encapsulated steel step irons or stainless steel step irons. Galvanised steel step irons are not permitted.
3. Components without step irons are permitted. Galvanised steel ladders must be installed on site.

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Mastic Jointed System (Supplier: Rocla)

Component	Effective height (mm)	Nom Diameter (mm)
Tapered make-up ring	50 – 100	600
Make-up rings	75,100	600
Straight-back	600	1070 (600–1015)
tapers	600	1070 (600–1180)
Shaft sections	300 - 2400	1070 (1015)
	300 -1200	1220 (1180)
Base	600	1070 (1015)
Squat cone	300	1070 (600–1015)
Jointing Mastic		

Note: Diameters in brackets are actual sizes for pre-cast access chambers.

Precast concrete access chamber systems (continued)

Rubber Ring Jointed System (Supplier: CSR Humes)


Component	Effective height (mm)	Nom Diameter (mm)
Make-up rings	100	600
	75	600
Tapered make-up rings	100–75	600
Straight-back tapers	600, 800	1070 (600–1100)
Shaft sections	350, 500, 700, 1050	1070 (1100)
Bases	500, 650, 850, 1200	1070 (1100)
Squat Cone	300	1070 (600–1100)
Wedge Rubber Ring	–	1070 (1100)

Note: Diameters in brackets are actual sizes for pre-cast access chambers.

STAINLESS STEEL JOINERS, REPAIR CLAMPS AND JUNCTION CLAMPS

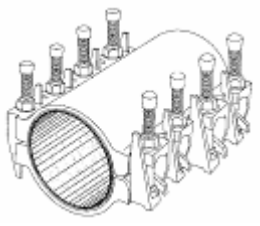
STAINLESS STEEL REPAIR CLAMPS

Single Part Stainless Steel Repair Clamps

SPECIFICATION	WSA PS 313: Clamps, Offtake for Under Pressure Connections	
Australian Standard	AS 4181:1999 – Stainless Steel Clamps for Waterworks Purposes	
Material	Rubber Mat Material: Polyurethane or EPDM or NBR / Stainless Steel	
Special Conditions	<p>Rubber Mat Material: Polyurethane or EPDM or NBR</p> <p>Iplex's Repair Clamp and Off-take clamp has a preformed polyurethane moulded mat to match the external pipe wall profile and a type 316 stainless steel wrap around clamp.</p> <p>Iplex's jointing clamp uses a 5 mm thick flat mat EPDM elastomeric seal in conjunction with the standard SewerMAX elastomeric ring seals that fit in the last trough of each pipe end.</p> <p>For maintenance purposes only</p>	

Supplier(s)	Brand Name	Nominal size DN (mm)	Minimum Clamp length (mm)	Pipe OD Range (mm)
Crevet/Iplex	Crevet	225, 300	400	Refer to AS 4181: 1999 and Manufacturer's specification
Tyco	Wang	225, 300	400	
Cascade	Rapid Clamps	225, 300	400	

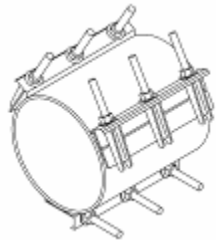
Double Part Stainless Steel Repair Clamps

SPECIFICATION	WSA PS 313: Clamps, Offtake for Under Pressure Connections	
Australian Standard	AS 4181:1999 - Stainless Steel Clamps for Waterworks Purposes	
Material	Rubber Mat Material: Polyurethane or EPDM or NBR /Stainless Steel	
Special Conditions	<p>Rubber Mat Material: Polyurethane or EPDM or NBR</p> <p>Iplex's Repair Clamp and Off-take clamp has a preformed polyurethane moulded mat to match the external pipe wall profile and a type 316 stainless steel wrap around clamp.</p> <p>Iplex's jointing clamp uses a 5 mm thick flat mat EPDM elastomeric seal in conjunction with the standard SewerMAX elastomeric ring seals that fit in the last trough of each pipe end.</p> <p>For maintenance purposes only</p>	

Supplier(s)	Brand Name	Nominal size DN (mm)	Minimum Clamp length (mm)	Pipe OD Range (mm)
Crevet / Iplex	Crevet	375	400	Refer to AS 4181: 1999 and Manufacturer's specification
		400	600	
		450		
		525		
		600		
Tyco	Wang	225	400	
		300		
		375		
		450	600	

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Multi Part Stainless Steel Repair Clamps


SPECIFICATION	WSA PS 313: Clamps, Offtake for Under Pressure Connections	
Australian Standard	AS 4181:1999 – Stainless Steel Clamps for Waterworks Purposes	
Material	Rubber Mat Material: Polyurethane or EPDM or NBR /Stainless Steel	
Special Conditions	<p>Rubber Mat Material: Polyurethane or EPDM or NBR</p> <p>Iplex's Repair Clamp and Off-take clamp has a preformed polyurethane moulded mat to match the external pipe wall profile and a type 316 stainless steel wrap around clamp.</p> <p>Iplex's jointing clamp uses a 5 mm thick flat mat EPDM elastomeric seal in conjunction with the standard SewerMAX elastomeric ring seals that fit in the last trough of each pipe end.</p> <p>For maintenance purposes only</p>	

Supplier(s)	Brand Name	Nominal size DN (mm)	Minimum Clamp length (mm)	Pipe OD Range (mm)
Tyco	Wang	375	400	Refer to AS 4181: 1999 and Manufacturer's specification
		450	600	
		525	600	
		600	600	

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MAINTENANCE PRODUCTS

GAP FILLING EPOXY PASTE ADHESIVE FOR CIVIL ENGINEERING USE

Australian Standard		
Other Standards		
Special Conditions	<ul style="list-style-type: none"> ▪ Ideal for structural bonding and repairs of precast concrete. ▪ Two component epoxy paste based on DGEBA epoxy resin and carbonate free filler. ▪ Shelf life of unopened kits is 2 years minimum ▪ The product should be stored in a cool, dry place 	
Standard Drawing		

Supplier	Brand Name	Type	Containers	Certification Schedule
Vivacity Engineering Pty Ltd	Megapoxy P1	Megapoxy P1 – Gap Filling Epoxy Paste Adhesive for civil engineering use	4 Litre & 20 Litre kits	

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MANUFACTURERS AND SUPPLIERS

Supplier	Address	Phone	Fax	Email
Access Covers Australia Pty Ltd	12-14 King St AIRPORT WEST VIC 3042	(03) 9362 0700	(03) 9362 0399	apagas@tpg.com.au
Australian Plastic Profiles P/L (APP) http://www.pipeking.com.au	124 - 128 Malcom Road, BRAESIDE, VIC 3195	(03) 9588 1222	(03) 9588 1333	melsales@pipeking.com.au
Aymroo Pty Ltd http://www.aymroo.com.au	13 Broadhurst Rd INGLEBURN NSW 2565	(02) 9605 8751	(02) 9605 8948	aymroo@amaze.net.au
Blue Circle Southern Cement Limited www.bluecirclesoutherncement.com.au	Reservoir Road WAURN PONDS VIC 3221	(03) 5241 8133	(03) 5241 8144	
Beverly Industries Australia http://www.biasa.net.au	Recycle Park, 249 Hanson Road, OTTOWAY SA 5013	(08) 8447 8545	(08) 8447 8929	sales@beverlyind.com
B.R. Durham & Son Pty Ltd www.durham.com.au	Lot 103 Curtis Road, MULGRAVE NSW 2756	(02) 4587 7011 1300 321 486	(02) 4587 7069	sales@durham.com.au
Central Spring Works Australia Pty Ltd www.cswproducts.com.au	Cnr Canterbury Rd & Vicbolt Ave, KILSYTH VIC 3137	(03) 9728 5700	(03) 9728 4377	
Crevet Pipelines Pty Ltd www.crevet.com.au	7 -15 Radford Rd, RESERVOIR VIC 3073	(03) 9460 2677	(03) 9462 1314	melbourne@crevet.com.au
Deks Industries Pty Ltd http://www.deks.com.au	5/841 Mountain Hwy BAYSWATER VIC 3153 PO Box 569 BAYSWATER VIC 3153	(03) 8727 8800	(03) 8727 8850	info@deks.com.au
Dant Industries Pty Ltd	612 Smith Street CLIFTON HILL VIC 3068	(03) 9481 3226	(03) 9482 5273	
Frelin Pty Ltd	Factory 17, 81-83 Canterbury Road KILSYTH VIC 3137	(03) 9728 8944	(03) 9728 8499	
Four B Engineering	60-62 Kirkham Road West KEYSBOROUGH VIC 3173	(03) 9798 8767	(03) 9798 8767	
Fernco Pty Ltd www.fernco.com.au	P O Box 887 MONA VALE NSW 1660 4/83 Bassett St Mona Vale NSW 2103	(02) 9450 0766	(02) 9450 0377	sales@fernco.com.au
Geelong Precast Concrete Products	61 Seabeach Pde NORTH SHORE VIC 3214	(03) 5277 9116	(03) 5277-0688	
Greg Sewell Forgings	63 Glenbarry Rd CAMPBELLFIELD VIC 3061	(03) 9357 7444	(03) 9357 7244	
Global Pipe Australia Pty Ltd http://globalpipe.com.au/	10 Wellington Street, St Kilda VIC 3182	(03) 9598 6630	(03) 9598 6629	info@globalpipe.com.au
Harcros Colours	120 Weston Street BRUNSWICK VIC 3056	(03) 9387 4655	(03) 9388 0808	
Havestock Pty Ltd www.havestock.com.au	132-134 South Park drive South Park Corporate Park DANDENONG SOUTH VIC 3175	(03) 9792 5144	(03) 9792 5177	havestock@havestock.com.au
Humes www.humes.com.au	122A Doherty's Road LAVERTON VIC 3028	(03) 9360 3888	(03) 9360 3887	
Hilti Corporation	Level 5, Building G 1 Homebush Bay Drive PO Box, NSW 3217	(02) 8748 1000	(02) 8748 1190	
Icon Industries (Vic) Pty Ltd www.icon.industries.com	197 Maidstone St ALTONA VIC 3018	(03) 9316 2666	(03) 9315 0099	

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Supplier	Address	Phone	Fax	Email
Industrial Pipe Systems Pty Ltd	186-190 Kingsgrove Road KINGSGROVE NSW 2208	1800 251391	(07) 3348 9653	
Iplex Pipelines www.iple.com.au	9-15 Radford Road RESERVOIR VIC 3073	(03) 9460 7000	(03) 9462 1540	sales@iplepipelines.com.au
Jenco Products Pty Ltd	Factory 1/3 Merchant Ave THOMASTOWN VIC 3074	(03) 9464 2270	(03) 9464 2450	
J.T. Chapman Engineering Pty Ltd www.chapmans.com.au	32 Hunter Rd HEALSVILLE VIC 3777	(03) 5962 5180	(03) 5962 2702	
Leap Australasia Pty Ltd www.leapltd.com.au	95 B Cheltenham Road, Dandenong VIC 3175	(03) 9791 2462 1800 666 952	(03) 9791 2108 0425 726 531	peter@leapltd.com.au
Mainline Plastics Pty Ltd www.mainlineplastics.com.au	PO Box 1172 CANNING VALE WA 6970	(08) 9256 2011	(08) 9256 2022	sales@mainlineplastics.com
Micron Pipelines Pty Ltd http://micronpipelines.com.au/	Unit 3, No. 7 Smeaton Grange Road, Smeaton Grange NSW 2567	(02) 4648 2277	(02) 4647 2214	patdawson@micronpipelines.com.au
Parchem www.parchem.com.au/	400 Victoria St BRUNSWICK VIC 3056	(03) 9380 2400	(03) 9381 4365	
Plasson Australia Pty Ltd www.plasson.com.au	53-57 Burrows Rd ALEXANDRIA NSW 2015	(03) 9591 0099	(03) 9591 0090	info@plasson.com.au
Polypit Pty Ltd	12 Clapham St CANNINGTON WA 6107	1800 060 334	(03) 5987 1202	
Powers Fasteners Australasia Pty Ltd www.powers.com.au	Factory 3/205 Abbots Road DANDENONG SOUTH VIC 3175	(03) 8787 5888	(03) 8787 5899	info@powers.com.au
Promains www.promains.com.au	39-45 Capital Link Drive CAMPBELLFIELD VIC 3061	(03) 9357 8787	(03) 9357 8785	vic.professionals@promains.com.au
Ramset Fasteners (Aust) Pty Ltd www.ramset.com.au	96 Church Street RICHMOND VIC 3121	1300 780 063		
Rapid Clamps www.rapidclamps.com	55/193 Southpine Road BRENDALE QLD 4500	(07) 3889 6262	(07) 3889 6272	sales@rapidclamps.com
Rocla Pipeline Products	Bolinda Road PO Box 283 CAMPBELLFIELD VIC 3061	131 004 (03) 9292 0300	(03) 9292 0390	
Seton Australia www.seton.com.au	S4-S6 Regents Pk Estate 391 Park Rd REGENTS PARK NSW 2143	1800 651 173	1800 678 796	
Sewer Maintenance Shaft Pty Ltd www.sewerms.com.au	9A Colemans Road CARRUM DOWNS VIC 3201	1300 482 228	1300 726 221	sms@sewerms.com.au
SVC Products Pty Ltd	38 Japaddy Street MORDIALLOC VIC 3195	(03) 9580 6644	(03) 9587 2805	
Tapex (Vic) Pty Ltd www.tapex.com.au	49 Lakeside Drive BROADMEADOWS VIC 3047	(03) 9357 4866	(03) 9357 4966	sales@tapex.com.au
Thor Plastics (Aust) Pty Ltd	4 Ian Road MT MARTHA VIC 3934	(03) 5988 3302		
Tyco Water www.tycowater.com.au	60A Maffra Street COOLAROO VIC 3048; PO Box 42 DALLAS VIC 3047	(03) 9309 9133	(03) 9309 6237	ccm@tycowater.com.au
United Rubber www.unitedrubber.net	85 Christie Street ST MARYS NSW 2760	(02) 9623 7177	(02) 9833 1142	
Vinidex Pty Ltd www.vinidex.com.au	231-245 St Albans Rd SUNSHINE VIC 3020	(03) 9364 8187	(03) 9311 6230	info@vinidex.com.au
Vivacity Engineering Pty Ltd http://www.megapoxy.com/	3 Sefton Rod, Thornieigh, NSW 2120	(02) 9875 3034	(02) 9875 3665	info@megapoxy.com
Webforge (VIC) www.webforge.com.au	Factory 2,142 -146 Fairbank Road CLAYTON SOUTH VIC 3169	(03) 9551 1911	(03) 9558 0730	vic_sales@webforge.com.au

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PREMIXED CONCRETE AND QUARRIED PRODUCTS & SUPPLIERS

To assist designer, constructors, CWW personnel and suppliers of quarried products identify approved Product Specifications for embedment, backfill material and supply of concrete to CWW asset creation contracts or land development agreement projects a new Products Catalogue for Premixed Concrete and Quarried Products has been published.

A list of accredited suppliers of cement, concrete and quarry products can be downloaded from City West Water website. <http://www.citywestwater.com.au>

The firms on this list have ISO 9001 accreditation and supply premixed concrete and/or quarry products to the nominated City West Water product specification(s).

City West Water makes no other guarantees or warranties as to the commercial practices or viability of these firms. You are advised to make your own inquiries and obtain a number of quotes to increase confidence in the supplier of your choice. For details and information regarding this listing please contact the Manager, Standards at City West Water on 9313 8592.

