CIVILPIPES

PVC PRESSURE PIPE SYSTEMS

AS/NZS 4441, 4765, 1477

Potable water, non-potable water pressure applications

JAN 2017

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CIVILPIPES

BESTPRACTICE CERTIFICATION ISO9001 QUALITY MANAGEMENT SYSTEM

BESTPRACTICE CERTIFICATION AS4801 OH&S MANAGEMENT SYSTEM

PVC MATERIALS

PVC is a thermoplastic that contains mainly PVC resin with the addition of compounds such as stabilisers, lubricants, plasticisers, pigments and other products that aid in the manufacturing process.

PVC compound produced without plasticisers increases the strength attributes of the material. This type of unplasticised PVC (PVC-U) is hard, rigid, with a high strength to weight ratio and resistant to corrosion and most chemicals. PVC-U has been widely used in pipelines for many years because of these attributes, however given the random nature of the molecular structure; the pipes have low resistance to impact.

In recent years, other additives and manufacturing processes have been introduced that not only significantly enhance the ductility but the ultimate strength of the product.

PVC-M

The addition of Impact Modifiers to PVC produces a more predictable structure that enhances the materials toughness, ductility and resistance to cracking with little effect on the material strength.

PVC-O

PVC-O pipes are the most advanced pipes for the conveyance of high-pressure water currently available on the market, with a number of exceptional features for this kind of application, thanks to the process of molecular orientation.

The stretching of PVC, under controlled conditions of pressure, temperature and speed, orients and preferably aligns and lengthens the polymer molecules; which significantly increases the strength of the material.

PVC-O pipes are bi-axially oriented by stretching the initial extruded pipe along the axis (Axial orientation) and by expanding the diameter (Hoop orientation). The degree of hoop orientation determines the resistance to internal pressure and impact. The axial orientation provides resistance to internal stresses particularly in the socket.

The process of molecular orientation greatly enhances PVC's physical and mechanical properties and gives it a number of exceptional features, whilst maintaining the advantages and properties of the original polymer. Depending on the degree of orientation, the ultimate tensile strength of PVC-O can be up to double that of PVC. This makes for a plastic with unbeatable qualities in terms of resistance to traction and fatigue, flexibility and impact resistance.

STANDARDS

PRESSURE APPLICATIONS	AS/NZS 4441	PVC-O Oriented PVC pipes for pressure applications
	AS/NZS 4765	PVC-M Modified PVC pipes for pressure applications
	AS/NZS 1477	PVC-U Pipes and Fittings for pressure applications

DESIGN CONSIDERATIONS

FLOW CAPACITY

Whether designing a pumping system or a gravity-enabled pipe system, deciding the dimensions of the pipes involves calculating losses in the terms of load. The flow capacity and head loss of a pipeline can vary depending on the following:

- Internal pipe surface resistance to roughness over time
- Potential settlement of sediment due to low velocities
- Type and number of fittings and other flow restrictors in the pipeline
- The effect on water viscosity as a result of temperature increases

PIPE CLASS AND PRESSURE CONSIDERATIONS

The nominal pressure rating for a pipe must be derated when operating at temperatures greater than 20 deg C. (Refer Operating Pressures table below)

Surge pressure associated with water hammer also has an impact on the pipe class and must be considered.

OPERATING PRESSURES
(with temperature considerations)

OPERATING PRESSURES – PVC PRESSURE PIPE (PVC-U, PVC-M, PVC-O)									
Pressure Class:		PN 6	PN 9	PN 12	PN 15	PN 16	PN 18	PN 20	PN 25
Working Pressure (kPa):		600	900	1200	1500	1600	1800	2000	2500
Operating Temp (°C)	Derating Factor	Maximum Allowable Operating Pressure (kPa)							
20	1.00	600	900	1200	1500	1600	1800	2000	2500
25	0.94	564	846	1128	1410	1504	1692	1880	2350
30	0.87	522	783	1044	1305	1392	1566	1740	2175
35	0.78	468	702	936	1170	1248	1404	1560	1950
40	0.70	420	630	840	1050	1120	1260	1400	1750
45	0.64	384	576	768	960	1024	1152	1280	1600
50	0.58	348	522	696	870	928	1044	1160	1450

Source: International Standard ISO 4422.2 and PIPA Technical Document TN003

PVC-O PRESSURE PIPE – SERIES 2

AS/NZS 4441

APPLICATIONS

- Potable water systems - Blue pipe
- Recycled Water systems - Purple pipe
- Pressure Sewer systems - Cream pipe

FEATURES

- High Impact Resistance
- Exceptional Strength and Ductility
- Corrosion Resistant
- Smooth Bore – Low flow resistance
- Light Weight – Installation savings
- Material & Energy efficient – 100% Recyclable

TECHNICAL DATA

Standard:	AS/NZS 4441 Certification No. AMI 74645
Size Range:	DN 100 - 300
Material:	PVC-O - Class 450 (MRS 45MPa) PVC-O - Class 500 (MRS 50MPa)
Pressure Range:	PN12.5 & PN16
Temperature Range:	0 to 50 deg C
Lengths:	6m Spigot-Socket
Jointing:	Rubber Ring Joint

Pressure Derating may apply due to operating temperature. (Refer PIPA Technical Document TN003 for details)

PVC-O PIPE – SERIES 2 (RRJ)

DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code (Blue Pipe)
					Length	Pack		
100	122	6 m	PN 16 CL 450	114.5	13	460	36	PVCOB1016
150	177	6 m	PN 16 CL 450	166.9	26	470	18	PVCOB1516
200	232	6 m	PN 16 CL 450	218.6	53	540	10	PVCOB2016
225	259	6 m	PN 16 CL 450	245.6	57	470	8	PVCOB2216
250	286	6 m	PN 16 CL 450	271.4	68	550	8	PVCOB2516
300	345	6 m	PN 16 CL 450	327.4	98	595	6	PVCOB3016
100	122	6 m	PN 16 CL 500	115.4			36	PVCOB10165
150	177	6 m	PN 16 CL 500	167.9			18	PVCOB15165
200	232	6 m	PN 16 CL 500	220.1			10	PVCOB20165
225	259	6 m	PN 16 CL 500	245.6			8	PVCOB22165
250	286	6 m	PN 16 CL 500	271.4			8	PVCOB25165
300	345	6 m	PN 16 CL 500	327.4			6	PVCOB30165

Other Material classes available for project works on special request

PVC-M PRESSURE PIPE – SERIES 2

AS/NZS 4765

APPLICATIONS

- Potable water systems - Blue pipe
- Recycled Water systems - Purple pipe
- Pressure Sewer systems - Cream pipe

FEATURES

- High Impact Resistance
- High Toughness and Ductility
- Corrosion Resistant
- Smooth Bore – Low flow resistance
- Light Weight – Installation savings

TECHNICAL DATA

Standard:	AS/NZS 4765 Certification No. AMI 21378
Size Range:	DN 100 - 450
Material:	PVC-M (MRS 24.5MPa)
Pressure Range:	PN12, PN16, PN18 & PN20
Temperature Range:	0 to 50 deg C
Lengths:	6m Spigot-Socket
Jointing:	Rubber Ring Joint

Pressure Derating may apply due to operating temperature.
(Refer PIPA Technical Document TN003 for details)

PVC-M PIPE – SERIES 2 (RRJ)								
DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code (Blue Pipe)
					Length	Pack		
PVC-M PN16								
100	122	6 m	PN 16	109.7	19	695	36	PVCMB1016
150	177	6 m	PN 16	160.1	39	710	18	PVCMB1516
200	232	6 m	PN 16	209.8	68	690	10	PVCMB2016
225	259	6 m	PN 16	234.2	82	665	8	PVCMB2216
250	286	6 m	PN 16	258.8	100	810	8	PVCMB2516
300	345	6 m	PN 16	312.4	145	880	6	PVCMB3016
375	426	6 m	PN 16	386.4	222	1,785	8	PVCMB3716
450	507	6 m	PN 16	458.7	325	1,960	6	PVCMB4516

	PVC-M PIPE – SERIES 2 (RRJ)								
	DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code (Blue Pipe)
						Length	Pack		
	PVC-M PN12								
	100	122	6 m	PN 12	112.5	15	550	36	PVCMB1012
	150	177	6 m	PN 12	164.2	30	550	18	PVCMB1512
	200	232	6 m	PN 12	215.2	52	530	10	PVCMB2012
	225	259	6 m	PN 12	240.3	64	525	8	PVCMB2212
	250	286	6 m	PN 12	265.2	79	640	8	PVCMB2512
	300	345	6 m	PN 12	320.1	116	710	6	PVCMB3012
	375	426	6 m	PN 12	395.1	170	1,370	8	PVCMB3712
	450	507	6 m	PN 12	470.3	249	1,500	6	PVCMB4512
	PVC-M PN18								
	100	122	6 m	PN 18	108.8	20	730	36	PVCMB1018
	150	177	6 m	PN 18	158.8	43	785	18	PVCMB1518
	200	232	6 m	PN 18	206.4	73	740	10	PVCMB2018
*	225	259	6 m	PN 18	231.5			8	PVCMB2218
*	250	286	6 m	PN 18	255.5			8	PVCMB2518
*	300	345	6 m	PN 18	308.5			6	PVCMB3018
*	375	426	6 m	PN 18	380.9			8	PVCMB3718
*	450	507	6 m	PN 18	453.2			6	PVCMB4518
	PVC-M PN20								
	100	122	6 m	PN 20	108.0	23	835	36	PVCMB1020
	150	177	6 m	PN 20	157.2	47	855	18	PVCMB1520
	200	232	6 m	PN 20	205.2	82	830	10	PVCMB2020
*	225	259	6 m	PN 20	228.1			8	PVCMB2220
*	250	286	6 m	PN 20	252.4			8	PVCMB2520
*	300	345	6 m	PN 20	304.5			6	PVCMB3020
*	375	426	6 m	PN 20	376.2			8	PVCMB3720
*	450	507	6 m	PN 20	447.6			6	PVCMB4520

* Pipe made to order for project works

PVC-M PRESSURE PIPE – SERIES 1

AS/NZS 4765

APPLICATIONS

- Potable water systems - White pipe
- Recycled Water systems - Purple pipe
- Pressure Sewer systems - Cream pipe

FEATURES

- High Impact Resistance
- High Toughness and Ductility
- Corrosion Resistant
- Smooth Bore – Low flow resistance
- Light Weight – Installation savings

TECHNICAL DATA

Standard:	AS/NZS 4765 Certification No. AMI 21378
Size Range:	DN 100 - 300
Material:	PVC-M (MRS 24.5MPa)
Pressure Range:	PN6, PN9, PN12, PN15 & PN18
Temperature Range:	0 to 50 deg C
Lengths:	6m Spigot-Socket
Jointing:	Rubber Ring Joint

Pressure Derating may apply due to operating temperature.
(Refer PIPA Technical Document TN003 for details)

PVC-M PIPE – SERIES 1 (RRJ)								
DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code
					Length	Pack		
PVC-M PN12								
100	114	6 m	PN 12	105.6	13	810	60	PVCPP10012R
150	160	6 m	PN 12	148.4	24	835	33	PVCPP15012R
200	225	6 m	PN 12	208.6	48	609	12	PVCPP20012R
225	250	6 m	PN 12	232.0	60	736	12	PVCPP22512R
250	280	6 m	PN 12	259.9	74	841	11	PVCPP25012R
300	315	6 m	PN 12	292.4	93	596	6	PVCPP30012R
PVC-M PN9								
100	114	6 m	PN 9	107.5	10	647	60	PVCPP10009R
150	160	6 m	PN 9	150.9	21	723	33	PVCPP15009R
200	225	6 m	PN 9	212.5	37	462	12	PVCPP20009R
225	250	6 m	PN 9	236.3	48	598	12	PVCPP22509R
250	280	6 m	PN 9	264.6	56	635	11	PVCPP25009R
300	315	6 m	PN 9	298.0	71	444	6	PVCPP30009R

PVC-U PRESSURE PIPE – SERIES 1

AS/NZS 1477

APPLICATIONS

- Potable water systems
- Irrigation and watering systems
- Industrial process pipe systems
- Effluent waste pipelines

TECHNICAL DATA

Standard:	AS/NZS 1477 Certification No. WM70061
Size Range:	DN 20 - 300
Pressure Range:	PN6, PN9, PN12 & PN18
Temperature Range:	0 to 50 deg C
Lengths:	6m Spigot-Socket
Jointing:	Solvent Cement Joint

Pressure Derating may apply due to operating temperature.
(Refer PIPA Technical Document TN003 for details)

FEATURES

- Corrosion Resistant
- Smooth Bore – Low flow resistance
- Light Weight – Installation savings

PVC-U PIPE – SERIES 1 (SWJ)								
DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code
					Length	Pack		
PVC-U PN12								
20	27	6 m	PN 12	23.9	1.1	830	770	PVCPP02012S
25	33	6 m	PN 12	29.2	1.6	875	540	PVCPP02512S
32	42	6 m	PN 12	37.2	2.6	790	300	PVCPP03212S
40	48	6 m	PN 12	42.5	3.4	965	280	PVCPP04012S
50	60	6 m	PN 12	53.3	5.3	1,060	198	PVCPP05012S
65	75	6 m	PN 12	66.6	8	685	84	PVCPP06512S
80	89	6 m	PN 12	79.1	11	1,155	104	PVCPP08012S
100	114	6 m	PN 12	101.4	19	1,210	63	PVCPP10012S
125	140	6 m	PN 12	124.7	28	1,270	45	PVCPP12512S
150	160	6 m	PN 12	142.4	37	1,230	33	PVCPP15012S
175	200	6 m	PN 12	180.3	54	985	18	PVCPP17512S
200	225	6 m	PN 12	202.8	68	830	12	PVCPP20012S
225	250	6 m	PN 12	225.4	83	1,005	12	PVCPP22512S
250	280	6 m	PN 12	252.5	103	1,145	11	PVCPP25012S
300	315	6 m	PN 12	284.0	133	810	6	PVCPP30012S

PVC-U PIPE – SERIES 1 (SWJ)								
DN	OD	Length	Class	Mean ID	Weight (kg)		Pack Qty	Code
					Length	Pack		
PVC-U PN18								
20	27	6 m	PN 18	22.6	1.5	1,165	770	PVCPP02018S
25	33	6 m	PN 18	27.5	2.3	1,250	540	PVCPP02518S
32	42	6 m	PN 18	35.1	3.7	1,120	300	PVCPP03218S
40	48	6 m	PN 18	40.2	4.8	1,350	280	PVCPP04018S
50	60	6 m	PN 18	50.1	7.6	1,610	210	PVCPP05018S
80	89	6 m	PN 18	74.7	16	1,675	104	PVCPP08018S
100	114	6 m	PN 18	95.7	27	1,710	63	PVCPP10018S
150	160	6 m	PN 18	134.4	57	1,890	33	PVCPP15018S
PVC-U PN9								
50	60	6 m	PN 9	54.8	4.2	840	198	PVCPP05009S
80	89	6 m	PN 9	81.4	8.6	905	104	PVCPP08009S
100	114	6 m	PN 9	104.3	14	920	63	PVCPP10009S
125	140	6 m	PN 9	128.2	22	990	45	PVCPP12509S
150	160	6 m	PN 9	146.6	28	955	33	PVCPP15009S
175	200	6 m	PN 9	184.9	41	755	18	PVCPP17509S
200	225	6 m	PN 9	208.2	51	620	12	PVCPP20009S
225	250	6 m	PN 9	231.3	64	775	12	PVCPP22509S
250	280	6 m	PN 9	259.0	80	890	11	PVCPP25009S
300	315	6 m	PN 9	291.5	102	625	6	PVCPP30009S
PVC-U PN6								
50	60	6 m	PN 6	56.4	2.8	565	198	PVCPP05006S
80	89	6 m	PN 6	83.8	6.0	645	104	PVCPP08006S
100	114	6 m	PN 6	107.5	10	640	63	PVCPP10006S
125	140	6 m	PN 6	132.0	15	685	45	PVCPP12506S
150	160	6 m	PN 6	151.0	20	670	33	PVCPP15006S
200	225	6 m	PN 6	213.5	35	430	12	PVCPP20006S
225	250	6 m	PN 6	237.3	44	540	12	PVCPP22506S
250	280	6 m	PN 6	265.8	54	605	11	PVCPP25006S
300	315	6 m	PN 6	299.0	70	430	6	PVCPP30006S

PVC-U PRESSURE FITTINGS

Standard:	AS/NZS 1477
Size Range:	DN 20 - 300
Pressure Range:	PN18, (Fittings <=DN150), PN10 (Fittings > DN150)
Temperature Range:	0 to 50 deg C
Jointing:	Solvent Cement Joint (SCJ), Threaded (BSP) or Flanged

PVC VALVE ADAPTOR CAT 2				
DN	BSP	End Types	PN	Code
20	20	SPIG / M-BSP	18	PVCPC2-20
25	25	SPIG / M-BSP	18	PVCPC2-25
32	32	SPIG / M-BSP	18	PVCPC2-32
40	40	SPIG / M-BSP	18	PVCPC2-40
50	50	SPIG / M-BSP	18	PVCPC2-50
80	80	SPIG / M-BSP	18	PVCPC2-80
100	100	SPIG / M-BSP	18	PVCPC2-100

PVC REDUCING VALVE ADAPTOR CAT 2				
DN	BSP	End Types	PN	Code
25	15	SPIG / M-BSP	18	PVCPC2-2515
40	20	SPIG / M-BSP	18	PVCPC2-4020
40	25	SPIG / M-BSP	18	PVCPC2-4025
40	32	SPIG / M-BSP	18	PVCPC2-4032
50	25	SPIG / M-BSP	18	PVCPC2-5025
50	40	SPIG / M-BSP	18	PVCPC2-5040

PVC FAUCET ADAPTOR CAT 3				
DN	BSP	End Types	PN	Code
20	20	SPIG / F-BSP	18	PVCPC3-20
25	25	SPIG / F-BSP	18	PVCPC3-25
32	32	SPIG / F-BSP	18	PVCPC3-32
40	40	SPIG / F-BSP	18	PVCPC3-40
50	50	SPIG / F-BSP	18	PVCPC3-50
80	80	SPIG / F-BSP	18	PVCPC3-80
100	100	SPIG / F-BSP	18	PVCPC3-100

PVC REDUCING BUSH CAT 5				
DN	DN	End Types	PN	Code
25	20	SPIG / SOC	18	PVCPC5-2520
32	25	SPIG / SOC	18	PVCPC5-3225
40	25	SPIG / SOC	18	PVCPC5-4025
40	32	SPIG / SOC	18	PVCPC5-4032
50	25	SPIG / SOC	18	PVCPC5-5025
50	40	SPIG / SOC	18	PVCPC5-5040
80	50	SPIG / SOC	18	PVCPC5-8050
100	50	SPIG / SOC	18	PVCPC5-10050
100	80	SPIG / SOC	18	PVCPC5-10080
150	100	SPIG / SOC	18	PVCPC5-150100
200	150	SPIG / SOC	10	PVCPC5-200150
225	150	SPIG / SOC	10	PVCPC5-225150
225	200	SPIG / SOC	10	PVCPC5-225200
250	150	SPIG / SOC	10	PVCPC5-250150
250	200	SPIG / SOC	10	PVCPC5-250200
250	225	SPIG / SOC	10	PVCPC5-250225
300	150	SPIG / SOC	10	PVCPC5-300150
300	200	SPIG / SOC	10	PVCPC5-300200
300	225	SPIG / SOC	10	PVCPC5-300225
300	250	SPIG / SOC	10	PVCPC5-300250

PVC CAP SWJ CAT 6			
DN	End Types	PN	Code
20	SWJ	18	PVCPC6-20
25	SWJ	18	PVCPC6-25
32	SWJ	18	PVCPC6-32
40	SWJ	18	PVCPC6-40
50	SWJ	18	PVCPC6-50
80	SWJ	18	PVCPC6-80
100	SWJ	18	PVCPC6-100
150	SWJ	18	PVCPC6-150

PVC CAP BSP CAT 6			
DN	End Types	PN	Code
20	F-BSP	18	PVCPC6B-20
25	F-BSP	18	PVCPC6B-25
32	F-BSP	18	PVCPC6B-32
40	F-BSP	18	PVCPC6B-40
50	F-BSP	18	PVCPC6B-50
80	F-BSP	18	PVCPC6B-80
100	F-BSP	18	PVCPC6B-100
150	F-BSP	18	PVCPC6B-150

PVC COUPLING CAT 7			
DN	End Types	PN	Code
20	SOC / SOC	18	PVCPC7-20
25	SOC / SOC	18	PVCPC7-25
32	SOC / SOC	18	PVCPC7-32
40	SOC / SOC	18	PVCPC7-40
50	SOC / SOC	18	PVCPC7-50
80	SOC / SOC	18	PVCPC7-80
100	SOC / SOC	18	PVCPC7-100
150	SOC / SOC	18	PVCPC7-150
200	SOC / SOC	10	PVCPC7-200
225	SOC / SOC	10	PVCPC7-225
250	SOC / SOC	10	PVCPC7-250
300	SOC / SOC	10	PVCPC7-300

PVC REDUCING COUPLING CAT 8				
DN	DN	End Types	PN	Code
25	20	SOC / SOC	18	PVCPC8-2520
32	20	SOC / SOC	18	PVCPC8-3220
32	25	SOC / SOC	18	PVCPC8-3225
40	20	SOC / SOC	18	PVCPC8-4020
40	25	SOC / SOC	18	PVCPC8-4025
40	32	SOC / SOC	18	PVCPC8-4032
50	25	SOC / SOC	18	PVCPC8-5025
50	32	SOC / SOC	18	PVCPC8-5032
50	40	SOC / SOC	18	PVCPC8-5040
80	50	SOC / SOC	18	PVCPC8-8050
100	50	SOC / SOC	18	PVCPC8-10050
100	80	SOC / SOC	18	PVCPC8-10080
150	100	SOC / SOC	18	PVCPC8-150100
200	150	SOC / SOC	18	PVCPC8-200150
225	200	SOC / SOC	10	PVCPC8-225200
250	200	SOC / SOC	10	PVCPC8-250200
250	225	SOC / SOC	10	PVCPC8-250225
300	150	SOC / SOC	10	PVCPC8-300150
300	200	SOC / SOC	10	PVCPC8-300200
300	225	SOC / SOC	10	PVCPC8-300225

PVC ELBOW 45 DEG CAT 10				
DN	Deg	End Types	PN	Code
20	45d	SOC / SOC	18	PVCPC10-20
25	45d	SOC / SOC	18	PVCPC10-25
32	45d	SOC / SOC	18	PVCPC10-32
40	45d	SOC / SOC	18	PVCPC10-40
50	45d	SOC / SOC	18	PVCPC10-50
80	45d	SOC / SOC	18	PVCPC10-80
100	45d	SOC / SOC	18	PVCPC10-100
150	45d	SOC / SOC	18	PVCPC10-150
200	45d	SOC / SOC	10	PVCPC10-200
225	45d	SOC / SOC	10	PVCPC10-225
250	45d	SOC / SOC	10	PVCPC10-250
300	45d	SOC / SOC	10	PVCPC10-300

PVC ELBOW 90 DEG CAT 13				
DN	Deg	End Types	PN	Code
20	90d	SOC / SOC	18	PVCPC13-20
25	90d	SOC / SOC	18	PVCPC13-25
32	90d	SOC / SOC	18	PVCPC13-32
40	90d	SOC / SOC	18	PVCPC13-40
50	90d	SOC / SOC	18	PVCPC13-50
80	90d	SOC / SOC	18	PVCPC13-80
100	90d	SOC / SOC	18	PVCPC13-100
150	90d	SOC / SOC	18	PVCPC13-150
200	90d	SOC / SOC	10	PVCPC13-200
225	90d	SOC / SOC	10	PVCPC13-225
250	90d	SOC / SOC	10	PVCPC13-250
300	90d	SOC / SOC	10	PVCPC13-300

PVC FAUCET ELBOW 90 DEG CAT 15				
DN	BSP	End Types	PN	Code
20	20	SOC / F-BSP	18	PVCPC15-20
25	20	SOC / F-BSP	18	PVCPC15-2520
25	25	SOC / F-BSP	18	PVCPC15-25
40	40	SOC / F-BSP	18	PVCPC15-40
50	50	SOC / F-BSP	18	PVCPC15-50

PVC VANSTONE FLANGE CAT16				
DN	PN	Table D	Table E	ANSI-150
20	18	PVCPC16-20D	PVCPC16-20E	PVCPC16-20A
25	18	PVCPC16-25D	PVCPC16-25E	PVCPC16-25A
32	18	PVCPC16-32D	PVCPC16-32E	PVCPC16-32A
40	18	PVCPC16-40D	PVCPC16-40E	PVCPC16-40A
50	18	PVCPC16-50D	PVCPC16-50E	PVCPC16-50A
80	18	PVCPC16-80D	PVCPC16-80E	PVCPC16-80A
100	18	PVCPC16-100D	PVCPC16-100E	PVCPC16-100A
150	18	PVCPC16-150D	PVCPC16-150E	PVCPC16-150A
200	10	PVCPC16-200D	PVCPC16-200E	PVCPC16-200A
225	10	PVCPC16-225D	PVCPC16-225E	PVCPC16-225A
250	10	PVCPC16-250D	PVCPC16-250E	PVCPC16-250A
300	10	PVCPC16-300D	PVCPC16-300E	PVCPC16-300A

PVC VALVE SOCKET CAT 17				
DN	BSP	End Types	PN	Code
20	20	SOC / M-BSP	18	PVCPC17-20
25	25	SOC / M-BSP	18	PVCPC17-25
32	32	SOC / M-BSP	18	PVCPC17-32
40	40	SOC / M-BSP	18	PVCPC17-40
50	50	SOC / M-BSP	18	PVCPC17-50
80	80	SOC / M-BSP	18	PVCPC17-80
100	100	SOC / M-BSP	18	PVCPC17-100
150	150	SOC / M-BSP	18	PVCPC17-150

PVC FAUCET SOCKET CAT 18				
DN	BSP	End Types	PN	Code
20	20	SOC / F-BSP	18	PVCPC18-20
25	25	SOC / F-BSP	18	PVCPC18-25
32	32	SOC / F-BSP	18	PVCPC18-32
40	40	SOC / F-BSP	18	PVCPC18-40
50	50	SOC / F-BSP	18	PVCPC18-50
80	80	SOC / F-BSP	18	PVCPC18-80
100	100	SOC / F-BSP	18	PVCPC18-100
150	150	SOC / F-BSP	18	PVCPC18-150

PVC-U PRESSURE FITTINGS

AS/NZS 1477

PVC TEE CAT 19				
DN	DN	End Types	PN	Code
20	20	SOC / SOC x SOC	18	PVCPC19-20
25	25	SOC / SOC x SOC	18	PVCPC19-25
32	32	SOC / SOC x SOC	18	PVCPC19-32
40	40	SOC / SOC x SOC	18	PVCPC19-40
50	50	SOC / SOC x SOC	18	PVCPC19-50
80	80	SOC / SOC x SOC	18	PVCPC19-80
100	100	SOC / SOC x SOC	18	PVCPC19-100
150	150	SOC / SOC x SOC	18	PVCPC19-150
200	200	SOC / SOC x SOC	10	PVCPC19-200
225	225	SOC / SOC x SOC	10	PVCPC19-225
250	250	SOC / SOC x SOC	10	PVCPC19-250
300	300	SOC / SOC x SOC	10	PVCPC19-300

PVC REDUCING TEE CAT 19				
DN	DN	End Types	PN	Code
25	20	SOC / SOC x SOC	18	PVCPC19-2520
40	20	SOC / SOC x SOC	18	PVCPC19-4020
40	25	SOC / SOC x SOC	18	PVCPC19-4025
40	32	SOC / SOC x SOC	18	PVCPC19-4032
50	20	SOC / SOC x SOC	18	PVCPC19-5020
50	25	SOC / SOC x SOC	18	PVCPC19-5025
50	32	SOC / SOC x SOC	18	PVCPC19-5032
50	40	SOC / SOC x SOC	18	PVCPC19-5040
80	25	SOC / SOC x SOC	18	PVCPC19-8025
80	40	SOC / SOC x SOC	18	PVCPC19-8040
80	50	SOC / SOC x SOC	18	PVCPC19-8050
100	50	SOC / SOC x SOC	18	PVCPC19-10050
100	80	SOC / SOC x SOC	18	PVCPC19-10080
150	100	SOC / SOC x SOC	18	PVCPC19-150100
200	150	SOC / SOC x SOC	10	PVCPC19-200150
250	150	SOC / SOC x SOC	10	PVCPC19-250150
250	200	SOC / SOC x SOC	10	PVCPC19-250200
300	150	SOC / SOC x SOC	10	PVCPC19-300150
300	200	SOC / SOC x SOC	10	PVCPC19-300200

PVC FAUCET TEE CAT 21				
DN	DN	End Types	PN	Code
20	20	SOC / SOC x F-BSP	18	PVCPC21-20
25	25	SOC / SOC x F-BSP	18	PVCPC21-25
32	32	SOC / SOC x F-BSP	18	PVCPC21-32
40	40	SOC / SOC x F-BSP	18	PVCPC21-40
50	50	SOC / SOC x F-BSP	18	PVCPC21-50

PVC REDUCING FAUCET TEE CAT 21				
DN	DN	End Types	PN	Code
25	20	SOC / SOC x F-BSP	18	PVCPC21-2520
32	20	SOC / SOC x F-BSP	18	PVCPC21-3220
32	25	SOC / SOC x F-BSP	18	PVCPC21-3225
40	20	SOC / SOC x F-BSP	18	PVCPC21-4020
40	25	SOC / SOC x F-BSP	18	PVCPC21-4025
50	20	SOC / SOC x F-BSP	18	PVCPC21-5020
50	25	SOC / SOC x F-BSP	18	PVCPC21-5025
50	40	SOC / SOC x F-BSP	18	PVCPC21-5040

PVC SOCKET UNION CAT 22			
DN	End Type	PN	Code
20	SOC / SOC	18	PVCPC22-20
25	SOC / SOC	18	PVCPC22-25
32	SOC / SOC	18	PVCPC22-32
40	SOC / SOC	18	PVCPC22-40
50	SOC / SOC	18	PVCPC22-50
80	SOC / SOC	18	PVCPC22-80

PVC BSP UNION CAT 22			
DN	End Types	PN	Code
20	F-BSP / F-BSP	18	PVCPC22B-20
25	F-BSP / F-BSP	18	PVCPC22B-25
32	F-BSP / F-BSP	18	PVCPC22B-32
40	F-BSP / F-BSP	18	PVCPC22B-40
50	F-BSP / F-BSP	18	PVCPC22B-50
80	F-BSP / F-BSP	18	PVCPC22B-80

PVC COMPRESSION COUPLING			
DN	End Types	PN	Code
20	Compression	18	PVCPCC-20
25	Compression	18	PVCPCC-25
32	Compression	18	PVCPCC-32
40	Compression	18	PVCPCC-40
50	Compression	18	PVCPCC-50
80	Compression	18	PVCPCC-80
100	Compression	18	PVCPCC-100

SOLVENT WELD JOINTS

TECHNICAL DATA

Solvent weld jointing and installation of PVC pipe systems to be in accordance with AS/NZS 2032 and PIPA Guideline POP102.

Pipe materials:	PVC-U and PVC-M
Standards:	AS/NZS 3879 Solvent Cements and Priming Fluids
Joint Types:	Tapered/Interference fit (most common for sizes up to DN150) Parallel/Clearance fit (can apply to imported fittings and fittings >DN150.
Solvent Types:	
- Type P (Green)	Pressure applications – Tapered/Interference fit joint
- Type N (Blue)	Non-pressure applications – Tapered/Interference fit joints
- Type G (Clear)	Gap filler applications – Parallel/Clearance fit joints
Priming Fluid (Red):	Suitable for Type P, N and G solvent cements.

For specialty products, such as PVC-C and ABS only use primer and solvents as recommended by the pipe manufacturer.

JOINTING PROCEDURE

PREPARE THE PIPE	Ensure Pipe is cut square and remove burrs and sharps edges from inside and outside edges using deburring tool.
WITNESS MARK THE PIPE	Mark the spigot with a witness mark (eg pencil line) at a distance equal to the internal depth of the socket. Do not use anything that will score the pipe surface.
APPLY PRIMING FLUID	Priming is crucial as it cleans and softens the PVC surface for effective bonding. Using a lint free cloth dampened with priming fluid; rub the spigot and socket surfaces that are to be bonded.
APPLY SOLVENT CEMENT	Use a suitable size brush that can effectively coat the surfaces in 30 seconds. Apply a thin even coat of solvent cement to the internal surface of the socket, then to the spigot up to the witness mark. Take care to avoid excess pools of solvent that will weaken the pipe.
INSERTING THE SPIGOT	Make the joint immediately as solvent cement will dry quickly. Insert the spigot in a single movement for the full depth of the joint and twist the spigot so that it rotates about a 1/4 turn whilst inserting.
SECURE THE JOINT	Hold the joint securely for 30 seconds then wipe off excess solvent cement. Do not disturb joint for a further 5 minutes to secure the bond. Do not fill pipe with water for at least 60 minutes after making the final joint.
CURE THE JOINT	Allow 24 hours before pressure testing where temperature is above 16 deg C. Allow 48 hours if temperature is 0 deg C,

RUBBER RING JOINTS

TECHNICAL DATA

Rubber ring jointing and installation of PVC pipe systems to be in accordance with AS/NZS 2032.

Pipe materials:	PVC-U, PVC-M and PVC-O
Standards:	ATS 5200.015 and AS/NZS 4020 (BK Anti-bacterial lubricant only)
Lubricant Types:	BK Type – Bactericidal lubricant (Anti-Bacterial for use in potable water applications) Std Type – Standard lubricant (for use in non-potable water applications)

JOINTING PROCEDURE

Refer to the Manufacturer's pipe label for joint information and specific jointing instructions.

CUTTING THE PIPE

PVC Pipe can be cut to length if required. Reproduce the chamfer (approx. 12-15 deg) and witness mark to match the manufactured dimensions.

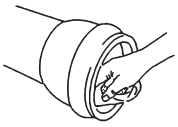
The witness mark will vary if inserting the pipe into a ductile iron fittings or mechanical coupling. Refer special notes below.

PREPARE THE PIPE

Do not use lubrication while cleaning.

Pipe spigot – clean spigot to witness mark.

Socket (Reiber ring) – these rings are installed during the manufacturing process and cannot be removed on site. Check to ensure ring is securely in place and clean socket around the ring.



Socket (all other rings) - clean and dry the ring groove and insert the rubber ring into the groove as shown on the label.

APPLY LUBRICATION

Lubricate the pipe spigot to the witness mark including the chamfered edge. Do not lubricate the socket or rubber ring unless recommended by the pipe manufacturer.

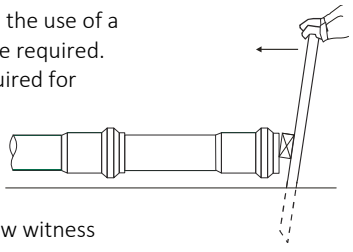
ASSEMBLY

Pipes must be aligned during assembly to ensure an effective joint.

Restrain the socket of the previously installed pipe to prevent further compression of the pipeline joints while assembling the new joint.

Insert the chamfered edge of the spigot into the socket and apply a firm even thrust to push home to the witness mark.

This can be achieved by hand on smaller pipes. On larger pipes, the use of a bar thrust against a timber block to protect the pipe end may be required. Alternatively, a commercially available pipe joiners may be required for larger diameter pipes.



SPECIAL NOTE – WITNESS MARKS

Ductile Iron Fittings

Check the socket depth of the ductile iron fitting and mark a new witness line on the PVC spigot to match.

Couplings

Allowance should be made for a gap between pipe ends for couplings. Refer to the coupling manufacturer's instructions to determine the depth of insertion and mark a new witness line on the PVC spigot to match

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