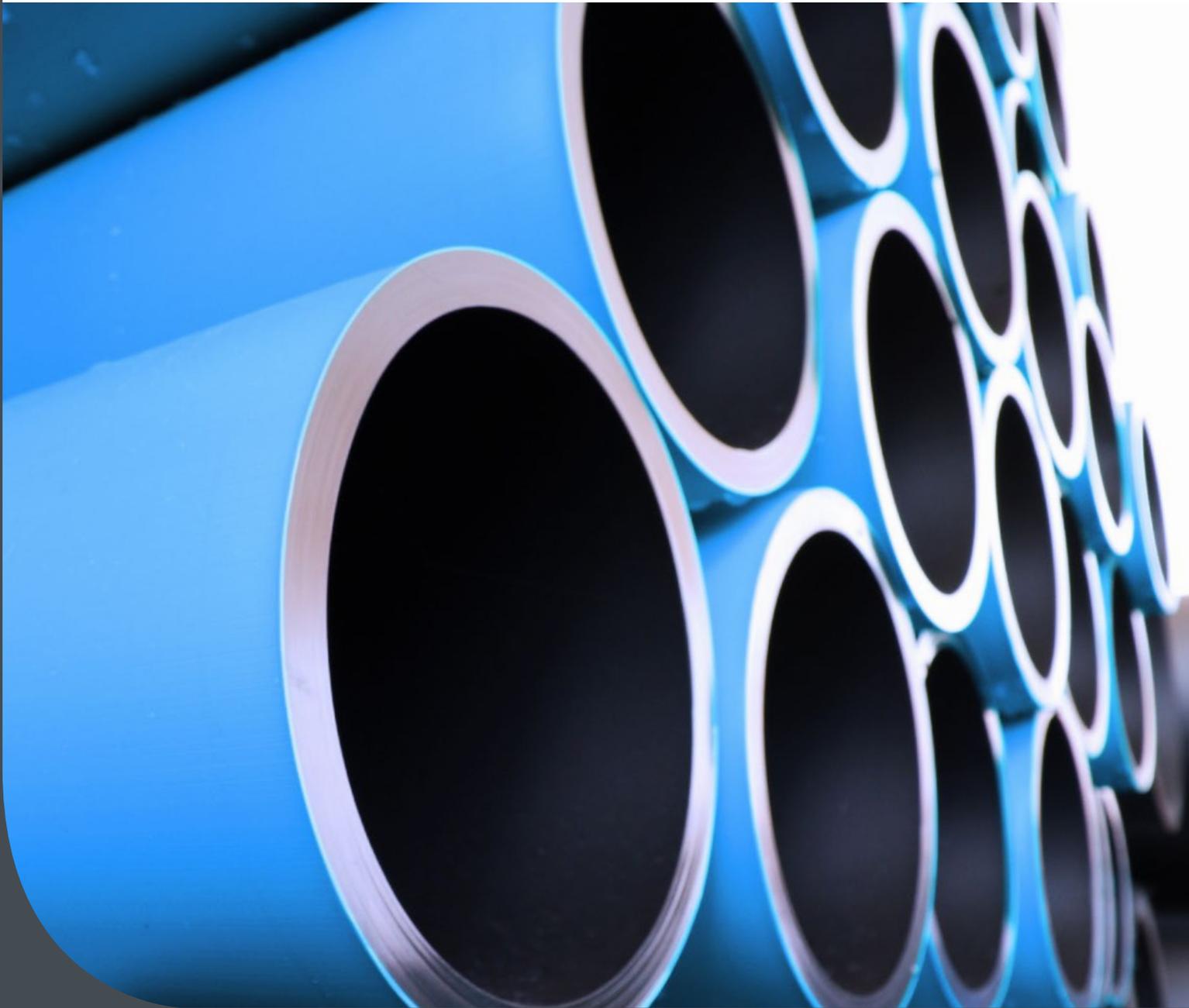


Civil, Water & Infrastructure

Product Catalogue

Version 1.06





PE808
2 1/2

312052
30700725
250001
PE808
2 1/2
**WATERS &
DIAMETER**

PE808 2 1/2

Established in 1954, Waters & Farr is a leading New Zealand manufacturer of high performance polyethylene and polypropylene pipe for civil, utilities and rural applications.

Overview

Manufacturing and distribution sites in Whanganui and Rangiora, supported by an additional distribution centre in Auckland, ensures timely product supply to customers throughout New Zealand. Waters & Farr products are distributed to installers and asset owners through a nationwide network of merchant stockists servicing the civil, utilities and rural sectors.

Waters & Farr is committed to continuous improvement. Ongoing investment in plant and equipment is focussed on meeting customer needs and delivering innovative solutions. Our comprehensive range of polyethylene and polypropylene pipe extends from 13mm to 1200mm in diameter.

Commitment to quality

- Waters & Farr maintains a quality management system certification to ISO 9001
- 'S' mark certification to AS/NZS 4130 and AS/NZS 5065 is maintained via independent third party verification.
- PipeTest NZ, a division of Waters & Farr, was established as an independent IANZ accredited testing laboratory. PipeTest NZ conducts a comprehensive range of pipe and fusion joint testing on pipeline products for Waters & Farr and external parties.
- Waters & Farr operates under founding values that underpin our business practices in order to deliver positive outcomes for our people and our customers.

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Waters & Farr Terms and Conditions

Information or advice contained in this catalogue or obtained from Waters & Farr otherwise is given in good faith. Waters & Farr make no warranty or representation regarding the information, opinions and recommendations contained in this catalogue. Users of this catalogue are advised to seek and rely upon their own professional advice and assessment of the matters contained in this catalogue. Waters & Farr excludes all liability to any user of this catalogue for consequential or indirect damages, or any other form of compensation or relief whatsoever for any acts or omissions of Waters & Farr, arising out of or in connection with the use of this catalogue irrespective of whether the same arises at law, inequity or otherwise.

PLAIN WALL POLYETHYLENE PRESSURE PIPE CLASSIFICATION

SERIES 1 TO AS/NZS 4130

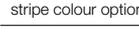
PN	Nominal Working Pressure at 20°C				SDR	
	MPa	kPa	bar	p.s.i.	PE 80B	PE 100
3.2	0.32	320	3.2	46	SDR 41	-
4	0.40	400	4.0	58	SDR 33	SDR 41
6.3	0.63	630	6.3	91	SDR 21	SDR 26
8	0.80	800	8.0	116	SDR 17	SDR 21
10	1.00	1000	10.0	145	SDR 13.6	SDR 17
12.5	1.25	1250	12.5	181	SDR 11	SDR 13.6
16	1.60	1600	16.0	232	SDR 9	SDR 11
20	2.00	2000	20.0	290	SDR 7.4	SDR 9
25	2.50	2500	25.0	362	-	SDR 7.4

PRODUCT ATTRIBUTES

CORRECTLY DESIGNED AND INSTALLED POLYETHYLENE PIPE SYSTEMS USING WATERS & FARR PRODUCTS INCLUDE:

- Inert, corrosion free pipe material
- Low specific weight
- Low installation and maintenance costs
- Leak free welded construction
- Good resistance to impacts, ground movement
- High strength, durability and abrasion resistance
- Flexibility
- Long service life
- Polyethylene pipe is widely recognized as having good seismically resilient properties, which is supported by its performance in the 2010/2011 Canterbury earthquakes.

Source: SEISMIC PERFORMANCE OF PLASTIC PIPE SYSTEMS IN 2010/11 CANTERBURY EARTHQUAKES by Bill Noell, Water Services Infrastructure Lead, Pattle Delamore Partners.

Colour	Common Use
	Potable (Drinking) Water PE100
	Potable (Drinking) Water PE80
	Gas PE 80 and Gas PE100
	Reclaimed Water
	Pressure Sewer
	Electrical Conduit
	Communication / Rural
	Fibre optic / Rural

Refer to AS/NZS 4130 for specification information on pipe jacket and stripe colour options.

GENERAL INFORMATION

- MTO = Made to Order. Capability exists to produce a wide range of DN/SDR variations up to DN1200.
- Pipes are available in coils, straight lengths and on returnable drums, subject to DN/SDR/Length.
- Pressure pipes conformance to AS/NZS 4130 is independently certified by Bureau Veritas.
- For pipeline design and installation refer to AS/NZS 2566 and AS/NZS 2033.
- Technical guides are available on <http://watersandfarr.co.nz/technical-information>

PRESSURE PIPE DIMENSIONS TO AS/NZS 4130

Pressure/Water PE Pipe - Series 1 to AS/NZS 4130

Nominal outside diameter (DN)	Mean outside diameter		Maximum out-of-roundness	SDR 13.6				SDR 11				SDR 9			
				Wall thickness		Mean inside diameter		Wall thickness		Mean inside diameter		Wall thickness		Mean inside diameter	
	Min	Max		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
20	20.0	20.3	1.2	1.6	1.9	16.2	17.1	1.9	2.2	15.6	16.5	2.3	2.7	14.6	15.7
25	25.0	25.3	1.2	1.9	2.2	20.6	21.5	2.3	2.7	19.6	20.7	2.8	3.2	18.6	19.7
32	32.0	32.3	1.3	2.4	2.8	26.4	27.5	2.9	3.3	25.4	26.5	3.6	4.1	23.8	25.1
40	40.0	40.4	1.4	3.0	3.4	33.2	34.4	3.7	4.2	31.6	33.0	4.5	5.1	29.8	31.4
50	50.0	50.5	1.4	3.7	4.2	41.6	43.1	4.6	5.2	39.6	41.2	5.6	6.3	37.4	39.3
63	63.0	63.6	1.5	4.7	5.3	52.4	54.2	5.8	6.5	50.0	52.0	7.1	8.0	47.0	49.4
75	75.0	75.7	1.6	5.5	6.2	62.6	64.7	6.8	7.6	59.8	62.1	8.4	9.4	56.2	58.9
90	90.0	90.9	1.8	6.6	7.4	75.2	77.7	8.2	9.2	71.6	74.5	10.1	11.3	67.4	70.7
110	110.0	111.0	2.2	8.1	9.1	91.8	94.8	10.0	11.1	87.8	91.0	12.3	13.7	82.6	86.4
125	125.0	126.2	2.5	9.2	10.3	104.4	107.8	11.4	12.7	99.6	103.4	14.0	15.5	94.0	98.2
140	140.0	141.3	2.8	10.3	11.5	117.0	120.7	12.7	14.1	111.8	115.9	15.7	17.4	105.2	109.9
160	160.0	161.5	3.2	11.8	13.1	133.8	137.9	14.6	16.2	127.6	132.3	17.9	19.8	120.4	125.7
180	180.0	181.7	3.6	13.3	14.8	150.4	155.1	16.4	18.2	143.6	148.9	20.1	22.3	135.4	141.5
200	200.0	201.8	4.0	14.7	16.3	167.4	172.7	18.2	20.2	159.6	165.4	22.4	24.8	150.4	157.0
225	225.0	227.1	4.5	16.6	18.4	188.2	193.9	20.5	22.7	179.6	186.1	25.1	27.8	169.4	176.9
250	250.0	252.3	5.0	18.4	20.4	209.2	215.5	22.7	25.1	199.8	206.9	27.9	30.8	188.4	196.5
280	280.0	282.6	9.8	20.6	22.8	234.4	241.4	25.4	28.1	223.8	231.8	31.3	34.6	210.8	220.0
315	315.0	317.9	11.1	23.2	25.7	263.6	271.5	28.6	31.6	251.8	260.7	35.2	38.9	237.2	247.5
355	355.0	358.2	12.5	26.1	28.9	297.2	306.0	32.2	35.6	283.8	293.8	39.6	43.7	267.6	279.0
400	400.0	403.6	14.0	29.4	32.5	335.0	344.8	36.3	40.1	319.8	331.0	44.7	49.3	301.4	314.2
450	450.0	454.1	15.6	33.1	36.6	376.8	387.9	40.9	45.1	359.8	372.3	50.2	55.4	339.2	353.7
500	500.0	504.5	17.5	36.8	40.6	418.8	430.9	45.4	50.1	399.8	413.7	55.8	61.5	377.0	392.9
560	560.0	565.0	19.6	41.2	45.5	469.0	482.7	50.8	56.0	448.0	463.5	62.5	68.9	422.2	438.4
630	630.0	635.7	22.1	46.3	51.1	527.8	543.1	57.2	63.1	503.8	521.3	70.3	77.5	475.0	493.2
710	710.0	716.4	24.9	52.2	57.6	594.8	612.0	64.5	71.1	567.8	587.4	79.3	87.4	535.2	557.8
800	800.0	807.2	28.0	58.8	64.8	670.4	689.6	72.5	80.0	640.0	662.0	89.3	98.4	603.2	628.6
900	900.0	908.1	31.5	66.2	73.0	754.0	775.7	81.7	90.0	720.0	744.7	-	-	-	-
1000	1000.0	1009.0	35.0	72.5	79.9	840.2	864.0	90.8	100.0	800.0	827.4	-	-	-	-
1200	1200.0	1210.0	42.0	88.2	97.2	1005.6	1034.4	-	-	-	-	-	-	-	-

Notes:

- Dimensions in mm.
- As per AS/NZS4130, Clause 9.4, out of roundness requirements shall apply at the time of manufacture and before coiling. These requirements are applicable to pipe of SDR17 and less.
- Wall thickness for DN1000 SDR13.6 according to ISO 4427-2: minimum 73.5 mm, maximum 80.9 mm.



POTABLE (DRINKING) WATER

- MTO = Made to Order. Capability exists to produce a wide range of DN/SDR variations up to DN1200.
- Pipes are available in coils, straight lengths and on returnable drums, subject to DN/SDR/Length.
- Pressure pipes conformance to AS/NZS 4130 is independently certified by Bureau Veritas
- For pipeline design and installation refer to AS/NZS 2566 and AS/NZS 2033.
- Technical guides are available on <http://watersandfarr.co.nz/technical-information/>

BLACK-BLUE JACKET PIPE COILS / LENGTHS

PN12.5 SDR11 PE80B

Item Code	DN	Stocked Lengths (m)					Av. Wall (mm)	Av. ID (mm)
		5	25	50	100	200		
WJ20.11	20	✓	✓	✓	✓	MTO	2.1	16.1
WJ25.11	25	✓	✓	✓	✓	✓	2.5	20.2
WJ32.11	32	✓	✓	✓	✓	✓	3.1	26.0
WJ40.11	40	✓	✓	✓	✓	✓	4.0	32.3
WJ50.11	50	✓	✓	✓	✓	MTO	4.9	40.4
WJ63.11	63	✓	✓	✓	✓	MTO	6.2	51.0

Note: Full product code includes pipe length. Example: WJ20.11 pipe in 100m length – code: WJ20.11.100



PN12.5 SDR13.6 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WJH90.13	90		MTO		7.0	76.5
WJH110.13			MTO		8.6	93.3
WJH125.13	125	✓	✓	✓	9.8	106.1
WJH140.13	140		MTO		10.9	118.8
WJH160.13	160		MTO		12.5	135.9
WJH180.13	180	✓	✓		14.1	152.8
WJH200.13	200		MTO		15.5	170.1
WJH225.13	225	MTO	✓		17.5	191.1
WJH250.13	250	✓	✓		19.4	212.4
WJH280.13	280	MTO	✓		21.7	237.9
WJH315.13	315	✓	✓		24.5	267.6
WJH355.13	355	✓	✓		27.5	301.6
WJH400.13	400		MTO		31.0	339.9
WJH450.13	450	✓	✓		34.9	382.4

Note: Full product code includes pipe length. Example: WJH125.13 pipe in 100m length – code: WJH125.13.100



PN16 SDR11 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WJH125.11	125	✓	✓	✓	12.1	101.5
WJH140.11	140		MTO		13.4	113.9
WJH160.11	160		MTO		15.4	130.0
WJH180.11	180		MTO		17.3	146.3
WJH200.11	200	✓	✓		19.2	162.5
WJH225.11	225	✓	✓		21.6	182.9
WJH250.11	250	✓	✓		23.9	203.4
WJH280.11	280	MTO	✓		26.8	227.8
WJH315.11	315	MTO	✓		30.1	256.3
WJH355.11	355		MTO		33.9	288.8
WJH400.11	400		MTO		38.2	325.4
WJH450.11	450		MTO		43.0	366.1

Note: Full product code includes pipe length. Example WJH180.11 pipe in 12m length - code WJH180.11.12



BLACK-BLUE STRIPED PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHS125.13	125	MTO			9.8	106.1
WHS180.13	180	MTO			14.1	152.8
WHS225.13	225	MTO			17.5	191.1
WHS250.13	250	MTO			19.4	212.4
WHS280.13	280	MTO			21.7	237.9
WHS315.13	315	MTO			24.5	267.5
WHS355.13	355	MTO			27.5	301.6
WHS400.13	400	MTO			31.0	339.9
WHS450.13	450	MTO			34.9	382.4
WHS500.13	500	MTO			38.7	424.9
WHS560.13	560	MTO			43.4	475.9
WHS630.13	630	MTO			48.7	535.5
WHS710.13	710	MTO			54.9	603.4
WHS800.13	800	MTO			61.8	680.0



Note: Full product code includes pipe length. Example: WHS125.13 pipe in 100m length - Code: WHS125.13.100

PN16 SDR11 PE100

Item Code	DN	Stocked Lengths (m)					Av. Wall (mm)	Av. ID (mm)
		6	12	25	50	100		
WHS20.11	20	MTO					2.1	16.1
WHS25.11	25	✓		✓	✓	✓	2.5	20.2
WHS32.11	32	✓		✓	✓	✓	3.1	26.0
WHS40.11	40	✓		✓	✓	✓	4.0	32.3
WHS50.11	50	✓		✓	✓	✓	4.9	40.4
WHS63.11	63	✓		✓	✓	✓	6.2	51.0
WHS125.11	125	✓	✓			MTO	12.1	101.5
WHS180.11	180	✓	✓				17.3	146.3
WHS250.11	250	✓	✓				23.9	203.4
WHS315.11	315	MTO					30.1	256.3
WHS355.11	355	MTO					33.9	288.8
WHS400.11	400	MTO					38.2	325.4
WHS450.11	450	MTO					43.0	366.1
WHS500.11	500	MTO					47.8	406.8
WHS630.11	630	MTO					60.2	512.6
WHS710.11	710	MTO					67.8	577.6
WHS800.11	800	MTO					76.3	651.0



Note: Full product code includes pipe length. Example: WHS20.11 pipe in 100m length - code: WHS20.11.100



PE100RC PIPE COILS / LENGTHS BLACK-BLUE JACKET PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WJR125.13	125	✓	✓	✓	9.8	106.1
WJR180.13	180	✓	✓		14.1	152.8
WJR225.13	225	MTO	✓		17.5	191.1
WJR250.13	250	✓	✓		19.4	212.4
WJR280.13	280	MTO	✓		21.7	237.9
WJR315.13	315	✓	✓		24.5	267.6
WJR355.13	355	✓	✓		27.5	301.6
WJR400.13	400	MTO			31.0	339.6
WJR450.13	450	✓	✓		34.9	382.4

Note: Full product code includes pipe length. Example: WJR125.13 pipe in 100m length – code: WJR125.13.100



PN16 SDR11 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WJR125.11	125	✓	✓	✓	12.1	101.5
WJR180.11	180	✓	✓		17.3	146.3
WJR225.11	225	MTO			21.6	182.9
WJR250.11	250	✓	✓		23.9	203.4
WJR280.11	280	MTO			26.8	227.8
WJR315.11	315	✓	✓		30.1	256.3
WJR355.11	355	✓	✓		33.9	288.8
WJR400.11	400	MTO			38.2	325.4
WJR450.11	450	MTO			43.0	366.1

Note: Full product code includes pipe length. Example WJR180.11 pipe in 12m length - code WJR180.11.12



BLACK-BLUE STRIPED PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRS125.13	125		MTO		9.8	106.1
WRS180.13	180		MTO		14.1	152.8
WRS225.13	225		MTO		17.5	191.1
WRS250.13	250		MTO		19.4	212.4
WRS280.13	280		MTO		21.7	237.9
WRS315.13	315		MTO		24.5	267.5
WRS355.13	355		MTO		27.5	301.6
WRS400.13	400		MTO		31.0	339.9
WRS450.13	450		MTO		34.9	382.4

Note: Full product code includes pipe length. Example: WJR125.13 pipe in 100m length - Code: WJR125.13.100



PN16 SDR11 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRS125.11	125		MTO		12.1	101.5
WRS180.11	180		MTO		17.3	146.3
WRS255.11	225		MTO		21.6	182.9
WRS250.11	250		MTO		23.9	203.4
WRS280.11	280		MTO		26.8	227.8
WRS315.11	315		MTO		30.1	256.3
WRS355.11	355		MTO		33.9	288.8
WRS400.11	400		MTO		38.2	325.4
WRS450.11	450		MTO		43.0	366.1

Note: Full product code includes pipe length. Example: WRS125.11 pipe in 100m length – code: WRS125.11.100



PRESSURE SEWER

- MTO = Made to Order.
- Pipes are available in coils, straight lengths and on returnable drums, subject to DN/SDR/Length.
- Pressure pipes conformance to AS/NZS 4130 is independently certified by Bureau Veritas.
- For pipeline design and installation refer to AS/NZS 2566 and AS/NZS 2033.
- Technical guides are available on <http://watersandfarr.co.nz/technical-information>

BLACK-CREAM STRIPED PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHS40.13....CRM	40		MTO		3.2	33.8
WHS50.13....CRM	50		MTO		4.0	42.4
WHS63.13....CRM	63		MTO		5.0	53.3
WHS75.13....CRM	75		MTO		5.9	63.7
WHS90.13....CRM	90		MTO		7.0	76.5
WHS110.13....CRM	110		MTO		8.6	93.3
WHS125.13....CRM	125		MTO		9.8	106.1
WHS160.13....CRM	160	MTO			12.5	135.9
WHS180.13....CRM	180	MTO			14.1	152.8
WHS250.13....CRM	250	MTO			17.5	191.1
WHS280.13....CRM	280	MTO			19.4	212.4
WHS315.13....CRM	315	MTO			24.5	267.5
WHS355.13....CRM	355	MTO			27.5	301.6
WHS400.13....CRM	400	MTO			31.0	339.9
WHS450.13....CRM	450	MTO			34.9	382.4
WHS500.13....CRM	500	MTO			38.7	424.9
WHS560.13....CRM	560	MTO			43.4	475.9
WHS630.13....CRM	630	MTO			48.7	535.5
WHS710.13....CRM	710	MTO			54.9	603.4
WHS800.13....CRM	800	MTO			61.8	680.0
WHS900.13....CRM	900	MTO			69.6	764.8
WHS1000.13....CRM	1000	MTO			76.2	852.1
WHS1200.13....CRM	1200	MTO			92.7	1019.6

Note: Full product code includes pipe length. Example: WHS40.13. ... CRM pipe in 100m length - code:WHS40.13.100CRM.

PN16 SDR11 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHS20.11....CRM	20		MTO		2.1	16.1
WHS25.11....CRM	25		MTO		2.5	20.1
WHS32.11....CRM	32	✓	✓	✓	3.1	25.9
WHS40.11....CRM	40	✓	✓	✓	4.0	32.3
WHS50.11....CRM	50	✓	✓	✓	4.9	40.4
WHS63.11....CRM	63	✓	✓	✓	6.2	51.0
WHS75.11....CRM	75	✓	✓	✓	7.3	60.8
WHS90.11....CRM	90	✓	✓	✓	8.7	73.0
WHS110.11....CRM	110	✓	MTO	✓	10.6	89.4
WHS125.11....CRM	125		MTO		12.1	101.5
WHS160.11....CRM	160		MTO		15.4	129.9
WHS180.11....CRM	180		MTO		17.3	146.3
WHS250.11....CRM	250		MTO		23.9	203.4
WHS280.11....CRM	280		MTO		26.8	227.8
WHS315.11....CRM	315		MTO		30.1	256.3
WHS355.11....CRM	355		MTO		33.9	288.8
WHS400.11....CRM	400		MTO		38.2	325.4
WHS450.11....CRM	450		MTO		43.0	366.1
WHS500.11....CRM	500		MTO		47.8	406.8
WHS560.11....CRM	560		MTO		53.4	455.8
WHS630.11....CRM	630		MTO		60.2	512.6
WHS710.11....CRM	710		MTO		67.8	577.6
WHS800.11....CRM	800		MTO		76.3	651.0
WHS900.11....CRM	900		MTO		85.9	732.3
WHS1000.11....CRM	1000		MTO		94.8	814.9

Note: Full product code includes pipe length. Example: WHS40.11. ... CRM pipe in 100m length - code: WHS40.11.100CRM.

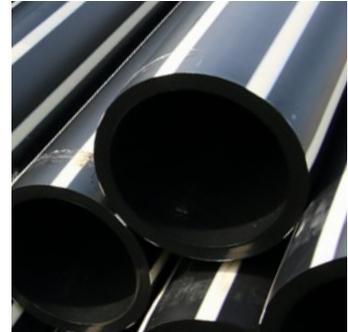


PE100RC PIPE COILS / LENGTHS

BLACK-CREAM STRIPED PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRS63.13...CRM	63		MTO		5.0	53.3
WRS75.13...CRM	75		MTO		5.9	63.7
WRS90.13...CRM	90		MTO		7.0	76.5
WRS110.13...CRM	110		MTO		8.6	93.3
WRS125.13...CRM	125		MTO		9.8	106.1
WRS160.13...CRM	160	MTO			12.5	135.9
WRS180.13...CRM	180	MTO			14.1	152.8
WRS250.13...CRM	250	MTO			17.5	191.1
WRS280.13...CRM	280	MTO			19.4	212.4
WRS315.13...CRM	315	MTO			24.5	267.5
WRS355.13...CRM	355	MTO			27.5	301.6
WRS400.13...CRM	400	MTO			31.0	339.9
WRS450.13...CRM	450	MTO			34.9	382.4
WRS500.13...CRM	500	MTO			38.7	424.9
WRS560.13...CRM	560	MTO			43.4	475.9
WRS630.13...CRM	630	MTO			48.7	535.5
WRS710.13...CRM	710	MTO			54.9	603.4
WRS800.13...CRM	800	MTO			61.8	680.0
WRS900.13...CRM	900	MTO			69.6	764.8
WRS1000.13...CRM	1000	MTO			76.2	852.1
WRS1200.13...CRM	1200	MTO			92.7	1019.6



Note: Full product code includes pipe length. Example: WRS63.13. ... CRM pipe in 100m length - code:WRS63.13.100CRM.

PN16 SDR11 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRS63.11...CRM	63		MTO		6.2	51.0
WRS75.11...CRM	75		MTO		7.3	60.8
WRS90.11...CRM	90		MTO		8.7	73.0
WRS110.11...CRM	110		MTO		10.6	89.4
WRS125.11...CRM	125		MTO		12.1	101.5
WRS160.11...CRM	160	MTO			15.4	129.9
WRS180.11...CRM	180	MTO			17.3	146.3
WRS250.11...CRM	250	MTO			23.9	203.4
WRS280.11...CRM	280	MTO			26.8	227.8
WRS315.11...CRM	315	MTO			30.1	256.3
WRS355.11...CRM	355	MTO			33.9	288.8
WRS400.11...CRM	400	MTO			38.2	325.4
WRS450.11...CRM	450	MTO			43.0	366.1
WRS500.11...CRM	500	MTO			47.8	406.8
WRS560.11...CRM	560	MTO			53.4	455.8
WRS630.11...CRM	630	MTO			60.2	512.6
WRS710.11...CRM	710	MTO			67.8	577.6
WRS800.11...CRM	800	MTO			76.3	651.0
WRS900.11...CRM	900	MTO			85.9	732.3
WRS1000.11...CRM	1000	MTO			94.8	814.9



Note: Full product code includes pipe length. Example: WRS63.11. ... CRM pipe in 100m length - code: WRS63.11.100CRM.

GENERAL PRESSURE

- MTO = Made to Order.
- Pipes are available in coils, straight lengths and on returnable drums, subject to DN/SDR/Length.
- Pressure pipes conformance to AS/NZS 4130 is independently certified by Bureau Veritas.
- For pipeline design and installation refer to AS/NZS 2566 and AS/NZS 2033.
- Technical guides are available on <http://watersandfarr.co.nz/technical-information/>

BLACK PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHB90.13	90		MTO		7.0	76.4
WHB110.13	110	✓	✓	MTO	8.6	93.3
WHB125.13	125	✓	✓	MTO	9.8	106.1
WHB140.13	140		MTO		10.9	118.8
WHB160.13	160		MTO		12.5	135.9
WHB180.13	180	✓	✓		14.1	152.7
WHB200.13	200		MTO		15.5	169.9
WHB225.13	225		MTO		17.5	191.0
WHB250.13	250	✓	✓		19.4	212.3
WHB280.13	280		MTO		21.7	237.9
WHB315.13	315		MTO		24.5	267.5
WHB355.13	355		MTO		27.5	301.6
WHB400.13	400		MTO		31.0	339.9
WHB450.13	450		MTO		34.9	382.3
WHB500.13	500		MTO		38.7	424.9
WHB560.13	560		MTO		43.4	475.9
WHB630.13	630		MTO		48.7	535.5
WHB710.13	710		MTO		54.9	603.4
WHB800.13	800		MTO		81.8	680.0
WHB900.13	900		MTO		69.6	764.8
WHB1000.13	1000		MTO		76.2	852.1
WHB1200.13	1200		MTO		92.7	1019.2

Note: Full product code includes pipe length. Example: WHB90.13 pipe in 100m length – code: WHB90.13.100.

PN16 SDR11 PE100

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHB90.11	90	✓	✓	MTO	8.7	73.0
WHB110.11	110	✓	✓	MTO	10.6	89.4
WHB125.11	125	✓	✓	MTO	12.1	101.5
WHB140.11	140		MTO		13.4	113.8
WHB160.11	160	✓	✓		15.4	129.9
WHB180.11	180	✓	✓		17.3	146.2
WHB200.11	200		MTO		19.2	162.5
WHB225.11	225		MTO		21.6	182.8
WHB250.11	250		MTO		23.9	203.3
WHB280.11	280		MTO		26.8	227.8
WHB315.11	315		MTO		30.1	256.2
WHB355.11	355		MTO		33.9	288.8
WHB400.11	400		MTO		38.2	325.4
WHB450.11	450		MTO		43.0	366.0
WHB500.11	500		MTO		47.8	406.8
WHB560.11	560		MTO		53.4	455.8
WHB630.11	630		MTO		60.2	512.6
WHB710.11	710		MTO		67.8	577.6
WHB800.11	800		MTP		76.3	651.0
WHB900.11	900		MTO		85.9	732.3
WHB800.11	1000		MTO		94.8	814.9

Note: Full product code includes pipe length. Example: WHB90.11 pipe in 100m length – code: WHB90.11.100.



PE100RC PIPE COILS / LENGTHS

BLACK PIPE COILS / LENGTHS

PN12.5 SDR13.6 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRB90.13	90		MTO		7.0	76.4
WRB110.13	110		MTO		8.6	93.3
WRB125.13	125		MTO		9.8	106.1
WRB140.13	140		MTO		10.9	118.8
WRB160.13	160		MTO		12.5	135.9
WRB180.13	180		MTO		14.1	152.7
WRB200.13	200		MTO		15.5	169.9
WRB225.13	225		MTO		17.5	191.0
WRB250.13	250		MTO		19.4	212.3
WRB280.13	280		MTO		21.7	237.9
WRB315.13	315		MTO		24.5	267.5
WRB355.13	355		MTO		27.5	301.6
WRB400.13	400		MTO		31.0	339.9
WRB450.13	450		MTO		34.9	382.3
WRB500.13	500		MTO		38.7	424.9
WRB560.13	560		MTO		43.4	475.9
WRB630.13	630		MTO		48.7	535.5
WRB710.13	710		MTO		54.9	603.4
WRB800.13	800		MTO		61.8	680.0
WRB900.13	900		MTO		69.6	764.8
WRB1000.13	1000		MTO		76.2	852.1
WRB1200.13	1200		MTO		92.7	1019.6

Note: Full product code includes pipe length. Example: WRB90.13 pipe in 100m length – code: WRB90.13.100.



PN16 SDR11 PE100RC

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WRB90.11	90		MTO		8.7	73.0
WRB110.11	110		MTO		10.6	89.4
WRB125.11	125		MTO		12.1	101.5
WRB140.11	140		MTO		13.4	113.8
WRB160.11	160		MTO		15.4	129.9
WRB180.11	180	✓	✓		17.3	146.2
WRB200.11	200		MTO		19.2	162.5
WRB225.11	225		MTO		21.6	182.8
WRB250.11	250	✓	✓		23.9	203.3
WRB280.11	280		MTO		26.8	227.8
WRB315.11	315	✓	✓		30.1	256.2
WRB355.11	355	✓	✓		33.9	288.8
WRB400.11	400		MTO		38.2	325.4
WRB450.11	450		MTO		43.0	366.0
WRB500.11	500		MTO		47.8	406.8
WRB560.11	560		MTO		53.4	455.8
WRB630.11	630		MTO		60.2	512.6
WRB710.11	710		MTO		67.8	577.6
WRB800.11	800		MTO		76.3	651.0
WRB900.11	900		MTO		85.9	732.3
WRB1000.11	1000		MTO		84.8	814.9

Note: Full product code includes pipe length. Example: WRB90.11 pipe in 100m length – code: WRB90.11.100.



DRAINAGE /STORMWATER

BLACK PIPE COILS / LENGTHS

PN10 SDR17 PE100 (SN16)

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
SH90.17	90	✓	✓	✓	5.8	78.9
SH110.17	110	✓	✓	✓	7.0	96.5
SH125.17	125	✓	✓	✓	7.9	109.9
SH140.17	140		MTO		8.8	123.0
SH160.17	160	✓	✓		10.1	140.6
SH180.17	180	✓	✓		11.3	158.2
SH200.17	200	✓	✓		12.6	175.8
SH225.17	225	✓	✓		14.2	197.7
SH250.17	250	✓	✓		15.6	219.9
SH280.17	280	✓	✓		17.5	246.3
SH315.17	315	✓	✓		19.7	277.0
SH355.17	355	✓	✓		22.3	312.1
SH400.17	400	✓	✓		25.0	351.9
SH450.17	450	✓	✓		28.1	395.8
SH500.17	500		MTO		31.2	439.8
SH560.17	560		MTO		35.0	492.6
SH630.17	630		MTO		39.3	554.3
SH710.17	710		MTO		44.3	624.6
SH800.17	800		MTO		49.9	703.9
SH900.17	900		MTO		56.3	791.5
SH1000.17	1000		MTO		62.4	879.8
SH1200.17	1200		MTO		74.2	1056.6

Note: Full product code includes pipe length. Example:SH90.17 pipe in 100m length – code: SH90.17.100

PN10 SDR17 PE100RC (SN16)

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
SR90.17	90		MTO		5.8	78.9
SR110.17	110		MTO		7.0	96.5
SR125.17	125	✓	✓	✓	7.9	109.9
SR140.17	140		MTO		8.8	123.0
SR160.17	160		MTO		10.1	140.6
SR180.17	180	✓	✓		11.3	158.2
SR200.17	200		MTO		12.6	175.8
SR225.17	225		MTO		14.2	197.7
SR250.17	250	✓	✓		15.6	219.9
SR280.17	280		MTO		17.5	246.3
SR315.17	315		MTO		19.7	277.0
SR355.17	355		MTO		22.3	312.1
SR400.17	400		MTO		25.0	351.9
SR450.17	450		MTO		28.1	395.8
SR500.17	500		MTO		31.2	439.8
SR560.17	560		MTO		35.0	492.6
SR630.17	630		MTO		39.3	554.3
SR710.17	710		MTO		44.3	624.6
SR800.17	800		MTO		49.9	703.9
SR900.17	900		MTO		56.3	791.5
SR1000.17	1000		MTO		62.4	879.8
SR1200.17	1200		MTO		74.2	1056.6

Note: Full product code includes pipe length. Example:SR90.17 pipe in 100m length – code: SR90.17.100



PN8 SDR21 PE100RC (SN8)

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
SR90.21	90		MTO		4.6	81.2
SR110.21	110		MTO		5.7	99.2
SR125.21	125		MTO		6.4	112.9
SR140.21	140		MTO		7.1	126.4
SR160.21	160		MTO		8.2	144.4
SR180.21	180		MTO		9.1	162.6
SR200.21	200		MTO		10.2	180.6
SR225.21	225		MTO		11.4	203.2
SR250.21	250		MTO		12.6	226.0
SR280.21	280		MTO		14.2	253.0
SR315.21	315		MTO		15.8	284.8
SR355.21	355		MTO		17.8	321.0
SR400.21	400		MTO		20.2	361.5
SR450.21	450		MTO		22.7	406.7
SR500.21	500		MTO		25.2	451.9
SR560.21	560		MTO		28.1	506.3
SR630.21	630		MTO		31.6	569.7
SR710.21	710		MTO		35.7	641.9
SR800.21	800		MTO		40.1	723.4
SR900.21	900		MTO		45.1	813.8
SR1000.21	1000		MTO		50.2	904.2
SR1200.21	1200		MTO		60.2	1084.7



Note: Full product code includes pipe length. Example: SH90.21 pipe in 100m length – code: SH90.21.100

GENERAL DRAINAGE

POLYETHYLENE PLAIN WALL PIPES TO AS/NZS 4130 SERIES 1 & AS/NZS 5065

Nominal outside diameter (DN)	Mean outside diameter		Maximum out of roundness	SDR 26		SDR 21		SDR 17	
				Wall thickness		Wall thickness		Wall thickness	
	Min.	Max.		Min.	Max.	Min.	Max.	Min.	Max.
110	110.0	111.0	2.2	4.3	4.9	5.3	6.0	6.6	7.4
125	125.0	126.2	2.5	4.8	5.4	6.0	6.7	7.4	8.3
140	140.0	141.3	2.8	5.4	6.1	6.7	7.5	8.3	9.3
160	160.0	161.5	3.2	6.2	7.0	7.7	8.6	9.5	10.6
180	180.0	181.7	3.6	6.9	7.7	8.6	9.6	10.7	11.9
200	200.0	201.8	4.0	7.7	8.6	9.6	10.7	11.9	13.2
225	225.0	227.1	4.5	8.6	9.6	10.8	12.0	13.4	14.9
250	250.0	252.3	5.0	9.6	10.7	11.9	13.2	14.8	16.4
280	280.0	282.6	9.8	10.7	11.9	13.4	14.9	16.6	18.4
315	315.0	317.9	11.1	12.1	13.5	15.0	16.6	18.7	20.7
355	355.0	358.2	12.5	13.6	15.1	16.9	18.7	21.1	23.4
400	400.0	403.6	14.0	15.3	17.0	19.1	21.2	23.7	26.2
450	450.0	454.1	15.6	17.2	19.1	21.5	23.8	26.7	29.5
500	500.0	504.5	17.5	19.1	21.2	23.9	26.4	29.6	32.7
560	560.0	565.0	19.6	21.4	23.7	26.7	29.5	33.2	36.7
630	630.0	635.7	22.1	24.1	26.7	30.0	33.1	37.3	41.2
710	710.0	716.4	24.9	27.2	30.1	33.9	37.4	42.1	46.5
800	800.0	807.2	28.0	30.6	33.8	38.1	42.1	47.4	52.3
900	900.0	908.1	31.5	34.4	38.0	42.9	47.3	53.5	59.0
1000	1000.0	1009.0	35.0	38.2	42.2	47.7	52.6	59.3	65.4
1200	1200.0	1210.0	42.0	45.9	50.6	57.2	63.1	70.6	77.8

Notes:

- Dimensions in mm.
- As per AS/NZS4130, Clause 9.4, out of roundness requirements shall apply at the time of manufacture and before coiling. These requirements are applicable to pipe of SDR17 and less.

CIVILBOSS SN8 AND SN16 TO AS/NZS 5065

CIVILBOSS TWIN WALL POLYPROPYLENE (PP) PIPE

- CIVILBOSS pipes conformance to AS/NZS 5065 is independently certified by Bureau Veritas
- For pipeline design and installation refer to AS/NZS 2566.
- Technical guides are available on <http://watersandfarr.co.nz/technical-information/>

CivilBoss PP Pipe (Nominal Inside Diameter Series)

Product Code	Description	Weight (kg)	Crate Size
SN8			
CIV225.8	DN225 x 6m CIVILBOSS SN8 PP RED/GREY	21	8
CIV300.8	DN300 x 6m CIVILBOSS SN8 PP RED/GREY	39	6
CIV375.8	DN375 x 6m CIVILBOSS SN8 PP RED/GREY	60	2
CIV450.8	DN450 x 6m CIVILBOSS SN8 PP RED/GREY	82	2
SN16			
CIV225.16	DN225 x 6m CIVILBOSS SN16 PP RED/GREY	21	8
CIV300.16	DN300 x 6m CIVILBOSS SN16 PP RED/GREY	39	6
CIV375.16	DN375 x 6m CIVILBOSS SN16 PP RED/GREY	60	2
CIV450.16	DN450 x 6m CIVILBOSS SN16 PP RED/GREY	82	2

*A rubber ring available on request

CivilBoss PP Rubber rings

Product Code	Description
BRR225.SN16	Rubber Ring DN225 for Bosspipe SN16
BBR300.SN16	Rubber Ring DN300 for Bosspipe SN16
BRR375.SN16	Rubber Ring DN375 for Bosspipe SN16
BRR450.SN16	Rubber Ring DN450 for Bosspipe SN16

CivilBoss PP Couplers

Product Code	Description
BC225	Coupler for DN225 Bosspipe
BC300	Coupler for DN300 Bosspipe
BC375	Coupler for DN375 Bosspipe
BC450	Coupler for DN450 Bosspipe

CivilBoss PP Manhole Connectors

Product Code	Description
BMHC222	MH Connector w/Hydroseal ring for DN225 Bosspipe
BMHRG225	Hydroseal ring only for DN225 Bosspipe
BMHC300	MH Connector w/Hydroseal ring for DN300 Bosspipe
BMHRG300	Hydroseal ring only for DN300 Bosspipe
BMHC375	MH Connector w/Hydroseal ring for DN375 Bosspipe
BMHRG375	Hydroseal ring only for DN375 Bosspipe
BMHC450	MH Connector w/Hydroseal ring for DN450 Bosspipe
BMHRG450	Hydroseal ring only for DN450 Bosspipe

CivilBoss Lubricant

Product Code	Description
BL475ML	Lube for Bosspipe 475ml - (1 Pint)
BLIQ	Lube for Bosspipe 1kg - (1 Quart)
BLIG	Lube for Bosspipe 5kg - (1 US Gallon)

CivilBoss PP - Typical Dimensions*

Nominal inside Diameter (DN)	Mean inside diameter (barrel) (mm)	Mean outside diameter (mm)		Pipe length (m)
		Barrel	Socket	
225	220	259	272	6
300	296	353	369	6
375	370	442	463	6
450	444	531	555	6

Note: *Not to be construed as specification.



SN16 - Red marking line SN8 - Grey marking line

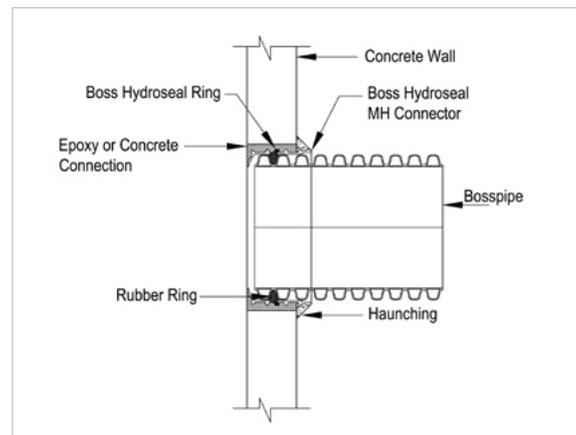


FIG. 1 Manhole Connection with a manhole connector
Where a flexible joint is required to provide for movement. Suitable for manholes, concrete walls, etc.

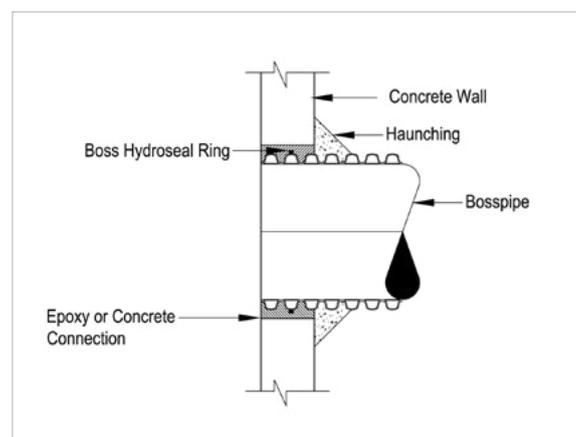


FIG. 2 Manhole Connection with a Boss Hydroseal ring
Where physical anchoring of the pipe is required (ie. like a puddle flange) – suitable for cesspits, stormwater manholes, concrete walls, etc.

CIVILBOSS SPIRAL WOUND POLYETHYLENE (HDPE) PIPE

- CIVILBOSS HDPE pipes conformity to AS/NZS 5065 is independently certified by Bureau Veritas
- For pipeline design and installation refer to AS/NZS 2566 and AS/NZS 2033.
- The HDPE spiral wound pipe technology used to manufacture PKS Civil Culverts makes it practical to manufacture various pipe sizes with specific SN
- (Ring Stiffness) ratings at a fraction of the weight of other products on the market. The high strength to weight ratio is due to the use of PP's
- (Polypropylene's) high stiffness to produce the core tube, which is then wrapped in HDPE material.
- Each pipe is formed on a steel mandrel 6.0m long with a socket mould fixed at one end, which allows a spigot to be formed at any particular length along
- the mandrel. The manufacturing process means the internal diameter (ID) is consistent with the steel mandrel and the pipe lengths can be manufactured
- at a maximum of 6.0m or less, to meet the customers required length, and it is cost effective to manufacture small lengths/runs of pipe.
- Technical information is available in https://pkscivil.co.nz/wp-content/uploads/PKS-Civil-Culverts_V5.pdf

TABLE 1 CivilBoss HDPE XL Pipe (Nominal Inside Diameter Series)

SN8									
DN	Product Code	Item Description	Length (m)	Mean inside diameter (mm)	Mean outside diameter (mm)		Weight (kg)	MTO	
					Barrel	Socket			
DN500	PK05CIVDRR.SN8	DN500x5.8mxSN8 CIVILBOSSXL DRR	5.8	500	594	600	95	Stock	
DN600	PK06CIVDRR.SN8	DN600x5.8mxSN8 CIVILBOSSXL DRR	5.8	600	694	700	135	Stock	
DN700	PK07CIVDRR.SN8	DN700x5.8mxSN8 CIVILBOSSXL DRR	5.8	700	820	800	170	Stock	
DN800	PK08CIVDRR.SN8	DN800x5.8mxSN8 CIVILBOSSXL DRR	5.8	800	924	900	235	Stock	
DN900	PK09CIVDRR.SN8	DN900x5.8mxSN8 CIVILBOSSXL DRR	5.8	900	1026	1000	315	Stock	
DN1000	PK10CIVDRR.SN8	DN1000x5.8mxSN8 CIVILBOSSXL DRR	5.8	1000	1166	1100	345	Stock	
DN1100	PK11CIVDRR.SN8	DN1100X5.8mSN8 CIVILBOSSXL DRR	5.8	1100	1266	1200	423	MTO	
DN1200	PK12CIVDRR.SN8	DN1200x5.8mxSN8 CIVILBOSSXL DRR	5.8	1200	1370	1300	575	Stock	
DN1400	PK14CIVDRR.SN8	DN1400X5.8mxSN8 CIVILBOSSXL DRR	5.8	1400	1582	1520	795	MTO	
DN1500	PK15CIVDRR.SN8	DN1500X5.8mxSN8 CIVILBOSSXL DRR	5.8	1500	1738	1620	795	MTO	
DN1660	PK16CIVDRR.SN8	DN1660X5.8mxSN8 CIVILBOSSXL DRR	5.8	1660	1900	1788	905	MTO	
DN1800	PK18CIVDRR.SN8	DN1800X5.8mxSN8 CIVILBOSSXL DRR	5.8	1800	2050	1928	1195	MTO	
DN2000	PK20CIVDRR.SN8	DN2000X5.8mxSN8 CIVILBOSSXL DRR	5.8	2000	2248	2138	1415	MTO	
DN2500	PK25CIVDRR.SN8	DN2500X5.8mxSN8 CIVILBOSSXL DRR	5.8	2500	2776	2652	1970	MTO	

Note: *Two rings per pipe required. Rings sold separately

SN16									
DN	Product Code	Item Description	Length (m)	Mean inside diameter (mm)	Mean outside diameter (mm)		Weight (kg)	MTO	
					Barrel	Socket			
DN500	PK05CIVDRR.SN16	DN500x5.8mxSN16 CIVILBOSSXL DRR	5.8	500	594	600	125	Stock	
DN600	PK06CIVDRR.SN16	DN600x5.8mxSN16 CIVILBOSSXL DRR	5.8	600	720	700	165	Stock	
DN700	PK07CIVDRR.SN16	DN700x5.8mxSN16 CIVILBOSSXL DRR	5.8	700	826	800	245	Stock	
DN800	PK08CIVDRR.SN16	DN800x5.8mxSN16 CIVILBOSSXL DRR	5.8	800	926	900	280	Stock	
DN900	PK09CIVDRR.SN16	DN900x5.8mxSN16 CIVILBOSSXL DRR	5.8	900	1034	1000	400	Stock	
DN1000	PK10CIVDRR.SN16	DN1000x5.8mxSN16 CIVILBOSSXL DRR	5.8	1000	1170	1100	455	Stock	
DN1100	PK11CIVDRR.SN16	DN1100X5.8MxSN16 CIVILBOSSXL DRR	5.8	1100	1290	1200	634	MTO	
DN1200	PK12CIVDRR.SN16	DN1200x5.8mxSN16 CIVILBOSSXL DRR	5.8	1200	1386	1300	770	Stock	
DN1400	PK14CIVDRR.SN16	DN1400X5.8MxSN16 CIVILBOSSXL DRR	5.8	1400	1600	1558	1175	MTO	
DN1500	PK15CIVDRR.SN16	DN1500X5.8MxSN16 CIVILBOSSXL DRR	5.8	1500	1708	1662	1014	MTO	
DN1660	PK16CIVDRR.SN16	DN1660X5.8MxSN16 CIVILBOSSXL DRR	5.8	1660	1912	1826	1520	MTO	
DN1800	PK18CIVDRR.SN16	DN1800X5.8MxSN16 CIVILBOSSXL DRR	5.8	1800	2060	1970	1750	MTO	
DN2000	PK20CIVDRR.SN16	DN2000X5.8MxSN16 CIVILBOSSXL DRR	5.8	2000	2276	2186	2150	MTO	
DN2500	PK25CIVDRR.SN16	DN2500X3.5MxSN16 CIVILBOSSXL DRR	3.5	2500	2852	2690	2515	MTO	

Note: *Not to be construed as specification. *Two rings per pipe required. Rings sold separately.

CivilBoss HDPE XL Rubber rings

Product Code	Item Description	Product Code	Item Description
PKSRING500-20	500ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING1200-24	1200ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING600-20	600ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING1400-24	1400ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING700-20	700ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING1500-24	1500ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING800-20	800ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING1660-24	1660ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING900-20	900ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING1800-24	1800ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING1000-20	1000ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING2000-24	2000ID SN4-SN16 BOSSPIPE RUBBER RING
PKSRING1100-24	1100ID SN4-SN16 BOSSPIPE RUBBER RING	PKSRING2500-24	2500ID SN4-SN16 BOSSPIPE RUBBER RING

CIVILBOSS PP IS A TWIN WALL EXTRUDED POLYPROPYLENE DRAINAGE PIPE, CIVILBOSS HDPE XL IS A SPIRAL WOUND POLYETHYLENE DRAINAGE PIPE.

CIVILBOSS IS CHARACTERISED BY SMOOTH INTERNAL BORE AND UV RESISTANT, CORRUGATED OUTER LAYER. IT HAS EXCELLENT RESISTANCE TO IMPACT, ABRASION AND CHEMICAL ATTACK.

INSTALLATION & STRUCTURAL DESIGN

- The structural design procedure for buried flexible pipelines including CIVILBOSS pipe is given in AS/NZS 2566.1 and its supplement.
- CIVILBOSS HDPE XL pipe specific design can be provided by PKS Civil based on customer specifications.
- You'll find all installation and testing requirements and practices for CIVILBOSS pipelines in AS/NZS 2566.2 and AS/NZS 2033 (subject for review, interpretation, application and approval by a qualified engineer who must assume full responsibility for verifying that information is appropriate and correct).
- The embedment of CivilBoss in normal soil should be of granular material, free from rocks and other hard or sharp objects. Gap 20, 14, 10 or 7 materials are recommended with a maximum particle size of 20mm and less than 5% of fines (<0.075 mm). These materials will require less compactive effort to achieve desired compaction. Materials with 5–12% of fines may be used but will require considerably more compaction effort.

Backfill Material Classifications

Granular Backfill			Cohesive Backfill
G1	G2	G3	G4
Graded Crushed Rock	Valley Sand	Weathered Gravel	Clay
River Gravel and Beach	Drift & Basin Sand	Clayey Gravel	Loess
Gravel	Dune Sand	Loamy Sand	Loam
	Beach Sand	Liquid Sand	Alluvial Marl
		Alluvial Clay	

Note: The G1, G2 & G3 materials are the most favourable as they are granular backfills and when compacted provide excellent side support for the pipe, meaning a lower strength pipe is required overall. The G4 material is less favourable as it is a cohesive backfill and provides less side support for the pipe, creating the need for a higher pipe strength.



EMBEDMENT GEOMETRY

TYPICAL PE AND CIVILBOSS PIPE TRENCH

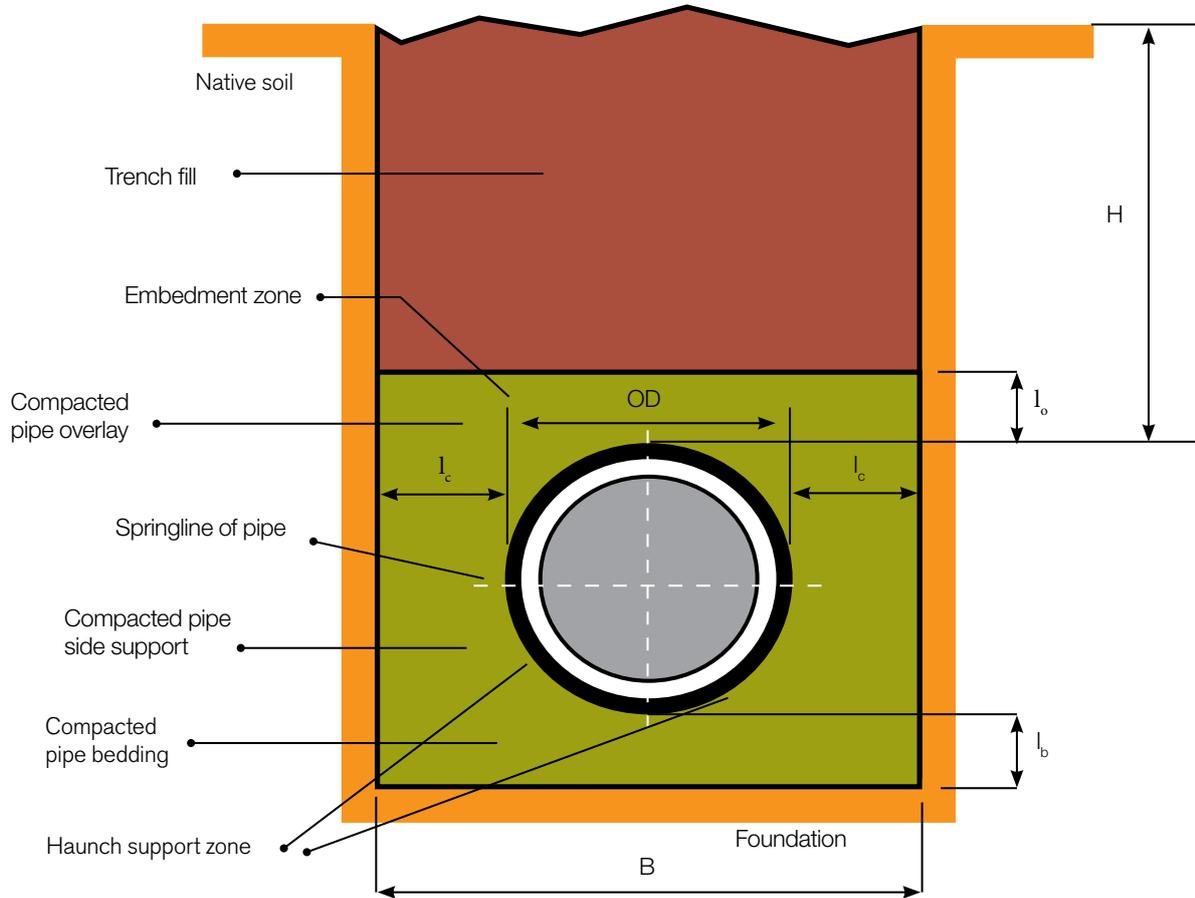


FIG. 3 Typical PE and CivilBoss Pipe Installation

OD (mm)		Minimum Values to AS/NZS 2566.2 (mm)		
		l_b	l_c	l_o
≥ 75	≤ 150	75	100	100
> 150	≤ 300	100	150	150
> 300	≤ 450	100	200	150
> 450	≤ 900	150	300	150
> 900	≤ 1500	150	350	200

Note: Dimensions in mm.

Minimum Cover (H) to AS/NZS 2566.2	
Loading condition	Minimum cover H (m) *
Not subject to vehicle loading	0.3
Land zoned for agricultural use	0.6
Subject to vehicular loading –	
• no carriageway;	0.45
• sealed carriageways; and	0.6
• unsealed carriageways	0.75
Pipelines in embankments or subject to construction equipment loads	0.75

Note: *Subject to design to AS/NZS 2566.1 and to variation by the relevant asset owner. Railway crossing shall comply with AS 4799 and relevant NZ Railroads' regulations.



Civil, Water and Infrastructure Product Catalogue

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