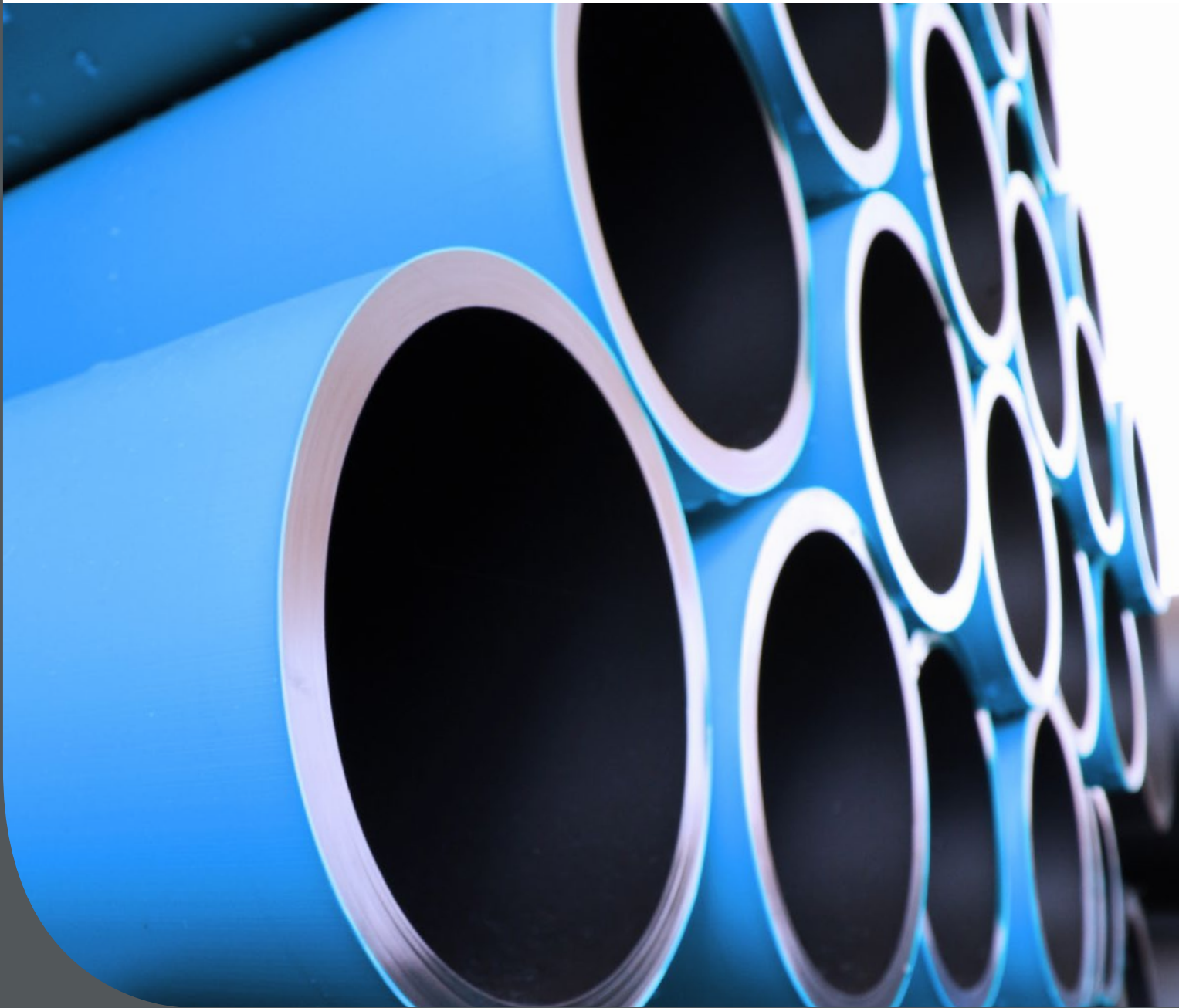


Civil, Water & Infrastructure

Product Catalogue

Version 1.05





PE808
1125

312052
32700720
25mm
PE808
25
LIFE
WATERS &
DIAMETER

PE808
25mm

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

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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
Dark Blue	Potable (Drinking) Water PE100
Blue	Potable (Drinking) Water PE80
Yellow	Gas PE 80 and Gas PE100
Purple	Reclaimed Water
Cream	Pressure Sewer
Orange	Electrical Conduit
Green	Communication / Rural
Red	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			
WJH450.13	450	✓	✓			

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		MTO		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
WHS300.13	315	MTO			24.5	267.5
WHS350.13	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	✓	✓				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



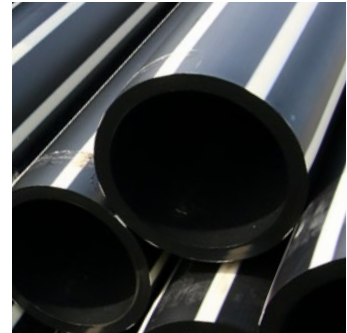
PRESSURE SEWER

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- 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 / LENGTH

PN12 SDR13 PE100

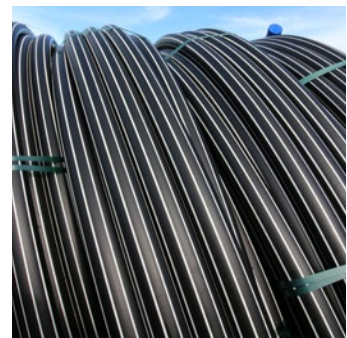
Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
WHS40.13....CRM	40		MTO		3.2	33.8
WHS50.13....CRM	50		MTO		4.0	42.4
WHS63.13....CRM	63		MTO		5.0	53.3
WHS75.13....CRM	75		MTO		5.9	63.7
WHS90.13....CRM	90		MTO		7.0	76.5
WHS110.13....CRM	110		MTO		8.6	93.3
WHS125.13....CRM	125		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



Note: Full product code includes pipe length.
Example: WHS40.13.... CRM pipe in 100m length - code:WHS40.13.100CRM. Sizes up to DN1200 are available

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



Note: Full product code includes pipe length.
Example: WHS40.11.... CRM pipe in 100m length - code: WHS40.11.100CRM. Sizes up to DN1000 are available

GENERAL PRESSURE

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- 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	61.8	680.0

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			MTO	76.3	651

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



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	MTO		31.2	439.8
SH560.17	560	MTO	MTO		35.0	492.6
SH630.17	630	MTO	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			71.4	1062.3

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



PN8 SDR21 PE100 (SN8)

Item Code	DN	Stocked Lengths (m)			Av. Wall (mm)	Av. ID (mm)
		6	12	100		
SH90.21	90		MTO		4.6	81.2
SH110.21	110		MTO		5.7	99.2
SH125.21	125		MTO		6.4	112.9
SH140.21	140		MTO		7.1	126.4
SH160.21	160		MTO		8.2	144.4
SH180.21	180		MTO		9.1	162.6
SH200.21	200		MTO		10.2	180.6
SH225.21	225		MTO		11.4	203.2
SH250.21	250		MTO		12.6	226.0
SH280.21	280		MTO		14.2	253.0
SH315.21	315		MTO		15.8	284.8
SH355.21	355		MTO		17.8	321.0
SH400.21	400		MTO		20.2	361.5
SH450.21	450		MTO		22.7	406.7
SH500.21	500		MTO		25.2	451.9
SH560.21	560		MTO		28.1	506.3
SH630.21	630		MTO		31.6	569.7
SH710.21	710		MTO		35.7	641.9
SH800.21	800		MTO		40.1	723.4
SH900.21	900		MTO		45.1	813.8
SH1000.21	1000		MTO		50.2	904.2
SH1200.21	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:

1. Dimensions in mm.
2. 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 TWIN WALL POLYPROPYLENE PIPE

CIVILBOSS SN8 and SN16 TO AS/NZS 5065

- 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 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 is included with each pipe. Additional rings available on request

CivilBoss Rubber rings

Product Code	Description
BRR225.SN16	Rubber Ring DN225 for Bosspipe SN16
BRR300.SN16	Rubber Ring DN300 for Bosspipe SN16
BRR375.SN16	Rubber Ring DN375 for Bosspipe SN16
BRR450.SN16	Rubber Ring DN450 for Bosspipe SN16

CivilBoss 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 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)



SN16 - Red

SN8 - Grey

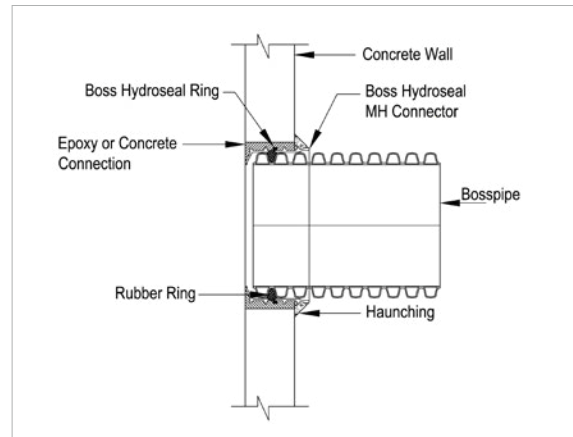


FIG. 1 Manhole Connection with a manhole connector
Where a flexible joint is required to provide for movement. Suitable for manholes, concrete walls, etc.

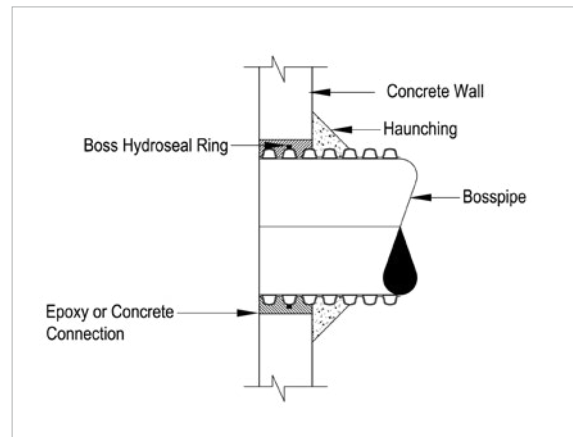


FIG. 2 Manhole Connection with a Boss Hydroseal ring
Where physical anchoring of the pipe is required (ie. like a puddle flange) – suitable for cesspits, stormwater manholes, concrete walls, etc.

CIVILBOSS IS A TWIN WALL EXTRUDED POLYPROPYLENE DRAINAGE PIPE WITH A SMOOTH INTERNAL BORE AND UV RESISTANT, CORRUGATED OUTER LAYER. IT HAS EXCELLENT RESISTANCE TO IMPACT, ABRASION AND CHEMICAL ATTACK.

TRANSPORTATION & HANDLING

- Civilboss is very light weight due to its twin wall construction so can be handled without heavy lifting equipment and transported on utility vehicles if required.
- A length of Civilboss pipe can easily be handled by two people, meaning significant savings in time, labour and machinery can be achieved.

JOINTING

- CivilBoss is quick and easy to cut on-site to any required length – no fuss, no hold-ups, no hassles.
- The integral socket and corrugated outer profile of CivilBoss allows for simple rubber jointing of full or partial lengths.
- A rubber ring is included with each 6m pipe length.

INSTALLATION & STRUCTURAL DESIGN

- The structural design procedure for buried flexible pipelines including CIVILBOSS is given in AS/NZS 2566.1 and its supplement.
- 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.
- The recommended minimum thickness of compacted bedding (l_b) is 100 mm for sizes up to DN375 and 150 mm for DN450 (see the next page).
- To ensure good side support for the pipe by bedding material, the recommended minimum width (l_c) is:
 - 150 mm for DN225
 - 200 mm for DN300 and DN375
 - 300 mm for DN450
- The recommended minimum overlay thickness of bedding material (l_o) is 150 mm.

Civilboss SN16 - Typical Dimensions*

Nominal Inside Diameter (DN)	Type	SN	Mean inside diameter (barrel) (mm)	Mean outside diameter (mm)		Pipe length (m)
				Barrel	Socket	
225	CivilBoss	16	220	259	272	6
300	CivilBoss	16	296	353	369	6
375	CivilBoss	16	370	442	463	6
450	CivilBoss	16	444	531	555	6

Note: *Not to be construed as specification.



EMBEDMENT GEOMETRY

TYPICAL PE AND CIVILBOSS PIPE TRENCH

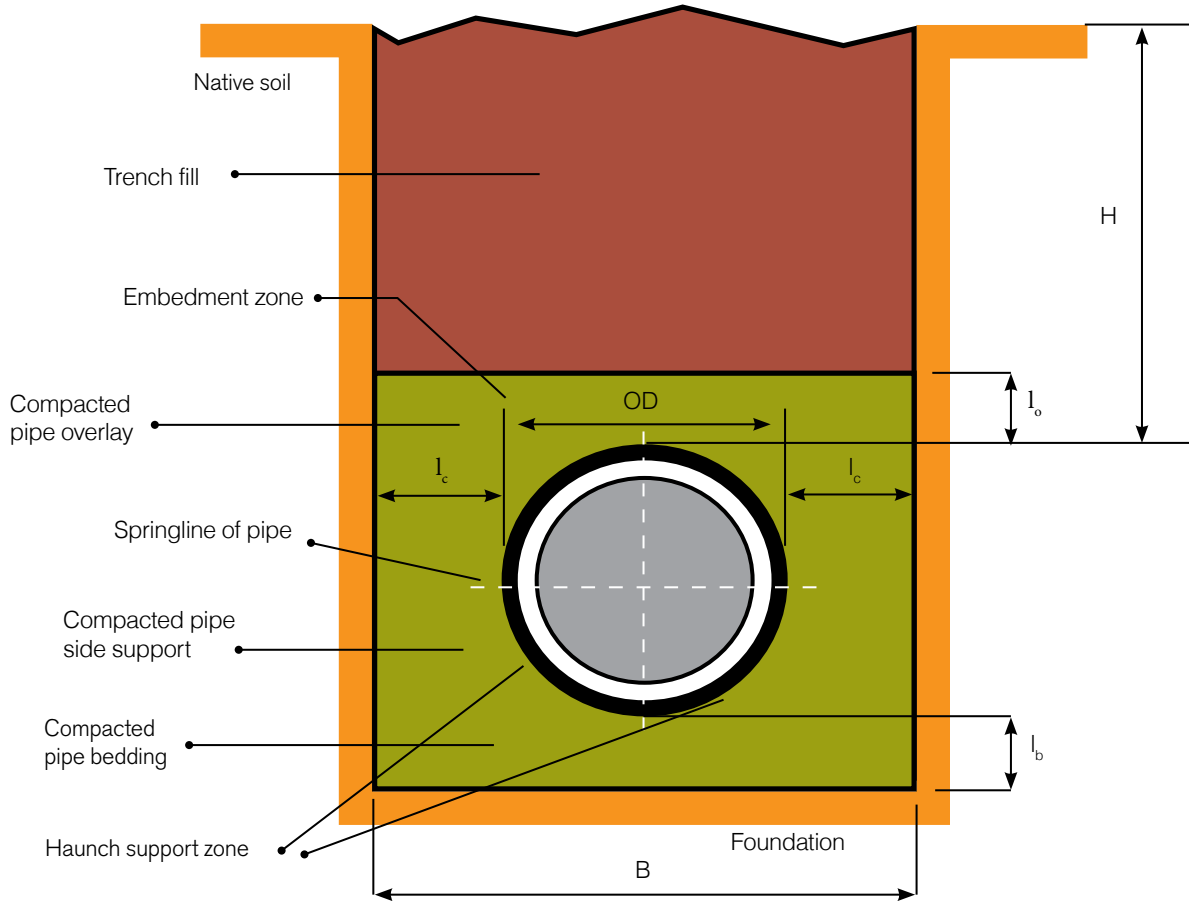


FIG. 3 Typical PE and CivilBoss Pipe Installation

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

Version 1.05

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