

**ACP**

AUSTRALIAN CUSTOM PIPES

PLASTIC PIPE • FABRICATION • MOULDING SPECIALIST

Pipe Specification

Doc. No	15
Date	27/8/2009
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PE80 Series 1 AS/NZS4130 Pipe**DESCRIPTION:** PE80 Series 1 AS/NZS4130 Polyethylene Pipe**COLOUR:** Standard Black
or with Stripes or Jacket as agreed with customer**STRIPING:**

The colour of blue stripes shall be no darker than RAL 5012 for PE80.

The colour of purple stripes shall not be lighter than RAL 310 70 15 and no darker than RAL 330 40 40 or RAL 310 50 30.

The stripes shall be solid in colour and the widths of stripes to be consistent around the pipe circumference and run continuous along the pipe length:

- Minimum Number of Stripes is four (4)
- Minimum Width of Stripes:
 - For pipes <DN280, not less than 15% of the external pipe surface will be covered by striping material
- Refer PIPA Industry Guideline: POP008 Striping of Polyolefin Pipes

MATERIAL:

Material	Supplier/Grade	% Regrind
PE80	Refer PIPA Industry Guideline: POP004 Polyethylene Pipe Compounds	100%

MARKING:

Marking details shall be legibly printed directly on the pipe using Inkjet printing with UV resistant ink.

The letters of the marking shall be minimum heights of 3mm for pipes up to and including nominal outside diameter 32mm, and 5mm for larger sizes.

Marking shall be repeated at intervals such that the distance between markings is not greater than 1m.

The standard print message includes:

1. Manufacturer's Name or Registered Trademark
2. Pipe Series Number
3. Nominal Diameter
4. Classification (PN)
5. SDR
6. PE Material Classification
7. Date of Manufacture, in ISO format
8. Manufacturer's Code
9. Standard Number, AS/NZS 4130



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Example:

ACP AUSTRALIAN CUSTOM PIPES S1 32MM PN8 SDR17 PE80 070122 F1 AS/NZS4130

Or

[CUSTOMER/TRADEMARK] S1 32MM PN8 SDR17 PE80 070122 ACPF1 AS/NZS4130

CLASSIFICATION:

- Series 1 pipe is classified in terms of the Nominal Pressure Rating (PN)
- The number used to describe PN is 10 times the value of the Maximum Allowable Operating Pressure (MAOP), given in Megapascals (MPa).

Table: SDR Pressure Ratings

Compound	PN 3.2	PN 4	PN 6.3	PN 8	PN 10	PN 12.5	PN 16	PN 20	PN 25
PE80	41	33	21	17	13.6	11	9	7.4	-

Based on C = 1.25 at 20°C

PIPE DIMENSIONS:

Nominal Outside Diameter (DN)	Mean Outside Diameter (Dm)		Ovality	SDR41 (PN3.2)			SDR33 (PN4)			SDR26 (PN)		
				Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)
				Min	Max		Min	Max		Min	Max	
16	16.0	16.3	1.2	-	-	-	-	-	-	-	-	-
20	20.0	20.3	1.2	-	-	-	-	-	-	-	-	-
25	25.0	25.3	1.2	-	-	-	-	-	-	-	-	-
32	32.0	32.3	1.3	-	-	-	-	-	-	-	-	-
40	40.0	40.4	1.4	-	-	-	-	-	-	-	-	-
50	50.0	50.5	1.4	-	-	-	-	-	-	-	-	-
63	63.0	63.6	1.5	-	-	-	-	-	-	2.4	2.8	46.9
75	75.0	75.7	1.6	-	-	-	2.3	2.7	54.1	2.9	3.3	66.5
90	90.0	90.9	1.8	-	-	-	2.8	3.2	77.9	3.5	4.0	96.5
110	110.0	111.0	2.2	2.7	3.1	92.6	3.4	3.9	115.8	4.3	4.9	144.6
125	125.0	126.2	2.5	3.1	3.6	121.6	3.9	4.4	149.6	4.8	5.4	182.4
140	140.0	141.3	2.8	3.5	4.0	152.4	4.3	4.9	185.8	5.4	6.1	230.3
160	160.0	161.5	3.2	4.0	4.5	197.5	4.9	5.5	240.1	6.2	7.0	302.0
180	180.0	181.7	3.6	4.4	5.0	245.8	5.5	6.2	303.9	6.9	7.7	376.1
200	200.0	201.8	4.0	4.9	5.5	302.1	6.2	7.0	380.7	7.7	8.6	466.4

- All dimensions in mm unless specified

- Pipe weights based on Black pipe



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PIPE DIMENSIONS (cont):

Nominal Outside Diameter (DN)	Mean Outside Diameter (Dm)		Ovality	SDR21 (PN6.3)			SDR17 (PN8)			SDR13.6 (PN10)		
				Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)
				Min	Max		Max	Min		Max	Min	
16	16.0	16.3	1.2	-	-	-	-	-	-	-	-	-
20	20.0	20.3	1.2	-	-	-	-	-	-	1.6	1.9	9.6
25	25.0	25.3	1.2	-	-	-	1.6	1.9	12.2	1.9	2.2	14.1
32	32.0	32.3	1.3	1.6	1.9	15.8	1.9	2.2	18.3	2.4	2.8	22.8
40	40.0	40.4	1.4	1.9	2.2	23.2	2.4	2.8	29.0	3.0	3.4	35.2
50	50.0	50.5	1.4	2.4	2.8	36.8	3.0	3.4	44.7	3.7	4.2	54.3
63	63.0	63.6	1.5	3.0	3.4	57.1	3.8	4.3	71.2	4.7	5.3	86.5
75	75.0	75.7	1.6	3.6	4.1	81.7	4.5	5.1	100.5	5.5	6.2	120.7
90	90.0	90.9	1.8	4.3	4.9	117.2	5.4	6.1	144.6	6.6	7.4	173.4
110	110.0	111.0	2.2	5.3	6.0	175.9	6.6	7.4	215.1	8.1	9.1	260.2
125	125.0	126.2	2.5	6.0	6.7	224.8	7.4	8.3	274.4	9.2	10.3	335.3
140	140.0	141.3	2.8	6.7	7.5	281.5	8.3	9.3	344.5	10.3	11.5	419.9
160	160.0	161.5	3.2	7.7	8.6	369.2	9.5	10.6	449.6	11.8	13.1	548.1
180	180.0	181.7	3.6	8.6	9.6	464.0	10.7	11.9	568.8	13.3	14.8	695.8
200	200.0	201.8	4.0	9.6	10.7	574.8	11.9	13.2	701.8	14.7	16.3	853.1

Nominal Outside Diameter (DN)	Mean Outside Diameter (Dm)		Ovality	SDR11 (PN12.5)			SDR9 (PN16)			SDR7.4 (PN20)		
				Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)	Wall Thickness (T)		Nominal Weight (kg/100m)
				Min	Max		Max	Min		Max	Min	
16	16.0	16.3	1.2	1.6	1.9	7.5	1.8	2.1	8.2	2.2	2.6	9.8
20	20.0	20.3	1.2	1.9	2.2	11.0	2.3	2.7	13.1	2.8	3.2	15.3
25	25.0	25.3	1.2	2.3	2.7	16.8	2.8	3.2	19.7	3.5	4.0	23.8
32	32.0	32.3	1.3	2.9	3.3	26.7	3.6	4.1	32.3	4.4	5.0	38.3
40	40.0	40.4	1.4	3.7	4.2	42.5	4.5	5.1	50.4	5.5	6.2	59.7
50	50.0	50.5	1.4	4.6	5.2	66.0	5.6	6.3	78.3	6.9	7.7	93.1
63	63.0	63.6	1.5	5.8	6.5	104.3	7.1	8.0	125.0	8.6	9.6	146.4
75	75.0	75.7	1.6	6.8	7.6	145.7	8.4	9.4	175.6	10.3	11.5	208.6
90	90.0	90.9	1.8	8.2	9.2	211.1	10.1	11.3	253.3	12.3	13.7	298.9
110	110.0	111.0	2.2	10.0	11.1	313.1	12.3	13.7	376.3	15.1	16.8	447.7
125	125.0	126.2	2.5	11.4	12.7	406.2	14.0	15.5	485.4	17.1	19.0	576.3
140	140.0	141.3	2.8	12.7	14.1	506.2	15.7	17.4	609.7	19.2	21.3	723.8
160	160.0	161.5	3.2	14.6	16.2	664.5	17.9	19.8	794.1	21.9	24.2	942.3
180	180.0	181.7	3.6	16.4	18.2	840.0	20.1	22.3	1004.8	24.6	27.2	1191.4
200	200.0	201.8	4.0	18.2	20.2	1035.7	22.4	24.8	1242.2	27.3	30.2	1469.4

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BATCH RELEASE TESTS:

Characteristics	Clause	Requirement	Test method	Frequency
Material Property	8.1, 8.2	Colour	Visual Inspection	One per batch
Performance	7.3.3	Dispersion	AS/NZS 1462.28	One per batch of compound
	9.5	Freedom from Defects	Visual Inspection	One per 4 h
	10.1	Resistance to Internal Pressure at 80°C and 165h	AS/NZS 1462.6 Appendix E	One per batch
	10.2	Reversion	AS/NZS 1462.4	One per batch
	10.3	Thermal Stability	ISO 11357-6	One per batch
Dimensions	9.1	Diameter and Wall Thickness	AS/NZS 1462.1	One per hour or start and end of coil
	9.2	Length	AS/NZS 1462.1	One per 4h
	9.3	Coiled Pipe ID	Visual Inspection	One per 4h
	9.4	Out of Roundness	AS/NZS 1462.1	One per 4h
	11	Marking	Visual Inspection	One per 4h

PACKAGING:

Coil and Drum Dimensions

- Refer ACP Product Specification 17 - Coiling Dimensions

SPECIAL REQUIREMENTS:

As specified by agreement with customer at time of ordering.