



**TABLE 1: 'VARIO-BEND' CUTTING DETAILS**

DEFLECTION DEGREES	%	HORIZONTAL/VERTICAL BEND LONG RADIUS R=3000mm		HORIZONTAL BEND IMMEDIATELY UPSTREAM OF MS SHORT RADIUS R=635mm	
		LENGTH (mm)			
		MEASURED ALONG OUTSIDE CURVED FACE OF 'VARIO-BEND' L=53.8mm PER 1°		L=12.5mm PER 1°	
2	3.49	MIN	110		N/A
3	5.24		160		N/A
4	6.99		215		N/A
5	8.74		270		N/A
6	10.51		325		N/A
7	12.27		375		N/A
8	14.05		430	MIN	100
9	15.83		485		110
10	17.63		540		125
11	19.43		590		135
12	21.25		645		150
13	23.08		700		160
14	24.93		755		175
15	26.79		805		185
16	28.67		860		200
17	30.57		915		210
18	32.49		970		225
19	34.43		1020		235
20	36.40		1075		250
21	38.38		1130		260
22	40.40		1185		275
23	42.44		1235		285
24	44.52		1290		300
25	46.63		1345		310
26	48.77		1400		325
27	50.95		1450		335
28	53.17		1505		350
29	55.43		1560		360
30	57.73	MAX	1615		375
31	60.08		-		390
32	62.48		-		400
33	64.94		-		415
34	67.45		-		425
35	70.02		-		440
36	72.65		-		450
37	75.35		-		465
38	78.12		-		475
39	80.97		-		490
40	83.90		-		500
41	86.92		-		515
42	90.04		-		525
43	93.25		-		540
44	96.56		-		550
45	100.00		-	MAX	565

- NOTES:**
- REFER 4005-20002-01 TO 4005-20002-03 FOR GENERAL NOTES.
  - POSSIBLE VARIO-BEND ALTERNATIVES USING DIFFERENT COMBINATIONS OF ADAPTORS:
    - SOCKET/SPIGOT BEND
    - SOCKET/SOCKET BEND
    - SPIGOT/SPIGOT BEND
  - BEND CONFIGURATION: PIPES SHALL BE LAID FROM THE DOWNSTREAM END OF THE SYSTEM, WITH THE SOCKET ENDS FACING UPSTREAM. SHOULD THIS NOT BE POSSIBLE, APPROVAL OF THE SA WATER REPRESENTATIVE SHALL BE SOUGHT FOR AN ALTERNATIVE ARRANGEMENT.
  - HORIZONTAL BEND NOT ATTACHED TO A STRUCTURE: LONG RADIUS VARIO-BEND OPTION ILLUSTRATED. THE USE OF MULTIPLE BENDS AND COLD BENDING OF PVC PIPE ARE ALSO PERMITTED. HOWEVER BETWEEN STRUCTURES, THE COMBINED TOTAL OF ALL DEFLECTIONS SHALL NOT EXCEED 30°. REFER 4005-20002-02 FOR INFORMATION ON COLD BENDING PVC PIPE.
  - ALL VERTICAL BENDS SHALL BE LONG RADIUS BENDS.
  - COMPOUND BENDS (HORIZONTAL AND VERTICAL BENDS AT THE SAME POINT) SHALL NOT BE USED WITHOUT SPECIFIC APPROVAL FROM THE SA WATER REPRESENTATIVE.

REVISION PANEL					
REV	DATE	DRN	DETAILS	APR	CURRENT REV AUTHORISED:
1	31/03/16	MS	2016 STANDARDS REVIEW	TG	

DESIGN PANEL			
DESIGNED:	03/08/15	AUTHORISED:	31/03/16
	RJP		T.GALEK
DRAWN:	25/09/15	SIGNATURE:	
	MS		
REVIEWED:	21/03/16		
	TG		

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**SA WATER STANDARD DRAWINGS**  
**SEWER CONSTRUCTION MANUAL**  
**MAINTENANCE SHAFT**  
**VARIO BEND OPTIONS**  
**AND CUTTING TABLE**

A3	1
SHT SIZE	REVISION
TOTAL SHEETS:	
SUPERSEDES: 02-0290-01 (L17)	
DRAWING NUMBER	
<b>4005-20005-11</b>	
PREFIX	NUMBER SHEET