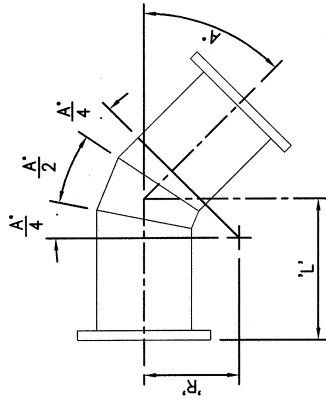


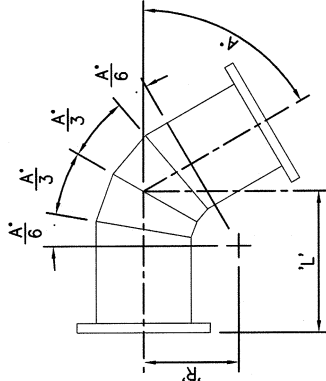
### 1-CUT BEND

$A^\circ = 0^\circ$  TO  $22.5^\circ$



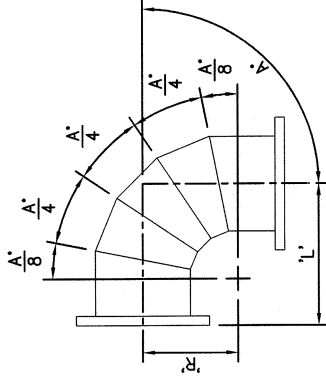
### 2-CUT BEND

$A^\circ = >22.5^\circ$  TO  $45^\circ$



### 3-CUT BEND

$A^\circ = >45^\circ$  TO  $67.5^\circ$



### 4-CUT BEND

$A^\circ = >67.5^\circ$  TO  $90^\circ$

PIPE SIZE DN	BEND RADIUS R	L'	
		PLAIN	FLANGE
150	150	350	250
200	200	400	300
250	250	450	350
300	300	500	400
350	350	550	450
400	400	600	500
450	450	650	550
500	500	700	600
550	550	750	650
600	600	800	700
650	650	850	750
700	700	900	800
750	750	950	850
800	800	1000	900
850	850	1050	950
900	900	1100	1000
950	950	1150	1050
1000	1000	1200	1100
1050	1050	1250	1150
1100	1100	1300	1200
1150	1150	1350	1250
1200	1200	1400	1300
1250	1250	1450	1350
1300	1300	1500	1400
1350	1350	1550	1450
1400	1400	1600	1500
1450	1450	1650	1550
1500	1500	1700	1600

#### DESIGN GUIDE

1. ANGLE OF BEND TO BE ROUNDED OFF TO THE NEAREST 15 MINUTES AND BENDS MANUFACTURED TO  $\pm 1$  DEGREE.
2. BOTH DIMENSIONS FOR 'L' ARE PRACTICAL BUT ARE CONSIDERED TO BE MINIMUM LENGTHS AND MAY BE INCREASED AS REQUIRED.

DIMENSIONS SHOWN ARE CONSIDERED TO BE THE MINIMUM ACCEPTABLE FOR NORMAL APPLICATIONS

#### NOTES:

1. ALL DIMENSIONS IN MILLIMETRES.
2. SEE AS 1579 FOR ALTERNATIVE BEND DETAILS AND FABRICATION REQUIREMENTS.
3. ALL WELDING TO BE IN ACCORDANCE WITH AS/NZS 1544.1 CATEGORY SP.
4. FLANGE DRILLING TO COMPLY WITH AS 4087.
5. PIPES  $>$  DN 600 GENERALLY 'O' RING GROOVED.
6. GASKETS AND 'O' RING TO COMPLY WITH WSA 108.
7. PIPE TO BE IN ACCORDANCE WITH AS 1579 AND CEMENT LINING IN ACCORDANCE WITH AS 1281 TO SUIT DESIGN PRESSURES.
8. FITTINGS TO BE EXTERNALLY COATED WITH TAPE WRAP TO MACKAY WATER & WASTE REQUIREMENTS OR LINED AND COATED WITH MEDIUM DENSITY PE TO AS 4321.
9. FOR FLANGE BOLTING DETAILS SEE A3-04304.
10. REINFORCING COLLARS MAY BE REQUIRED FOR HIGH PRESSURE APPLICATIONS.

MRC STANDARD DRAWINGS SUPERCEDES WSAA STANDARD DRAWINGS

<b>C</b> <b>S/A</b> <b>AMEND</b> <b>MGR</b> <b>SVGN.</b> <b>JC</b>		DRAWING FILE NAME M:\Engineering Services\Technical Services\Design\Projects\Standard drawings\Mackay Water\WSAA MRC\WAT CODE\A3-04308B	
B	MAY08	MODIFIED TO MRC STD	SLR
A	OCT07	T'SFER TO MRC TBLOCK	SLR
0		WSAA ORIG.	
NO	DATE	DESCRIPTION	APPVD.
SURVEY N/A		WSAA NO.	WAT-1403
DATE OF LAST EDIT		MAY 21, 2009	
LEVEL DATUM		A.H.D.	
MERIDIAN		MGA-55	
JOB No		27 MAY09	
DATE		JASON DEWITT	
EXECUTIVE MANAGER MACKAY WATER & WASTE RPEQ 7506		DATE	
COMMERCIAL SERVICES		STANDARD DRAWING TYPICAL STEEL FABRICATION BENDS	
Mackay REGIONAL COUNCIL		DRAWING No. A3-04308	
		AMEND. <b>C</b>	
		SHEET 1 OF 1	