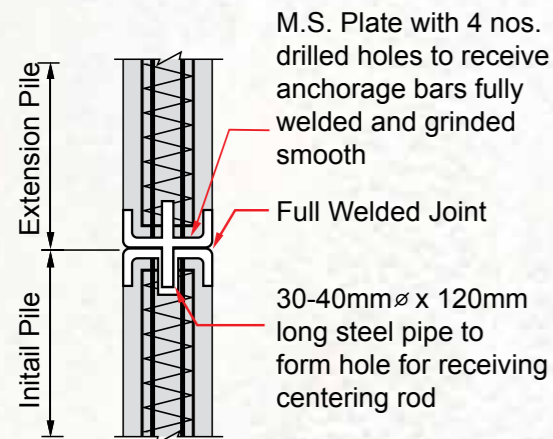
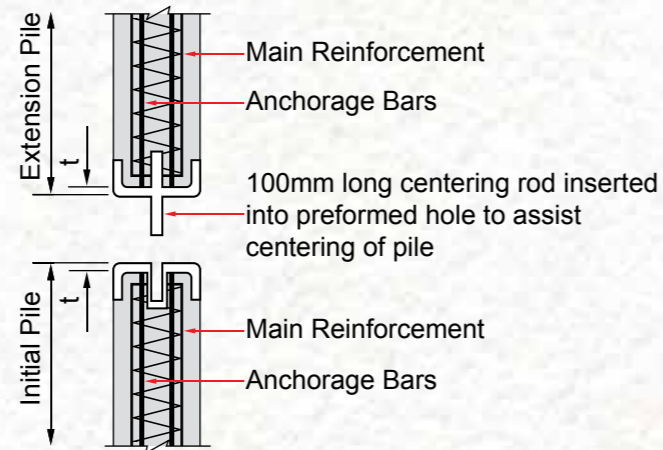


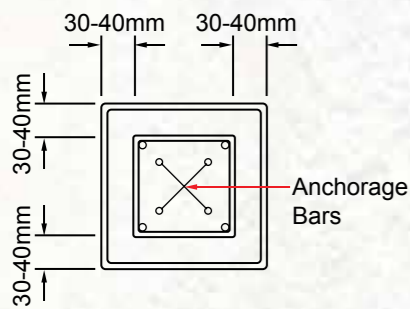
## PILE SECTIONAL DETAILS



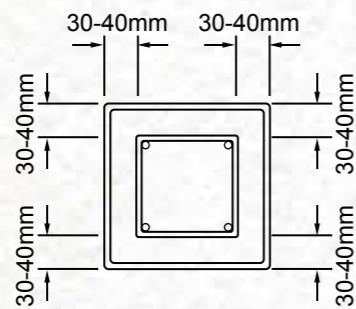
**JOINT DETAILS**



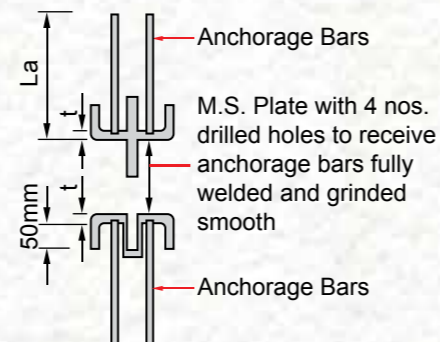
**TYPICAL DETAILS OF EXTENSION PILE**



**SECTION A-A**



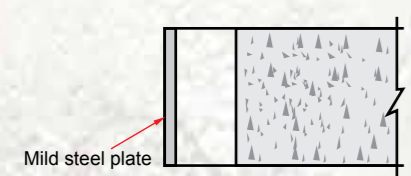
**SECTION B-B**



**JOINT PLATE DETAILS**

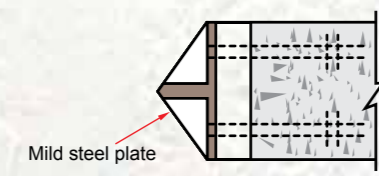
## TYPE OF PILE SHOE

### FLAT SHOE



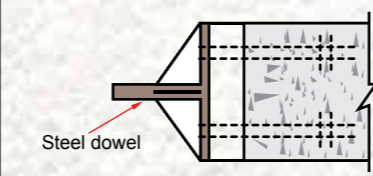
For easy to medium hard driving

### X-POINTED SHOE



For moderate to hard driving

### OSLO SHOE



For hard driving & socketing into hard strata



**CMS CONCRETE PRODUCTS SDN BHD** (366884-X)  
A Member of Cahya Mata Sarawak Group of Companies

Factory Address: Lot 212 Block 17 KCLD, Jalan Old Airport, 93250 Kuching, Sarawak.

Postal Address: P.O. Box A496 Kenyalang Park, 93808 Kuching, Sarawak.

Tel: 082-614436, 618718 Fax: 082-614406



**CMS CONCRETE PRODUCTS**  
A Member of Cahya Mata Sarawak Group of Companies



MS ISO 9001:2008  
APPROVAL CERTIFICATE  
NO. KLR 0403589

# Reinforced Concrete Square Piles



## STRUCTURAL CAPACITY CALCULATIONS

Maximum Structural Working Load  $P = 0.275 f_{cu} A_c + f_{sc} A_s$

Where  $f_{cu}$  = Concrete grade = 45 N/mm<sup>2</sup>

$A_c$  = Area of concrete (mm<sup>2</sup>)

$f_{sc}$  = 175 N/mm<sup>2</sup> for High Yield Reinforcement

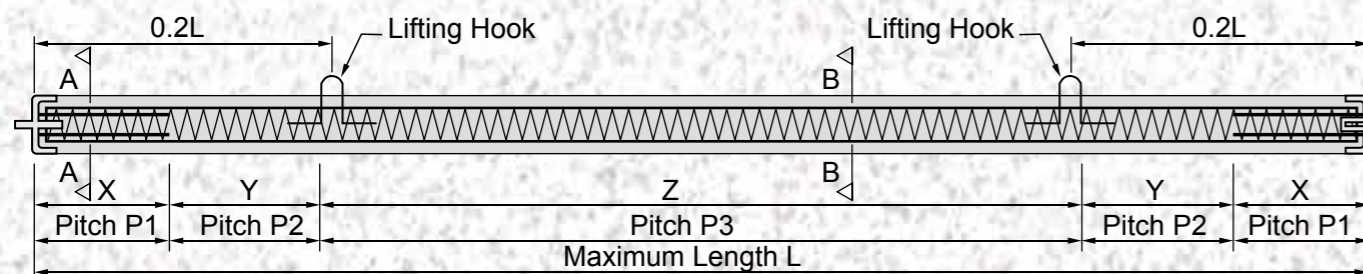
$A_s$  = Area of main reinforcement (mm<sup>2</sup>)

The actual load carrying capacities or working load of the piles shall be determined by the geotechnical considerations.

## PILE SECTIONS AND LOAD CAPACITIES

Pile Nominal Size	Max Length	Pile Weight	Sectional Area	Max Structural Capacity	Recommended Working Load	Recommended Hammer Weight
(mm)	(m)	(Kg/m)	(mm <sup>2</sup> )	P (tons)	(tons)	(tons)
150 X 150	6	53	22500	33	25	0.8 - 1.0
175 X 175	6	73	30625	43	35	0.8 - 1.3
200 X 200	6	96	40000	57	45	0.8 - 1.8
250 X 250	12	150	62500	90	75	1.5 - 2.2
300 X 300	12	216	90000	125	100	2.0 - 2.5
350 X 350	12	294	122500	172	145	2.5 - 3.5
400 X 400	12	384	160000	230	190	3.0 - 4.5

### Pile Longitudinal Details



## PILE REINFORCEMENT DETAILS TO MS1314: Part 3: 2004 (CLASS M)

Pile Nominal Size	Max Pile Length L	Main Reinf't (1.2%)	Dia	Stirrup Distance / Pitch						Joint Plate Thickness t
				X*	P1	Y	P2	Z	P3	
(mm)	(m)	Nos x mm	mm	mm	mm	mm	mm	mm	mm	mm
200 X 200	6	4T12	6	600	70	600	70-100	3600	100	12
250 X 250	12	4T16	6	750	60	750	60-80	9000	80	12
300 X 300	12	4T20	6	900	55	900	55-70	8400	70	15
350 X 350	12	8T16	6	1050	50	1050	50-65	7800	65	15
400 X 400	12	4T25	6	1200	45	1200	45-60	7200	60	15

\* Use Double Links at Pile End 'X'

## PILE REINFORCEMENT DETAILS TO MS1314: Part 3: 2004 (CLASS J)

Pile Nominal Size	Max Pile Length L	Main Reinf't (1.0%)	Dia	Stirrup Distance / Pitch						Joint Plate Thickness t
				X*	P1	Y	P2	Z	P3	
(mm)	(m)	Nos x mm	mm	mm	mm	mm	mm	mm	mm	mm
200 X 200	6	4T12	6	600	70	600	70-100	3600	100	12
250 X 250	12	8T10	6	750	60	750	60-80	9000	80	12
300 X 300	12	8T12	6	900	55	900	55-70	8400	70	15
350 X 350	12	4T20	6	1050	50	1050	50-65	7800	65	15
400 X 400	12	8T16	6	1200	45	1200	45-60	7200	60	15

\* Use Double Links at Pile End 'X'

## PILE REINFORCEMENT DETAILS TO MS1314: Part 3: 2004 (CLASS S)

Pile Nominal Size	Max Pile Length L	Main Reinf't (0.8%)	Dia	Stirrup Distance / Pitch						Joint Plate Thickness t
				X	P1	Y	P2	Z	P3	
(mm)	(m)	Nos x mm	mm	mm	mm	mm	mm	mm	mm	mm
200 X 200	6	4T12	4.5	600	40	600	40-100	3600	100	9
250 X 250	12	8T10	6	750	50	750	50-120	9000	120	9
300 X 300	12	4T16	6	900	50	900	50-125	8400	125	9
350 X 350	12	4T20	6	1050	45	1050	45-125	7800	125	12
400 X 400	12	8T16	6	1200	40	1200	40-115	7200	115	12

## PILE REINFORCEMENT DETAILS TO MS1314: Part 6: 2004 (CLASS RCS-1)

Pile Nominal Size	Max Pile Length L	Main Reinf't (1.0%)	Dia	Stirrup Distance / Pitch						Joint Plate Thickness t
				X	P1	Y	P2	Z	P3	
(mm)	(m)	Nos x mm	mm	mm	mm	mm	mm	mm	mm	mm
150 X 150	6	4T10	4.5	450	45	450	45-75	4200	75	6
175 X 175	6	4T10	4.5	525	45	525	45-85	3900	85	6