



# Hume RC Square Pile

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## ■ Applications

Hume RC Piles are used in foundations to increase the bearing capacity and to reduce settlements at sites with weak compressible soil, which otherwise cannot be used for construction.

Hume RC Piles are suitable for supporting:

- Building structures ranging from low-rise to medium-rise and high-rise.
- Infrastructures to be constructed under a wide range of soil conditions.

## ■ Features

### Quality Assured Production

Hume RC Piles are manufactured under controlled conditions to ensure product quality and reliability. Hume RC Piles carry the SIRIM Certification under Quality System MS ISO 9001 : 2000.

### Wide Selection Of Pile Sizes and Classes

Hume RC Piles are manufactured in sizes ranging from 150mm x 150mm to 400mm x 400mm. To suit different soil and design conditions, Hume RC Piles are available in three classes for each and every pile size, i.e. Class A, B and C.

### High Load Bearing Capacities

With the use of high strength concrete in Grade 45 or Grade 60, Hume RC Piles are engineered to withstand higher loads during driving and in service. This facilitates the economical design of foundations to suit varying soil conditions.

## ■ Production

Hume RC Piles are manufactured in rigid and dimensionally accurate moulds to facilitate the accurate fixing of steel reinforcement cages and joint plates.

With proprietary concrete mix design, high strength concrete is produced at our state-of-the-art concrete batching plant to ensure consistency and homogeneity in concrete mix. Hume RC Piles are capable of achieving the required strength for driving within 7-14 days.

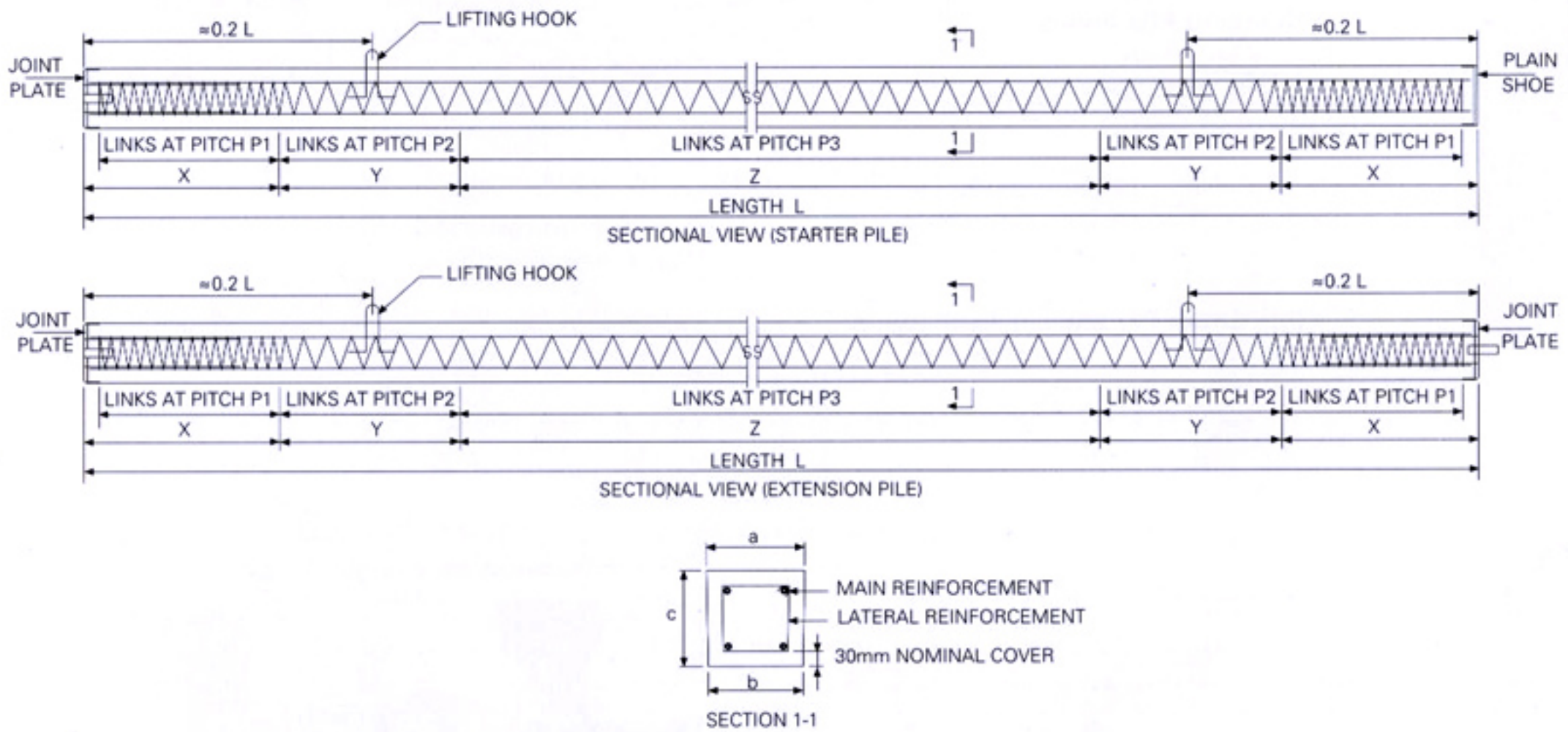
## ■ Specifications

Hume RC Piles are designed to BS 8004 : 1986 – British Standard Code of Practice for Foundation. (If requested, Hume can supply RC piles designed to other available Standards such as MS 1314 : 2004 and JKR Standard Specification.)

**Constituent Materials :** (British Standards are quoted below. Other equivalent Standards, where applicable are acceptable)

Cement	BS 12 : 1996	Ordinary Portland Cement
Aggregates	BS 882 : 1992	Sand / 20mm Aggregates
High Tensile Bar	BS 4449 : 1997	Longitudinal Reinforcement Bars
Cold Drawn Wire	BS 4461 : 1978	Lateral Reinforcement
Mild Steel Plate	BS EN 10025 : 1993	End Plate (Grade S275)
Admixture	BS 5075 – 3 : 1985	Superplasticizer

## ■ Dimensions & Details



### HUME CLASS 'A' REINFORCED CONCRETE SQUARE PILES - GRADE 60

#### Pile Dimensions and Details

Nominal Size	Dimensions			Main Reinforcement		Lateral Reinforcement						Joint Plate Thickness	
	a	b	c			Wire Size	P1	X	P2	Y	P3		Z <sup>1</sup>
(mm)	(mm)	(mm)	(mm)	no.	Dia. (mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
150 x 150	153	147	150	4	T 10	4.0	32	450	32-75	450	75	4200	6
175 x 175	178	172	175	4	T 10	4.5	35	525	35-85	525	85	3900	6
200 x 200	204	196	200	4	T 12	4.5	35	600	35-100	600	100	3600	8
235 x 235	239	231	235	8	T 10	5.0	40	705	40-115	705	115	6180	9
250 x 250	254	246	250	4	T 16	5.0	40	750	40-110	750	110	9000	9
275 x 275	279	271	275	4	T 16	6.0	50	825	50-135	825	135	8700	9
300 x 300	305	295	300	8	T 12	6.0	50	900	50-145	900	145	8400	12
320 x 320	325	315	320	4	T 20	6.0	45	960	45-140	960	140	8160	12
350 x 350	355	345	350	4	T 20	6.0	45	1050	45-130	1050	130	7800	12
381 x 381	386	376	381	4	T 22	6.0	40	1145	40-120	1145	120	7420	12
400 x 400	405	395	400	8	T 16	6.0	40	1200	40-115	1200	115	7200	12

<sup>1</sup> For maximum pile length only



## HUME CLASS 'B' REINFORCED CONCRETE SQUARE PILES - GRADE 45

### Pile Dimensions and Details

Nominal Size	Dimensions			Main Reinforcement		Lateral Reinforcement						Joint Plate Thickness	
	a	b	c			Wire Size	P1	X	P2	Y	P3		Z <sup>1</sup>
(mm)	(mm)	(mm)	(mm)	no.	Dia. (mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
150 x 150	153	147	150	4	T 9	4.0	32	450	32-75	450	75	4200	6
175 x 175	178	172	175	4	T 9	4.5	35	525	35-85	525	85	3900	6
200 x 200	204	196	200	4	T 10	4.5	35	600	35-100	600	100	3600	8
235 x 235	239	231	235	4	T 12	5.0	40	705	40-115	705	115	6180	9
250 x 250	254	246	250	8	T 10	5.0	40	750	40-110	750	110	9000	9
275 x 275	279	271	275	8	T 10	6.0	50	825	50-135	825	135	8700	9
300 x 300	305	295	300	4	T 16	6.0	50	900	50-145	900	145	8400	12
320 x 320	325	315	320	4	T 16	6.0	45	960	45-140	960	140	8160	12
350 x 350	355	345	350	8	T 12	6.0	45	1050	45-130	1050	130	7800	12
381 x 381	386	376	381	4	T 20	6.0	40	1145	40-120	1145	120	7420	12
400 x 400	405	395	400	4	T 20	6.0	40	1200	40-115	1200	115	7200	12

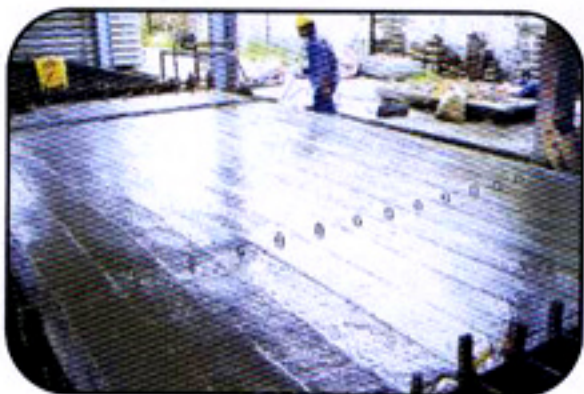
<sup>1</sup> For maximum pile length only

## HUME CLASS 'C' REINFORCED CONCRETE SQUARE PILES - GRADE 45

### Pile Dimensions and Details

Nominal Size	Dimensions			Main Reinforcement		Lateral Reinforcement						Joint Plate Thickness	
	a	b	c			Wire Size	P1	X	P2	Y	P3		Z <sup>1</sup>
(mm)	(mm)	(mm)	(mm)	no.	Dia. (mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
150 x 150	153	147	150	4	T 9	4.0	32	450	32-75	450	75	4200	4.5
175 x 175	178	172	175	4	T 9	4.5	35	525	35-85	525	85	3900	6
200 x 200	204	196	200	4	T 10	4.5	35	600	35-100	600	100	3600	6
235 x 235	239	231	235	4	T 12	5.0	40	705	40-115	705	115	6180	8
250 x 250	254	246	250	8	T 10	5.0	40	750	40-110	750	110	9000	8
275 x 275	279	271	275	8	T 10	6.0	50	825	50-135	825	135	8700	8
300 x 300	305	295	300	4	T 16	6.0	50	900	50-145	900	145	8400	9
320 x 320	325	315	320	4	T 16	6.0	45	960	45-140	960	140	8160	9
350 x 350	355	345	350	8	T 12	6.0	45	1050	45-130	1050	130	7800	9
381 x 381	386	376	381	4	T 20	6.0	40	1145	40-120	1145	120	7420	9
400 x 400	405	395	400	4	T 20	6.0	40	1200	40-115	1200	115	7200	9

<sup>1</sup> For maximum pile length only



## ■ Working Loads of Piles

Maximum axial working loads on Hume RC Square Piles are calculated to BS 8004 : 1986 and CP 116 : 1969

$$\text{Maximum Axial Working load} = \frac{f_{cu}}{3.65} A_c + f_{sc} A_{sc}$$

Where  $f_{cu}$  = characteristic cube strength of concrete at 28 days  
 = 60 N/mm<sup>2</sup> (Class A)  
 = 45 N/mm<sup>2</sup> (Class B/C)  
 $A_c$  = net area of concrete  
 $f_{sc}$  = 175 N/mm<sup>2</sup> for high yield reinforcement  
 $A_{sc}$  = cross sectional area of longitudinal steel

**Working Loads are as tabulated :**

Class	Norminal Size (mm x mm)	Available Lengths (m)	Reinforcement Area (mm <sup>2</sup> )	Maximum Axial Working Load (Tonnes)	Recommended Axial Working Load (Tonnes)
A	150 x 150	3, 6	314	42	35
	175 x 175	3, 6	314	56	45
	200 x 200	3, 6	452	74	60
	235 x 235	3, 6, 9	628	102	85
	250 x 250	3, 6, 9, 12	804	117	95
	275 x 275	3, 6, 9, 12	804	139	115
	300 x 300	3, 6, 9, 12	905	165	140
	320 x 320	3, 6, 9, 12	1257	191	155
	350 x 350	3, 6, 9, 12	1257	225	185
	381 x 381	3, 6, 9, 12	1521	267	220
400 x 400	3, 6, 9, 12	1608	294	245	
B/C	150 x 150	3, 6	254	32	25
	175 x 175	3, 6	254	42	35
	200 x 200	3, 6	314	55	45
	235 x 235	3, 6, 9	452	76	65
	250 x 250	3, 6, 9, 12	628	89	75
	275 x 275	3, 6, 9, 12	628	105	85
	300 x 300	3, 6, 9, 12	804	126	110
	320 x 320	3, 6, 9, 12	804	142	130
	350 x 350	3, 6, 9, 12	905	169	145
	381 x 381	3, 6, 9, 12	1257	203	175
400 x 400	3, 6, 9, 12	1257	221	195	

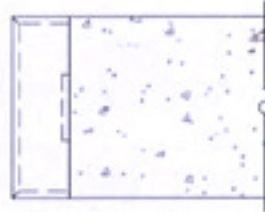
### Notes :

- Maximum and recommended axial working loads shown are only theoretical structural capacities of piles.
- Actual working capacities are dependent on soil conditions and other considerations, but shall not exceed maximum axial working loads shown.

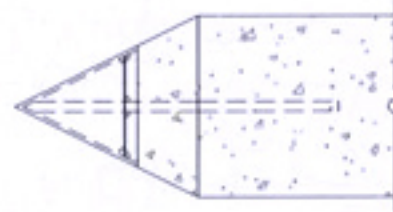
## Types Of Pile Shoes

Five types of pile shoes are available to suit various driving and soil conditions.

### • Standard Pile Shoes

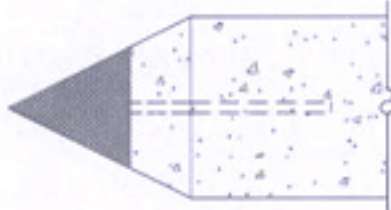


Type 2 : Plain Shoe  
(Sizes From 150 - 200)

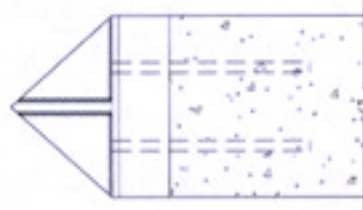


Type 3 : Fabricated Pointed Shoe  
(Sizes From 235 - 400)

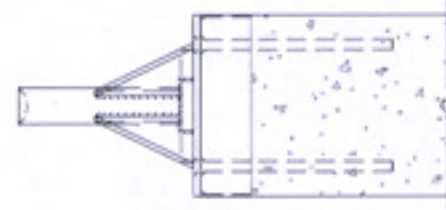
### • Pile Shoes For Special Application



Type 1 : Cast Iron Shoe



Type 4 : X-Pointed Shoe



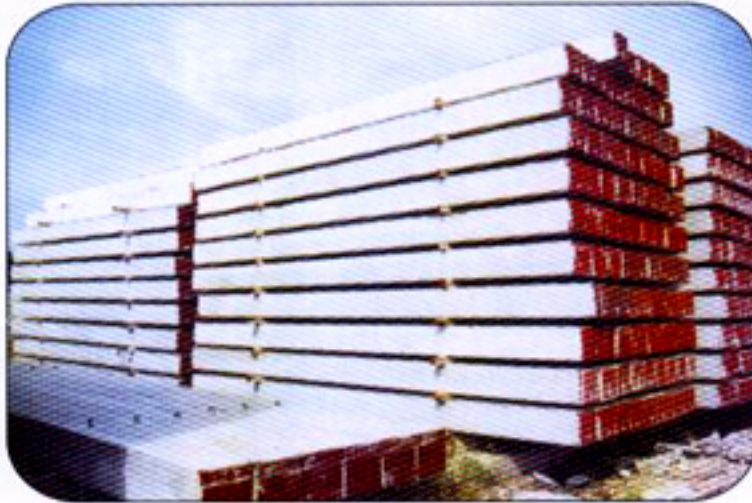
Type 5 : Rock Shoe



Handling at yard



Pitching at site



Stacking of piles



Piling work in progress

It is our policy to continuously review and improve products and their design.  
Information in this leaflet is therefore subject to change without notice.



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