



PERUSAHAAN KONKRIT MERDEKA SDN. BHD.

(143878-V)



CERTIFIED TO ISO 9001 : 2015
CERT NO : QMS 00194



PRECAST REINFORCED CONCRETE PILES

QUALITY ASSURANCE BY PKM IS AS MUCH
A PART OF OUR PRODUCT AS THE BASIC
MATERIALS RESULTING IN OUR PRECAST
CONCRETE PRODUCTS BEING SECOND TO NONE



PERUSAHAAN KONKRIT MERDEKA GROUP OF COMPANIES

MAIN OFFICE & FACTORY

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PRECAST REINFORCED CONCRETE PILES

Generally **pkm** standard precast reinforced concrete piles are designed and manufactured according to:-

- 1) BS 8004 : 1986 - Foundation
- 2) BS 8110 : 1997 - Structural Use Of Concrete
- 3) CP 116 : 1969 - The Structural Use Of Precast Concrete

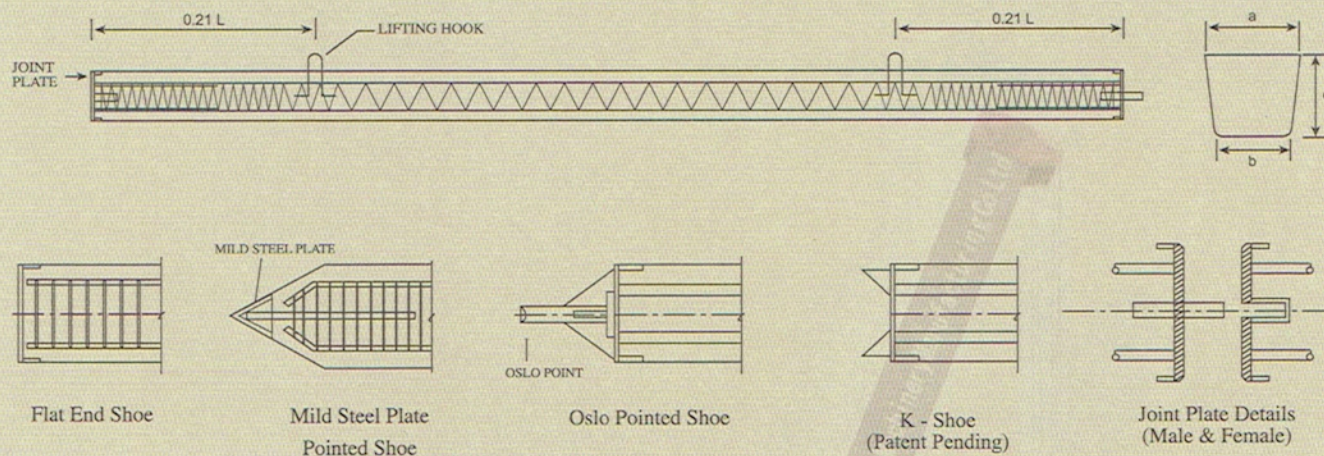
pkm also manufacture RC piles to the following specifications:

- a) JKR Design
- b) MS 1314 : 2004
- c) Customized Design (Special Design Piles)

We have a wealth of experience in this field due to the fact that **pkm** is specialized in precast RC piles since 1985. All our units are made with Ordinary Portland Cement (OPC).

PKM REINFORCED CONCRETE PILE SPECIFICATIONS

Concrete	Concrete cube strength at 28 days shall be 50N/mm ² , 60N/mm ² and 70N/mm ² depending on the client's requirement.						
Cement	MS 522 : Part 1 : 1989 - Specification for Ordinary Portland Cement.						
Aggregate	MS 29 : 1995 - Coarse & fine aggregate from natural sources.						
Reinforcement Bar	MS 146 : 2000 - Hot rolled steel bars for the reinforcement of concrete.						
Hard Drawn Wire	MS 144 : 2001 - Cold reduced mild steel wire for the reinforcement of concrete.						
Mild Steel Plates	BS 4360 : 1979 - End plate (grade 43A)						
Admixture	MS 922 : 1984 - Specification for concrete admixtures.						
Design Criteria	pkm piles are designed to resist normal handling and driving stresses and to support the required loading when installed.						
Pile Shoes	pkm piles are normally provided with flat ended M.S. plate or pointed shoe at the pile toe. However, client can specify various pile shoes to be provided in accordance with the individual driving / site soil conditions as follows: <table><tr><td>Easy / Medium hard driving</td><td>: Flat ended mild steel plate.</td></tr><tr><td>Very hard driving</td><td>: Mild Steel plate pointed shoe.</td></tr><tr><td>For penetration into rock / limestone</td><td>: Oslo pointed rock shoe or K-Shoe.</td></tr></table>	Easy / Medium hard driving	: Flat ended mild steel plate.	Very hard driving	: Mild Steel plate pointed shoe.	For penetration into rock / limestone	: Oslo pointed rock shoe or K-Shoe.
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Lifting Points	To ensure minimum lifting stress, 2 mild steel lifting hooks are incorporated in the pile at 0.21 times the pile length from each end.						



PKM Standard Piles

pkm Standard Piles are designed to be used for high loading applications such as for high-rise buildings and even for bridges.

pkm Standard Piles have the following qualities and advantages :-

- 1) Up to Grade 70 concrete. Higher concrete grades available upon request.
- 2) Able to resist high axial loadings.
- 3) Enables huge savings in overall cost due to the reduced pilecap dimensions and reduced piling numbers as a result of using high performance concrete.
- 4) Very good durability due to the high concrete grade.
- 5) Time savings due to fewer pile points as a result of the high load-bearing capacity of the **pkm** Standard Piles.

PKM Standard Piles

Nominal Pile Size mm x mm	Dimension			Weight of Pile kg/m	Main Reinforcement***			Joint Plate** Thickness mm	Pile Maximum Working Load*			Pile Length m
	a	b	c		No.	x	Dia.		G50 tonne	G60 tonne	G70 tonne	
150 x 150	155	145	150	54	4	T	10	4.5	36	NA	NA	3,6
175 x 175	180	170	175	74	4	T	10	6	47	NA	NA	3,6
200 x 200	205	195	200	96	4	T	12	8	62	73	NA	3,6,9
225 x 225	230	220	225	122	8	T	9	8	78	91	NA	3,6,9
250 x 250	255	245	250	150	8	T	10	8	96	113	130	3,6,9,12
275 x 275	280	270	275	182	4	T	16	8	117	137	158	3,6,9,12
300 x 300	305	295	300	216	8	T	12	9	138	162	187	3,6,9,12
325 x 325	330	320	325	254	8	T	12	9	159	188	217	3,6,9,12
350 x 350	355	345	350	294	4	T	20	12	188	221	255	3,6,9,12
375 x 375	380	370	375	338	8	T	16	12	219	257	295	3,6,9,12
400 x 400	405	395	400	384	8	T	16	12	245	289	332	3,6,9,12
450 x 450	455	445	450	486	4	T	25	12	309	364	419	3,6,9,12
500 x 500	505	495	500	600	8	T	20	15	383	451	519	3,6,9,12

* Axial capacity for a short strut.

** Joint plates are designed for compression loading only. Tensile forces may be accommodated upon request

*** Alternative designs for specific loading purposes may be designed for upon request.

Note : Different pile lengths can be made upon request made in advance.

(Subject to change without prior notification)

PKM Commercial Piles

Nominal Pile Size	Dimension			Weight of Pile	Main Reinforcement***			Joint Plate** Thickness	Pile Maximum Working Load*			Pile Length
	a	b	c		No.	x	Dia.		G50	G60	G70	
mm x mm	mm	mm	mm	kg/m				mm	tonne	tonne	tonne	m
150 x 150	155	145	150	54	4	T	9	4	35	NA	NA	3,6
175 x 175	180	170	175	74	4	T	9	4.5	46	NA	NA	3,6
200 x 200	205	195	200	96	4	T	10	6	60	71	NA	3,6,9
225 x 225	230	220	225	122	4	T	12	6	77	90	NA	3,6,9
250 x 250	255	245	250	150	8	T	9	8	94	111	128	3,6,9,12
275 x 275	280	270	275	182	8	T	10	8	114	134	155	3,6,9,12
300 x 300	305	295	300	216	4	T	16	9	136	161	185	3,6,9,12
325 x 325	330	320	325	254	4	T	16	9	158	186	215	3,6,9,12
350 x 350	355	345	350	294	8	T	12	9	182	216	249	3,6,9,12
375 x 375	380	370	375	338	4	T	20	9	213	251	289	3,6,9,12
400 x 400	405	395	400	384	4	T	20	9	239	283	326	3,6,9,12
450 x 450	455	445	450	486	8	T	16	12	303	358	413	3,6,9,12
500 x 500	505	495	500	600	4	T	25	12	374	442	510	3,6,9,12

(Subject to change without prior notification)

* Axial capacity for a short strut.

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MAXIMUM AXIAL LOAD CAPACITY

In accordance to BS 8004, maximum axial load = $0.275 f_{cu} \cdot A_c + f_s \cdot A_s$

f_{cu} = Concrete characteristic strength at 28 days

A_c = Net concrete area

f_s = Permissible compressive stress for longitudinal bars
= $0.55 f_y$ but not greater than 175 N/mm^2

f_y = Steel characteristic yield strength

A_s = Steel area of the longitudinal bars

pkm has been producing high performance reinforced concrete piles for more than 35 years now. Our technical expertise in the field of pile manufacturing and design has made us the foremost brand in terms of quality and performance.

[For more technical information regarding PKM Piles, please do not hesitate to contact our technical department]