

BAHAGIAN 3.5 : PILING WORK

Kawasan Utara - Perlis, Kedah, Pulau Pinang dan Perak
 Kawasan Tengah - Wilayah Persekutuan Kuala Lumpur, Melaka, Negeri Sembilan, Selangor dan Johor
 Kawasan Timur - Pahang, Terengganu dan Kelantan

BIL	KETERANGAN KERJA	UNIT	KAWASAN UTARA		KAWASAN TENGAH		KAWASAN TIMUR		KESELURUHAN	
			PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)
1	Interlocking steel sheet piles Supply and deliver to site interlocking steel sheet pile 3m length of 5mm thick with section modulus wall width of 500 cm ³ /m	m2			413.15	305.00 - 500.00			413.15	305.00 - 500.00
2	Supply and deliver OZ13A (S355J0C) Steel Sheet Piles in 6.0m length or approved equivalent.	m2			478.68	356.20 - 650.00			478.68	356.20 - 650.00
3	Supply interlocking steel sheet piles; 6m length; 2 coats of epoxy paint	m2			450.90	345.00 - 550.00			450.90	345.00 - 550.00
4	Supply and place 9m Grade 355 interlocking steel sheet pile with minimum section modulus wall width of 2950 cm ³ /m, minimum thickness of 12mm thick and maximum upstand of 2.0 m to the level and profile	m2			694.50	600.00 - 800.00			694.50	600.00 - 800.00
5	Supply of steel sheet piles Type FSP IA or equivalent to ESC-A4.5-F0 Custom	m2			346.00	250.00 - 450.00			346.00	250.00 - 450.00
6	Handle, transport, paint, pitch and drive steel sheet piles 3m length of 5mm thick with section modulus wall width of 500 cm ³ /m, including cutting-off and dispose off site surplus sheet piles	m2			51.78	40.00 - 80.00			51.78	40.00 - 80.00

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7	Handle, Pitch & Drive interlocking steel sheet piles 6m length	m2			32.90	30.00 - 50.00			32.90	30.00 - 50.00
8	Handle, pitch and drive vertical 6.0m OZ13A (S355J0C) Steel sheet piles to the depth.	m2			55.84	45.68 - 66.00			55.84	45.68 - 66.00
9	Handle, pitch and drive steel sheet piles Type FSP IA or equivalent to ESC-A4.5_F0 Custom	m2			87.50	47.50 - 100.00			87.50	47.50 - 100.00
10	Cut off interlocking steel sheet piles including preparing pile heads	m			44.27	30.00 - 70.00			44.27	30.00 - 70.00
11	Cutting or surplus steel sheet piles Type FSP IA or equivalent to ESC-A4.5_F0 Custom	m			63.75	20.00 - 100.00			63.75	20.00 - 100.00
12	Prepare and apply 2 coats of epoxy paint	m2			21.27	7.60 - 25.00			21.27	7.60 - 25.00
	<u>Precast Reinforced Concrete Piles</u>									
	<u>Supply</u>									
13	Supply and deliver to site 400mm x 400mm precast R.C. pile 9m initial pile	no.			1,060.35	814.00 - 1,300.00			1,060.35	814.00 - 1,300.00
14	Supply 400mm x 400mm Precast concrete initial piles of length 6m	m					119.17	60.00 - 130.30	119.17	60.00 - 130.30

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15	Supply; 300mm x 300mm (vertical) 12m length initial piles with pile shoe	no.			917.90	805.00 - 1,100.00			917.90	805.00 - 1,100.00
16	Supply; 300mm x 300mm (raking) 12m length initial piles with pile shoe	no.			935.90	805.00 - 1,100.00			935.90	805.00 - 1,100.00
17	Supply, deliver and store at site 6 m long 200mm x 200mm precast concrete pile; starter pile	no.	265.80	165.00 - 390.00	200.08	157.00 - 313.20	167.40	145.00 - 192.00	211.09	145.00 - 390.00
18	Supply, deliver and store at site 12 m long precast 150mm x 150mm concrete pile; starter pile	no.			222.50	165.00 - 250.00			222.50	165.00 - 250.00
19	Supply, deliver and store at site 6 m long 150mm x 150mm precast concrete pile; starter pile	no.			155.60	130.00 - 185.00	130.80	108.00 - 210.00	143.20	108.00 - 210.00
20	Supply 400mm x 400mm Precast concrete extension piles of length 6m	m					120.91	60.00 - 134.80	120.91	60.00 - 134.80
21	Supply 300mm x 300mm 12m length (vertical) extension piles	no.			913.60	790.00 - 1,150.00			913.60	790.00 - 1,150.00
22	Supply 300mm x 300mm 12m length (raking) extension piles	no.			913.60	790.00 - 1,150.00			913.60	790.00 - 1,150.00

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23	Supply and deliver to site 300mm x 300mm RC Pile 9m initial pile	no.			628.09	510.00 - 750.00				
24	Supply and deliver to site 300mm x 300mm RC Pile 6m initial pile	no.			418.79	250.00 - 550.00				
25	Supply, deliver and store at site 200mm x 200mm 6 m long precast concrete pile; extension pile	no.	277.20	165.00 - 390.00	187.55	157.00 - 235.00	169.10	145.00 - 200.00	316.93	145.00 - 390.00
26	Supply, deliver and store at site 200mm x 200mm 3 m long precast concrete pile ; extension pile	no.	129.24	100.50 - 165.00	114.75	93.00 - 104.00			122.00	93.00 - 165.00
27	Supply, deliver and store at site 150mm x 150mm 6 m long precast concrete pile; extension pile	no					132.48	108.00 - 210.00	132.48	108.00 - 210.00
28	<u>Handle, transport, pitch and drive</u> Handle, transport, pitch and drive 400mm x 400mm RC piles	m			26.07	18.00 - 35.00	20.88	13.60 - 40.00	23.50	13.60 - 40.00
29	Handle, Pitch and drive 300mm x 300mm RC piles	m			16.70	8.00 - 28.60			16.70	8.00 - 28.60
30	Handle, pitch and drive 300mm x 300mm RC Raking Piles	m			19.60	8.00 - 29.00			19.60	8.00 - 29.00

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			PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)	PURATA (RM)	JULAT (RM)
31	Handle, pitch and drive 200mm x 200mm vertical 6 m long precast concrete piles inclusive of joints, cutting-off, disposal of surplus length and stripping of pile head; initial or extension pile	m	15.00	10.00 - 20.00	12.40	7.50 - 20.00	14.79	13.00 - 16.50	13.65	7.50 - 20.00
32	Handle, pitch and drive 200mm x 200mm vertical 3 m long precast concrete piles inclusive of joints, cutting-off, disposal of surplus length and stripping of pile head; extension pile	m	15.00	10.00 - 20.00	11.05	10.00 - 16.70			13.00	10.00 - 20.00
33	Handle, transport, pitch and drive 150mm x 150mm RC piles	m			9.80	5.50 - 18.00	11.50	5.00 - 15.00	10.65	5.00 - 18.00
34	Jointing Pile extension joints to 400mm x 400mm precast RC piles inclusive of welding.	no.			46.67	30.00 - 60.00	29.29	20.00 - 45.00	38.00	20.00 - 60.00
35	Pile extension joints to 300mm x 300mm precast RC piles inclusive of welding.	no.			35.80	20.00 - 55.00			35.80	20.00 - 55.00
36	Pile extension joints to 300mm x 300mm precast RC piles (raked) inclusive of welding.	no.			38.30	30.00 - 65.00			38.30	30.00 - 65.00
37	Pile extension joints to 200mm x 200mm precast RC piles inclusive of welding.	no.	21.83	10.00 - 30.00			32.00	16.00 - 45.00	26.92	10.00 - 45.00

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38	Pile extension joints to 150mm x 150mm precast RC piles inclusive of welding.	no.					15.49	10.00 - 30.00	15.49	10.00 - 30.00
39	<u>Cut off piles including preparing pile heads</u> 400mm x 400mm RC Piles	no.			58.10	40.00 - 70.00	34.99	12.00 - 60.00	46.55	12.00 - 70.00
40	300mm x 300mm RC Piles	no.			49.90	40.00 - 65.00			49.90	40.00 - 65.00
41	300mm x 300mm RC Piles (raked)	no.			52.00	40.00 - 65.00			52.00	40.00 - 65.00
42	200mm x 200mm RC Piles	no.	30.20	25.00 - 40.00	33.80	20.00 - 50.00	24.30	12.00 - 33.00	29.43	12.00 - 50.00
43	150mm x 150mm RC Piles	no.			25.45	15.00 - 57.00	13.54	5.00 - 17.00	19.50	5.00 - 57.00
44	<u>Pile load test</u> Pile load test for Piles size 400mm x 400mm including all necessary equipments, temporary staging, attendance, supervision etc.	no.					13,702.14	8,000.00 - 21,000.00	13,702.14	8,000.00 - 21,000.00
45	Static load test; up to 2 times working load of 600kN; (initial)	no.			10,502.70	8,500.00 - 13,728.00			10,502.70	8,500.00 - 13,728.00

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46	Static load test; up to 2 times working load of 600kN; (initial raked pile)	no.			10,502.70	8,500.00 - 13,728.00			10,502.70	8,500.00 - 13,728.00
47	Static load test; up to 2 times working load of 250kN; (initial)	no.			5,153.10	4,500 - 8,316			5,153.10	4,500 - 8,316
48	Static load test; up to 2 times working load of 150kN; (initial)	no.			4,960.00	4,000.00 - 7,000.00			4,960.00	4,000.00 - 7,000.00
49	Static load test; up to 2 times working load of 150kN; (subsequent)	no.			3,807.00	2,000 - 5,200			3,807.00	2,000 - 5,200
50	Provide all approved testing equipment required and perform PDA integrity testing on pile size 400mm x 400mm	no.					1,342.86	650.00 - 1,500.00	1,342.86	650.00 - 1,500.00
51	Provide all approved testing equipment required and perform PDA integrity testing on pile size 300mm x 300mm	no.			1,325.00	800.00 - 2,500.00			1,324.00	800.00 - 2,500.00
52	Provide all approved testing equipment required and perform PDA integrity testing on pile size 300mm x 300mm (raked piles)	no.			1,325.00	800.00 - 2,500.00			1,325.00	800.00 - 2,500.00

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53	Provide all approved testing equipment required and perform PDA integrity testing on pile size 200mm x 200mm	no.			1,274.50	800.00 - 1800.00			1,274.50	800.00 - 1800.00
54	Provide all approved testing equipment required and perform PDA integrity testing on pile size 150mm x 150mm	no.			1,357.80	800.00 - 2,000.00			1,357.80	800.00 - 2,000.00
	<u>Prestressed Reinforced Concrete Spun Piles Supply</u>									
55	Supply 12m long 800mm dia. Initial pre-stressed concrete spun piles inclusive of all reinforcement bars, prestressing wires, m.s. plates for heads and pile shoes as per details shown in Drawings and/or to manufacturer's details.	no.					4,375.25	2,520.00 - 5,640.00	4,375.25	2,520.00 - 5,640.00
56	Supply and delivering to site in 9.00m length 300 mm dia. prestressed reinforcement concrete spun piles as initial piles	no.	607.00	495.00 - 765.00					607.00	495.00 - 765.00
57	Supply 12m long 800mm dia. extension pre-stressed concrete spun piles inclusive of all reinforcement bars, prestressing wires, m.s. plates for heads and pile shoes as per details shown in Drawings and/or to manufacturer's details.	no.					4,278.00	2,520.00 - 5,400.00	4,375.25	2,520.00 - 5,640.00

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58	Handle, transport, pitch and drive Handle, hoist, transport, pitch and drive 800mm dia. Spun piles as initial piles	no.					56.00	40.00 - 120.00	56.00	40.00 - 120.00
59	Handle, hoist, transport, pitch and drive 800mm dia. Spun piles as extension piles	no.					56.00	40.00 - 120.00	56.00	40.00 - 120.00
60	Handle, hoist and pitch 12m long 800mm dia. Spun piles as initial piles in raked (1:6) to position.	no.					57.60	43.00 - 75.00	57.60	43.00 - 75.00
61	Handle, hoist and pitch 12m long 800mm dia. Spun piles as extension piles in raked (1:6) to position.	no.					57.60	43.00 - 75.00	57.60	43.00 - 75.00
62	Handle, transport, pitch and drive 300mm dia. Prestressed RC Spun Piles as initial or extension piles	m	21.80	15.00 - 30.00					21.80	15.00 - 30.00
63	Drive 800mm dia. piles in vertical to required depth and set.	m					43.56	22.00 - 66.00	43.56	22.00 - 66.00

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64	Drive 800mm dia. piles in raked (1:6) to required depth and set.	m					47.81	22.00 - 90.00	47.81	22.00 - 90.00
65	Jointing Make connection joint 800mm dia. Piles including all necessary jointing plates and welding all as specified	no.					94.17	50.00 - 200.00	94.17	50.00 - 200.00
66	Make connection joint 300mm dia. Piles including all necessary jointing plates and welding all as specified	no.	36.57	21.00 - 55.00					36.57	21.00 - 55.00
67	Cut off piles including preparing pile heads Cut off and disposal 800mm diameter Prestressed Reinforced Concrete Spun Piles	no.					87.17	45.00 - 120.00	87.17	45.00 - 120.00
68	Cut off and disposal 300mm diameter Prestressed Reinforced Concrete Spun Piles	no.	42.71	40.00 - 60.00					42.71	40.00 - 60.00
69	Provide Labours, materials and machineries for construction and place into position a combination Mild Steel and High Tensile Starter Bar/ Pile Plug for the 800mm dia. Prestressed Reinforced Concrete Spun Piles	no.					156.80	56.25 - 225.00	156.80	56.25 - 225.00

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70	Provide Labours, materials and machineries for construction and place into position a combination Mild Steel and High Tensile Starter Bar/ Pile Plug for the 300mm dia. Prestressed Reinforced Concrete Spun Piles	no.	37.29	30.00 - 55.00					37.29	30.00 - 55.00
71	Pile load test Allow for labour, plant, temporary staging, kentledge, hydraulic jack, etc. as specified in Specifications and carry out static load test to 800mm diameter pre-stressed concrete spun pile to twice working load.	no.					34,791.65	20,000.00 - 60,000.00	34,791.65	20,000.00 - 60,000.00
72	Allow for labour, plant, temporary staging, kentledge,	no.					28,166.70	18,000.00 -	28,166.70	18,000.00 -
73	Preliminary static load testing on a single 300mm diameter to a load of 560KN	no.	11,075.00	7,500.00 - 12,000.00					11,075.00	7,500.00 - 12,000.00
74	Subsequent static load testing on a single 300mm diameter Prestressed Reinforced Concrete Spun Piles to a load of 560KN	no.	9,042.86	7,000.00 - 12,000.00					9,042.86	7,000.00 - 12,000.00
75	Allow for labour, plant, equipment, tools etc. to carry out PDA test on a 800mm dia. RC Spun Piles to twice working load	no.					2,218.55	500.00 - 5,000.00		

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76	All mobilization and demobilization of all necessary equipment to carry out dynamic pile test (PDA) on a 300mm dia. RC Spun Piles, inclusive of pile driving hammer, pile driving analyser and associated apparatus.	item	2,666.67	1,000.00 - 5,000.00					2,666.67	1,000.00 - 5,000.00
77	Bored Pile Drill 1000mm nominal diameter vertical holes through whatever soil strata other than rock with provision of temporary casing.	m			410.23	303.80 - 500.00			410.23	303.80 - 500.00
78	Drilled 1000mm nominal diameter vertical holes in	m			1,624.08	1,208.00 -			1,624.08	1,208.00 -
79	1000mm Nominal diameter x 12mm thick permanent	m			2,165.05	1,500.00-			2,165.05	1,500.00-
80	12mm diameter high yield reinforcement	tonne			3,306.05	3,000.00 - 3,500.00			3,306.05	3,000.00 - 3,500.00