



MICRONPILE

every single pile matters

MICRONPILE is patent protected technology fundamentally designed for the foundation of lightweight and substructures, and most importantly, an innovation to replace the application of Bakau piles and unnecessary usage of oversized piles.

MICRONPILE has good design strength, constructed of Grade 45 concrete with up to 4 nos. reinforcement bars to bring extra strength to resist bending moment during pile handling, transportation, vertical loads, and bending moment as a result of lateral loads. Each pile can achieve max structural working load or capacity of 15.5t, more than 10 times the capacity of a typical Bakau pile which is inconsistent in strength and size. It has conveniently built-in male and female joints for extension if required.



MICRONPILE
every single pile matters

Sri Eco Bumi Sdn Bhd (1261061-T)
Lot 6503, Block 11, MTLD,
1-20, Tabuan Plaza Commercial Complex,
Jalan Bayor Bukit, 93350 Kuching, Sarawak, Malaysia.

Contact : 0128493119
Email : sriecobumi@gmail.com

STRUCTURAL CAPACITY

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

Where

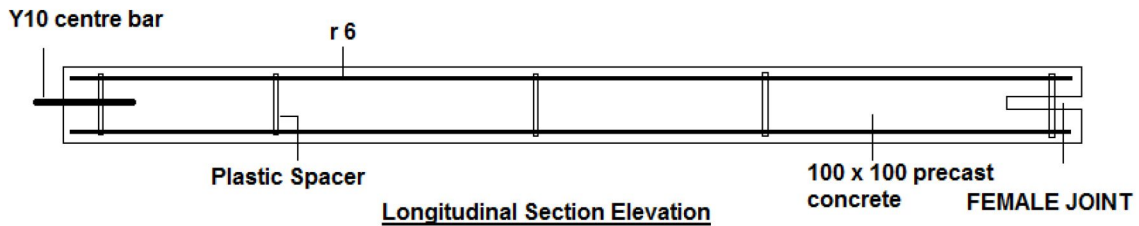
Concrete Grade, f_{cu} = 45 N/mm²

Area of Concrete, A_c = 100 x 100 mm²

Steel Design Strength, f_{sc} = 250 N/mm² (Mild Steel)

Area of Main Reinforcement, A_s = 4 x 28.3 mm² (Ø6mm Rebar)

The actual capacity or working load of the pile is dependent on the geotechnical considerations. Higher capacity can be specially designed if required



MATERIAL SPECIFICATIONS

Pile Nominal Size (mm)	Length (mm)	Pile Weight (kg/m)	Cross Sectional Area (mm ²)	Max Structural Working Load (tonne)
100 x 100	3000	24	10000	15.5

RECOMMENDED DRIVING METHODS

Piling Hammer Weight (kg)	500 to 1000
Excavator Weight (tonne)	15 to 25

APPLICATIONS FOR LIGHTWEIGHT AND SUBSTRUCTURES

Retaining Walls	Drains and Culverts	Lightweight Buildings	Access Roads
Sports Facilities	Apron Slabs	Coastal Protections	Rural Crossings
Wooden Structures	Fencings	Extension Works	Car Porches

MICRONPILE VS BAKAU PILE VS BELIAN POST

Type of Foundation	Micronpile	Bakau Pile	Belian Post
Dimension (mm)	100 x 100 x 3000	75Ø x 4000	150 x 150 x 3000
Capacity (tonne)	15.5	1 (Low)	1 (Low)

1. Feasible and cost effective in overall implementing cost yet structurally stronger and more durable as they are not affected by weathering, termite attack, biological factors and can be applicable to both wet and dry geotechnical conditions.
2. Stable in supply and therefore do not interfere with project implementation as Bakau and Belian piles are slowly depleting and couldn't keep up with demand. Most Bakau and Belian piles in market are unable to meet engineer's construction specifications as they are merely 3-4 ins. in diameter and about 11-13 ft. in length.
3. Verticality can be better controlled during driving as it is structurally straight and stiffer.
4. Can be stored in the open as they are not affected by weather condition unlike Bakau and Belian piles which deteriorated if exposed to dry weather for a period resulting in wastage.
5. Huge saving in construction downtime as a single **MICRONPILE** is equivalent to more than 10 times of the capacity of Bakau and Belian piles depending on the sizes therefore less number are required on site and saving in labour cost.
6. **MICRONPILE** is intellectual property protected in Malaysia ensuring good manufacturing practice can be controlled.
7. No splicing is necessary as **MICRONPILE** can be driven to the full length to achieve the full load bearing capacity as a friction pile.
8. Environmental consideration: Avoiding the use of Bakau piles for better conservation of mangrove eco-system, thus contributing to sustainable development.

Use **MICRONPILE** to enhance your corporate image by contributing to a more sustainable and greener environment through innovation

MICRONPILES are patent protected technology specially designed to replace the Bakau piles. It has good weight to strength riation using four Y6 rebars and Grade 45 concrete. Each pile has a load bearing capacity of 30 kN, about three times the bearing capacity of a typical bakau pile. It has built-in male and female joining plates for extension if higher loading capacity are required to support higher load.



Materials Specifications

Concrete	Characteristic cube strength shall be 45N/mm ² ; Water/Cement Ratio <0.45
Cement	Ordinary Portland Cement to MS 522
Aggregates	MS 29

Sectional Square	Length	Recommended Spacing	Reinforcements
100mm	3m	1 m c/c	4 x Y6

Pile Sizes	Working Load Capacity (At firm set)	Loading Capacity
100 x 100 x 3000	100 KN (10 TONS)	30 KN (3 TONS) Single length

Driving Method

Piling Hammer	500 kg. to 2000 kg.
Excavator	Wt: 15 to 25 tons

SRI ECO BUMI SDH. BHD. (1261061-T)
 Address: Lot 6503, Block 11 (New Lot 17812), MTL D, 1-20, Tabuan Plaza Commercial Complex,
 Jalan Bayor Bukit, 93350, Kuching, Sarawak, Malaysia.
 Contact : 012-8493119

Use **MICRONPILE** to enhance your company image by contributing to a more sustainable and greener environment.

CAUTION : Pile heads must be fitted with plywood packed metal helmet before driving.

Suitable for use in supporting structural foundation where bakau piles are applicable:

1. R.C. Retaining Walls.
2. Concrete Fencings.
3. Car Porch and apron slabs.
4. R.C. Drains and Culverts.
5. Access Roads.
6. Basketball, Tennis courts etc.
7. All tyoes of unsuspended floor slabs.
8. All light concrete buildings such as guard houses, Single storey houses.
9. All other light concrete or wooden structures.
10. Coastal protection.
11. Highway.

Advantages of MICRONPILE compared to bakau piles:

1. Cheaper in implementing cost yet structually stronger and more durable as they are not affected by weathering, termite attack, biological factors and can be applicable to wet and dry sub-soil condition.
2. Steady in supply and therefore do not interfere with project implementation as Bakau piles are slowly depleting and couldn't keep up with demand. Most bakau available at the moment are unable to meet engineer's construction specification as most bakau available are just 3-4 ins. in diameter and about 11-13 ft. in length.
3. Verticality can be better controlled during driving as it is structurally straight and stiffer.
4. Can be stored in the open as they are not affected by weather condition unlike bakau which deteriorated if exposed to dry weather for quite sometime resulting in wastage.
5. Huge saving in construction downtime as a single **MICRONPILE** is equivalent to 3-6 bakau piles in load bearing capacity depending on the sizes therefore less number are required thus saving in labour cost.
6. **MICRONPILE** is intellectual property protected in Malaysia ensuring good manufacturing practice can be controlled.
7. No splicing is necessary as **MICRONPILE** can be driven to the full length to achieve the full load bearing capacity as a friction pile.
8. Environmental consideration: Avoiding the use of bakau piles mean that the mangrove eco-system can be better conserved, contributing to sustainable development.



RESEARCH & DEVELOPMENT BEING CARRIED OUT FOR BOTH THE BENDING AND STATIC LOAD TEST TO ENSURE THE QUALITY OF MICRONPILE

















