

How are piles classified on the basis of function and material?

Piles are classified based on their function and material. The following are the classifications:

1. Based on Function:

- a. End-bearing piles: End-bearing piles transfer the load of the structure to a hard stratum at the bottom of the pile. They are usually long and slender and are used in structures with heavy loads.
- b. Friction piles: Friction piles transfer the load of the structure to the surrounding soil through frictional resistance. They are shorter and fatter than end-bearing piles and are used in structures with lighter loads.

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2. Based on Material:

- a. Timber piles: Timber piles are made of wood and are commonly used in marine structures and in the construction of temporary structures.
- b. Concrete piles: Concrete piles are made of reinforced concrete and are used in heavy structures and in weak soil conditions.

c. *Steel piles:* Steel piles are made of steel and are used in heavy structures and in areas where corrosion resistance is required.

d. *Composite piles:* Composite piles are made of a combination of materials, such as concrete and steel, and are used in situations where the advantages of each material can be utilized.

It's important to note that the selection of the type of pile depends on various factors, such as soil conditions, the load-bearing capacity required, the cost of materials, and the construction process. A geotechnical engineer can provide guidance on the most appropriate type of pile for a specific project.

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