

Types of Heavy Construction Equipment

Different types of heavy equipment commonly used in the construction are as follows:

- Excavators
- Pile Boring Machine
- Pile Driving Machine
- Backhoe
- Dragline Excavator
- Bulldozers
- Graders
- Wheel Tractor Scraper
- Trenchers
- Loaders
- Tower Cranes
- Pavers
- Compactors
- Telehandlers
- Dump Trucks
- Feller Bunchers

Excavators

Excavators are important and widely used equipment in construction industry. Their general purpose is to excavation but other than that they are also used for many purposes like heavy lifting, demolition, river dredging, cutting of trees etc. Excavators contain a long arm and a cabinet. At the end of long arm digging bucket is provided and cabinet is the place provided for machine operator. This whole cabin arrangement can be rotatable up to 360o which eases the operation. Excavators are available in both wheeled and tracked forms of vehicles.



Backhoe

Backhoe is widely used equipment which is suitable for multiple purposes. The name itself telling that the hoe arrangement is provided on the back side of vehicle while loading bucket is provided in the front.

This is well useful for excavating trenches below the machine level and using front bucket loading, unloading and lifting of materials can be done.



Dragline

Dragline excavator is another heavy equipment used in construction which is generally used for larger depth excavations. It consists a long length boom and digging bucket is suspended from the top of the boom using cable.

For the construction of ports, for excavations under water, sediment removal in water bodies etc. can be done by dragline excavator



Bulldozer

Bulldozers are another type of soil excavating equipment which is used to remove the topsoil layer up to particular depth. The removal of soil is done by the sharp edged wide metal plate provided at its front. This plate can be lowered and raised using hydraulic pistons. These are widely used for the removal of weak soil or rock strata, lifting of soil etc.



Graders

Graders also called as motor graders are another type of equipment used in construction especially for the construction of roads. It is mainly used to level the soil surface. It contains a horizontal blade in between front and rear wheels and this

blade is lowered in to the ground while working. Operating cabin is provided on the top of rear axle arrangement.

Motor Graders are also used to remove snow or dirt from the roads, to flatten the surface of soil before laying asphalt layer, to remove unnecessary soil layer from the ground etc



Wheel Tractor Scrapers

Wheel Tractor Scrapers are earth moving equipment used to provide flatten soil surface through scrapping. Front part contains wheeled tractor vehicle and rear part contain a scrapping arrangement such as horizontal front blade, conveyor belt and soil collecting hopper. When the front blade is lowered onto the ground and vehicle is moved, the blade starts digging the soil above the blade level and the soil excavated is collected in hopper through conveyor belt. When the hopper is full, the rear part is raised from the ground and hopper is unloaded at soil dump yard



Trenchers

Trenchers or Trenching machines are used to excavate trenches in soil. These trenches are generally used for pipeline laying, cable laying, drainage purposes etc. Trenching machines are available in two types namely chain trenchers and wheeled trenchers.

Chain trenchers contain a fixed long arm around which digging chain is provided. Wheeled trenchers contain a metal wheel with digging tooth around it. To excavate hard soil layers, wheeled trenchers are more suitable. Both types of trenchers are available in tracked as well as wheeled vehicle forms.



Loaders

Loaders are used in construction site to load the material onto dumpers, trucks etc. The materials may be excavated soil, demolition waste, raw materials, etc. A loader contains large sized bucket at its front with shorter moving arm. Loader may be either tracked or wheeled. Wheeled loaders are widely used in sites while tracked or crawled loaders are used in sites where wheeled vehicles cannot reach.



Tower cranes

Tower cranes are fixed cranes which are used for hoisting purposes in construction of tall structures. Heavy materials like pre-stressed concrete blocks, steel trusses, frames etc. can be easily lifted to required height using this type of equipment.

They consist of a mast which is the vertical supporting tower, Jib which is the operating arm of crane, counter jib which is the other arm carries counter weight on rear side of crane and an operator cabin from which the crane can be operated.



Paver

Paver or Asphalt paver is pavement laying equipment which is used in road construction. The paver contains a feeding bucket in which asphalt is continuously loaded by the dump truck, and the paver distributes the asphalt evenly on the road surface with slight compaction. However, a roller is required after laying the asphalt layer for perfect compaction.



Compactors

Compactors or Rollers are used to compact the material or earth surface. Different types of compactors are available for different compacting purposes.

Smooth wheel rollers are used for compacting shallow layers of soil or asphalt etc. sheep-foot rollers are used for deep compaction purposes. Pneumatic tyred rollers are used for compacting fine grained soils, asphalt layers etc.



Telehandler

Telehandlers are hoisting equipment used in construction to lift heavy materials up to required height or to provide construction platform for workers at greater heights etc. It contains a long telescopic boom which can be raised or lowered or forwarded. Different types of arrangements like forklifts, buckets, cabin, lifting jibs etc. can be attached to the end of telescopic boom based on the requirement of job



Feller buncher

Feller buncher is tree cutting heavy equipment used to remove large trees in the construction field. They cut the tree and grab it without felling, likewise gathers all the cut down trees at one place which makes job easier for loaders and dump trucks

**Dump trucks**

Dump trucks are used in construction sites to carry the material in larger quantities from one site to another site or to the dump yard. Generally, in big construction site, off-road dump trucks are used. These off-road dump trucks contains large wheels with huge space for materials which enables them to carry huge quantity of material in any type of ground conditions

**Pile boring equipment**

Pile boring equipment is used to make bore holes in the construction site to install precast piles.



Pile driving equipment

Heavy equipment used in construction site is pile driving equipment in case of pile foundation construction. This equipment lifts the pile and holds it in proper position and drives into the ground up to required depth. Different types of pile driving equipment are available namely, piling rigs, piling hammer, hammer guides etc. in any case the pile is driven into the ground by hammering the pile top which is done hydraulically or by dropping

