

EXCAVATORS

Excavators are basically digging machines having three major components

An under carriage to give mobility

A super structure with operators cabin mounted on either a sloe ring to traverse through 360° or on a rigid frame

Hydraulically articulated boom or tipper arms with bucket

Types of excavators

Crawler mounted excavators

Truck mounted excavators

Self propelled excavators

Excavators mounted on barge or rail

Compactors

Compaction is the process where by material particles are constrained to pack more closely together through

a reduction of air void content generally by mechanical means

Types of compactors

- static smooth wheeled rollers
- sheep foot and pad foot rollers
- pneumatic tired rollers
- vibratory rollers

Static compaction equipment

It has several types

- towed static smooth compactors
- static sheep foot or pad foot compactors
- static three wheel self propelled compactors
- static tandem compactors
- three axle static compactors

Towed static smooth compactors

Smooth rolls where the first type of rolling compaction equipment used

These were pulled by men or horses and were first used by Romans to smoothen their roads

Static sheep foot or pad foot compactors

When compacting the earth the feet penetrate deep into the loose material during the first passes and compact the soil from bottom up

The kneading effect of sheep foot compactors is used to break up the Earth lumps and reduce the air voids

Static three wheeled self propelled compactors

These have three rolls a small usually split steering roll in the front

Two large drive rolls mounted on rear axle at both the end

Static tandem compactors

Tandem rolls have two equal sized rolls and are centered in line tandem

These are used for the compaction of bituminous layer as they leave a smooth surface

Vibratory compaction equipments

It can be divided into the following types

- Tandem vibratory compactors
- Towed vibratory compactors
- Towed sheep foot and tamping foot vibratory compactors
- Self propelled vibratory compactors
- Hand guided vibratory compactors