

EQUIPMENT FOR CONCRETE MIXING AND TUNNELING EQUIPMENT

Equipment for Concrete Mixing

Concrete mixers

For small jobs conc. mixers are used to mix the ingredients of the concrete

Following type of concrete mixers are used in the construction

Hand fed tilting drum mixers

These are smaller capacity mixers ,aggregate cement and water fed in to the drum by hand

Loader fed tilting drum mixers

These are larger capacity as compared to hand fed mixers

These are fixed with the loading hopper operating by the wired rope for loading

Reversing drum mixers

This type of mixer is used on comparatively larger works

The mixer drum is horizontal and it is non tilting type

It has blades which work alternatively

Roller pan mixers

These mixers are primarily used for mortars ,the rollers and mixer blades rotate in a pan and not only mixing material but also kneading and crushing it

Tunneling equipment

Selection of equipment

Selection of equipment for tunneling depends upon quantum of work involved

So that the tunneling work is carried out economically, speedily and safely

Muck loading

Mucking is the operation of loading the broken rock or earth for removal from tunnel
Mucking process can be done by the following equipments

Power shovels

Tractor loader

Mucking machines

Tunnel boring machines

Tunneling is mostly done by conventional and drilling and blasting methods

Working principle of tunneling these machines perform the bring operation through the rotation of the front head against the rock face

The mole has circular cutter head in the front provided with fixed cutters of desired shapes
The cutter head while rotating is pressed against the rock to cut or pulverize it

The tunnel boring machines are two types

Single stage machine

These are recommended for small dia tunnels of 3 to 6 m

These machine are allowed to access change in bore hole diameter and this can be done without any change of machines

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