



## CONCRETE READY MIXTURE TRUCK



### NEED FOR CONCRETE READY MIXTURE TRUCK

The use of mixing machine is used in the construction sites for preparing the concrete mixture. The disadvantage of the mixed machine is that the concrete is mixed on the site, since it takes some time for the mixing process. While constructing big apartments it is impossible to produce the required concrete with in the stipulated time. So for overcoming this problem, the ready mixer is used.

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Ready-mix concrete is concrete that is manufactured in a batch plant, according to a set engineered mix design. Batch plants combine a precise amount of gravel, sand, water and cement together by weight, allowing specialty concrete mixtures to be developed and implemented on construction sites. Ready-mix concrete is often used over other materials due to the cost and wide range of uses in building, particularly in large projects like high rise buildings and bridges. It has a long life span when compared to other products of a similar use, like road ways. It has an average life span of 30 years under high traffic areas compared to the 10 to 12 year life of asphalt concrete with the same traffic. The ready mix concrete truck carries the readymade concrete and transports it to the required destination.

### MAIN COMPONENTS

- Engine
- Hydraulic system
- Rotating Drum
- Feeding and discharging system
- Water tank
- Auxiliary frame
- Pneumatic braking system
- Control switch



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## CONSTRUCTIONAL DETAILS

The truck comprises of an engine along with the transmission unit. The Hydraulic system is mainly composed of hydraulic pump, hydraulic motor, radiator and high-pressure tubing. Its role is to transport the engine power into hydraulic energy (displacement and pressure) by the hydraulic pump, then output as the mechanical energy (rotational speed and torque) through the motor, and finally reduced the speed by the reducer to supply power for mixing drum rotation. The readymade mixture is placed inside the rotating drum through the opening provided above the drum which is known as feeding system. The readymade mixture is transported as two types of mixtures namely a dry mixture and a wet mixture. The drum is continuously rotated while transportation and until it reaches the destination in order to prevent the mixture from hardening. In case of dry mixture, the water is continuously supplied to the mixture while transportation.

The mixture is feeded to the drum from the ready mix concrete plant and then the truck starts its travel towards the destination. During travelling the drum is made to rotate in clockwise direction for preventing the mixture from hardening. The power for rotating the drum is taken from an engine through the hydraulic system. Then after reaching to the destination, the mixture is discharged by rotating the drum in anti-clock wise direction. During this rotation, the mixture is discharged through the way provided in the discharging system

## APPLICATION

- Used in construction site for filling the concrete in ready mix condition
- Used in the construction of concrete roads.
- Used in the construction of bridges
- Used for filling concrete in the damaged concrete roads.

## MANUFACTURING COMPANIES

- Tata
- Ashok Leyland
- Mahindra
- Bharath Benz
- Eicher