Article Side

Civil Engineering Construction, then and Now

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Civil Engineering is one of the oldest scientific disciplines known to man. Early signs of professional engineering can be traced back to 4000 BC with the Egyptian and Mesopotamian civilizations. The Egyptian pyramids till today remain a marvel to mankind, as to how in that day and age such massive structures could be constructed. With such precise calculations and engineering knowledge required they truly are wonders of the world. In those times with no electricity or heavy machinery at their disposal, getting huge rocks to move in their place with sheer manpower is an amazing feat in itself. More examples of early evolvement can been in the Indus valley civilizations where elaborate waterways and structures were built.

Since then civil engineering construction has evolved greatly. Today it has been further split into various multi disciplines such as structural engineering, geo technical engineering, environmental engineering etc. All these disciplines are core specializations in them selves and require in depth study. We today have heavy machinery at our disposal, which has helped the field evolve much faster. With machines available,loads of much heavier weight can be moved much faster.

The need for manpower has come down drastically as machines take on the task of many men single handedly. We have been able to build elaborate structures across difficult terrains, which would not have been possible earlier. Precision work has increased dramatically and has become increasingly easy. Machines of all types such as excavators, compactors, rollers, bulldozers, measuring instruments, cranes, dumpers etc. have been made available for different construction activities.

Lets talk about some of these important machines that changed the construction industry further in brief:

Excavators: An extremely important and widely used piece of machinery is used across a variety of industries such as construction, mining, forestry, demolition etc. The main purpose of the machine is to dig up earth fast. The mechanism of the machine consists of a boom, stick, bucket and cab sitting on top the main assembly also known as the house. Excavators are also available in 360Âº formats where they have an all round motion capability.

Cranes: Another very important piece of machinery that is used in its smaller format inside workshops too much larger projects involving bridge and skyscraper construction. All the skyscrapers we see today would not have been possible without the availability of cranes. The ability of a crane to move heavy material swiftly to great heights and horizontally is unparalleled by any other. Cranes have greatly reduced the time taken in construction and are responsible in a big way in fuelling construction growth seen over the last 150 years.

There are mainly 3 types of cranes overhead, fixed and mobile. Furthermore under mobile cranes there are various more varieties such as truck-mounted cranes, rough terrain cranes, floating cranes, rail road cranes, crawler cranes, pick and carry cranes etc. In the fixed type of cranes some of the following varieties exist such as tower crane, gantry crane, deck crane, loader crane, jib crane etc.

There are many more important pieces of machinery that we will look at in our next article.

You can see how over thousands of years civil engineering construction has evolved from mere chisels and hammers to sophisticated heavy machinery. How it has sped up the growth of the world

and help us build elaborate cities and infrastructure that we use everyday.

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