

Real Estate Construction Techniques And Why Buyers Need To Know Them

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You may be a person who knows a lot about making real estate investments or who may be in the profession of advisory. But have you ever paused to learn about the techniques that go right into the process of construction of buildings? Has it ever occurred to you that you need to learn about the construction techniques of homes before you take the first step towards buying or advising one? In this article, we will look into the various construction techniques adopted by real estate developers and how each of them is different.

Conventional techniques

The conventional techniques are the ones that refer to the traditional methods of construction, the knowledge of which is passed from one generation to another. New technologies are hardly used. These methods are associated to the in-situ method or wet construction method, which is quite labour intensive.

In the conventional formwork, standard framed panels are tied together over their backs with wailings, which are essentially horizontal members. The wailing resists the horizontal force of wet concrete.

One side of the wall framework is first assembled, in order to ensure correct plumbing, alignment and strutting. Now comes the steel enforcement cage which is positioned on the other side of the formwork. The most common material used for wall formwork is plywood sheet along with timber. Using plywood this way helps to remove it easily and be reversed to maximise the number of reuses.



Conventional Formwork (Source: Fine Line Construction Services)

Conventional technique is quite cost effective. Bricks remain cooler too in comparison to concrete. Moreover, modifications are easy to be implemented. However, the conventional formwork also suffers from limitations. The wall forms are prone to edge and corner damages. Increased pressures by wet concrete can cause the abutments to open up and lead to leak of grout and hence, a bad finish to the wall. This is why the attached piers are also given special attention.

MIVAN Technology

MIVAN is a popular type of aluminium formwork technology. The formwork and floor slab structures provide structural system in one continuous pour. Using this technology, large room sized walls and floor slabs are erected at site. Since the forms are strong, accurate and easy to handle, they provide option of approx 250 repetitions. This is akin to moulding.

The fine tolerances achieved in the formwork components manufactured through machines help to construct concrete shapes with utmost consistency, accuracy and high quality. This helps in prefabrication of plumbing and electrical fittings and also dimensional accuracy of doors and windows.



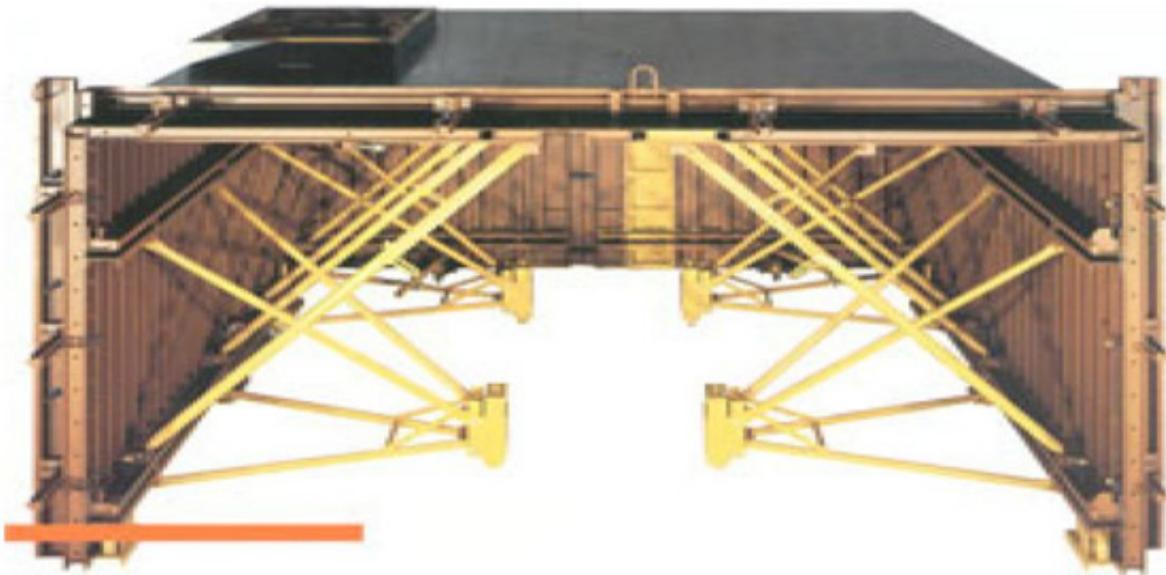
MIVAN Technology (Source: Comparison of the use of Traditional and Modern Formwork Systems (Swapnali M. Karke, M.B. Kumathekar))

MIVAN is a wonderful technology when durability is required from formwork. It is an easy-to-use, adaptable and a cost-effective option for using formwork. But because it uses a mould, making modifications is not as easy as in conventional formwork.

Tunnel form technology

This is another formwork technology that ensures high quality of construction that meets standards of accuracy and precision. Tunnel form technology is a highly efficient industrialized system of on-site construction. In this technology, a stable structure is put up on a 24-hour cycle basis. It enables the builder to construct large slabs and walls in one operation on a daily cycle.

This technology brings together speed, quality and precision of concrete produced in factory with the flexibility of in-situ construction.



Technology (Source: Comparison of the use of Traditional and Modern Formwork Systems (Swapnali M. Karke, M.B. Kumathekar))

This technology is a perfect fit for repetitive cellular projects; for instance, hotels, schools, apartment blocks etc. Work happens with speed, accuracy and quality. The tunnel form technique is commonly used for multi-storied buildings as it reduces cycle time. Another advantage is that the walls and slabs are cast in large dimensions. The components of the formwork are made of steel, which makes it sturdy, durable and apt for repetitive usage. No starter concrete is required for the walls and a builder can achieve easy alignment and de-shuttering. Productivity of labourers is also ensured.

However, making modifications is not as easy as in conventional formwork. This is again due to use of moulds, which make it next to impossible to make modifications.

Prefabrication

Another technology that has been quite instrumental in accelerating the process of construction is prefabrication. It is the practice of assembling components of a structure not at the place of the actual project, but at a factory. It also involves transporting the entire assembly or sub-assembly to construction site and assembling it with the main structure.

In many projects, it is common to find prefabricated concrete slabs and prefabricated steel sections being fitted in the main structure. Prefabrication works when a part or a form has to be repeated many times. There are times when it is difficult to mould concrete components on site and when it is feared that concrete may dry up before it reaches the construction site. This practice has also been found to reduce labour costs, chances of accidents and hazards, welding costs and inaccuracy in construction.



A house being built with prefabricated concrete panels. (Source: Wikipedia)

There are a number of advantages. It has been often found that moving partial assemblies is cheaper than transporting raw materials at site. Factory tools like robots, cranes, conveyors etc. can reduce costs and increase quality. Indoor fabrication can also reduce impacts of severe weather.

These are the various construction techniques that are largely followed in India. The process of construction of buildings is getting better, more efficient and seamless by the day because of

advancements in technology. VTP Realty takes utmost care and deploys the best construction methodology depending on size and delivery times of its projects. It is investing in modern technologies to further improve its product delivery and augment the scale of developments.