

# THE HINDU

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## Your dream home in no time



The demand for pre-cast systems is rising as developers have realised the necessity to complete the projects faster and pass on benefits to customers.— File photos



*Pre-cast structures can be used for construction of residential buildings as well, but choosing the right kind of structures ideal to the city we live in is necessary, writes C. A. Prasad*

When we talk of pre-cast structures, the most common issue one has to contend with is whether such method of construction is feasible for residential buildings. The question asked by many is whether we can construct an apartment, a duplex or an independent house by using pre-cast structures. Then there is also the question of establishment costs to comfortably manage a pre-cast industry in Hyderabad.

Before addressing such issues one must realise that pre-cast structures, especially hollow core slabs, possess distinct advantage of being light weight with considerable savings in material, span range, and high speed of construction achievement. These factors have to be considered for projects of bigger volumes and thereby, the project completion times could be realised faster. There is no doubt about the fact that pre-cast structures can be used for construction of residential and commercial structures.

The question, however, is what kind of pre-cast structures are ideal for Hyderabad?

Hyderabad and Bangalore are in earthquake zone II and for regions falling under such topography, pre-cast hollow core slabs and pre-cast

connections with wet jointing are best suited. Very broadly, we can find three types of residential structures in cities across India that include apartments of stilt plus five floors, villas that are ground plus one storied and multi-storied residential structures.

For all such structures, pre-cast is best suited, in a way that columns can be only on the periphery of the structure and hollow core slab will span from 6 to 10 metres easily with thickness range of 150 to 200 thk plus 50mm of structural topping. This will avoid internal columns, beams, etc. and savings will accrue. All the internal walls could be made of light weight partition walls and can be directly supported on hollow core slabs because they are stronger to take light weight partition walls than the in situ slabs, and thereby, the internal portion of the unit can be changed whenever wanted by removing the light weight partition walls. In addition to residential structures, hollow core slabs can be used for the construction of commercial and long span structures. For such structures too, hollow core slabs of up to 12 meters, and thereafter, single and double tee structures are best suited to a length of 20 to 30 meters.

### **Planning for pre-cast**

For ground plus one structures pre-cast walls and hollow core slabs are best suited thereby avoiding the beams at plinth, floor and roof levels. Hollow core slabs will directly rest on the walls, which will act as load bearing elements and also as shear walls in resisting lateral forces.

For any kind of project, be it residential and commercial, pre-cast needs to be planned right from the beginning by involving all the consultants. Sound design and planning is a must involving all the consultants that include architects, structural engineers and even mechanical, electrical and plumbing experts. In pre-cast, after the design is frozen, elements will go for production. Thereby, there is a distinct advantage of design freezing point to the builders and developers.

Development of pre-cast in India is on the rise and large numbers of the manufacturing units are being set up across the country. The demand for pre-cast systems is rising day by day as developers and government institutions have realised the necessity to complete the projects faster and pass on benefits to customers.

Spirol from UK has set up a facility in South India to supply the steel plates required for beds duly tying up with a local firm. Bianchi from Italy have set up the facility near Mumbai and are supplying the tilting moulds required for making walls, as well as for forms for columns, beams and have already supplied to number of pre-cast manufacturers in India.

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