PAGE NO 3: Ceramic tiles are the in thing

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City plays host to PEPSCON

The precast construction *in buildings and industrial sectors has just started in Hyderabad and there is a lot of scope for its expansion, says* **T. LALITH SINGH**

Apart from issues such as layout approvals, taxation, mood of prospective buyers and impact of global and local factors, the construction industry has another woe – a dwindling skilled labour force.

At a time when the construction demand has been going up with projects from residential, office to huge malls for retailers being set up, the sector over last few years has been struggling to manage its work force.

This gets further compounded with shortages of construction material as the city has recently witnessed with sand supplies and occasionally has to struggle for cement stocks.

As the concerns of these issues gets vocal, suggestions have started to emerge on the need to go for mechanisation of the sector as a solution.

It is in this backdrop, Hyderabad last week played host to the Pre-Engineered and Pre-Cast Concrete Structures Conference (PEPSCON)-2013. Delegates from across the country, including structural engineers, architects, planners and product developers gathered for two-day sessions on precast concepts.

"Precast not only answers issues of labour shortage but also saves project execution time and comes with assured quality. There is a need to propagate these concepts and ensure wider acceptance," says PEPSCON Chairman, P.Surya Prakash.

Describing these as the future of Indian construction industry, he underscores the need to accept precast concrete and pre-engineered steel buildings in the city as well as the country given the rising construction demand and at the same time, increasing shortage of construction workers.

Almost 95 per cent of construction here still goes by the conventional type of construction using the RCC Frame consisting of columns, beams and slabs and walls built using traditional clay bricks. On the advantages side, says C.A. Prasad, PEPSCON Secretary, the labour and technicians understand the trade well and hence easier to construct the conventional way.

Also, it has established infrastructure which helps builders and developers readily source the required material and the costs are known.

On the other hand, shortage of labour, project delays due to shortage of labour and sometimes due to material come to trouble it.

"There are other issues such as quality control, cracks and leakages and poor maintenance affecting durability and life of the structure," he says.

Mechanisation of the industry is the only solution to cater the needs of quality, shortage of skilled labour and to achieve speed of construction, Mr. Prasad advocates.

The precast construction in buildings and industrial sectors has just started in the city and there is a lot of scope for its expansion. "Some of the developers have started to adopt it to cut short the time periods of construction, improve durability of structures and overcome shortage of skilled labour," Mr.Surya Prakash says. Hyderabad already has equipment from Finland, Italy and Spain and they are producing elements for the projects under execution. Here in the city, the available precast paraphernalia include batter mould equipment which produces walls and precast hollow core slab units. Pre-engineered building industry is predominantly being used as portal frames and trusses in the industrial sector for ware houses, storage sheds, stadiums, parking lots and others. It is pointed out that this concept has started to establish itself in the building sector in the fields of commercial complexes, showrooms, offices and schools.





Delegates having a look at an exhibit displayed at Pepscon 2013 in Hyderabad. (Top) The 10-storey building which was erected n a record time of 48 hours in Mohali. – *Photos: Nagara Gopal & PTI*

> Precast structures not only answer issues of labour shortage but also saves project execution time and comes with assured quality. There is a need to propagate these concepts and ensure wider acceptance: P.Surya Prakash, PEPSCON Chairman

Advantages

The advantages of precast have been put as architectural flexibility, speed of construction, quality finish, less labour requirement and quality control of product. There is no plastering required and it also ensures elimination of form work and there is no wastage of natural resources, say the proponents.

Disadvantages

Transportation, lifting and erection of precast elements fall on the side of disadvantage.

Prefab @ Mohali



G.S. Palani

A record creating initiative it turned out to be. Towards the last year-end, 10 floors were set up in just 48 hours at Mohali and the effort has become a case study for proponents of prefabricated construction practices.

The Pre-Engineered and Pre-Cast Concrete Structures Conference (PEPSCON)-2013 had a presentation on the building by G.S. Palani, Senior Principal Scientist, Chennai-based CSIR-Structural Engineering Research Centre, which studied the structural safety of the building constructed by Synergy Thrislinglton.

"The building involved fast track construction using Instacon technology. With a workforce of 200 workers and using 200 tonnes of steel, the 10-floor building was set up in 48 hours," recalls Mr.Palani.

The structure spread over 25,000 square metres was completed in all respects including electrical installation in the time schedule. It used prefabricated material prepared at a factory and brought to the site for assemblage.

The CSIR-SERC at the request of the builder did assessment of structural safety and seismic performance. For the purpose, a scaled model of the building was assembled and put to test on the Tri-axial Shaker Table at the centre, Mr. Palani says adding that the model underwent checks for seismic zone-V and cleared.

On commencement of the work on the site, four floors were completed while the skeleton of eight floors was ready within 24 hours itself. "Even as the first floor walls were being set-up, the second floor was getting ready," he says. All the components were factory prepared and concrete went in only in the foundation and some deck areas.

The ultra fast construction had more than 80 per cent work pre-made and the rest happening on the site. He says such emerging technologies can be adopted for mass housing, community buildings such as hospitals and institutions and even IT Parks.

"The utilisation of steel/concrete ratio is around 0.3 in India against close to 1.0 in western countries and we need to take this ratio forward," adds Mr. Palani.

