

PEB: A wave likely to become a trend

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Slowly but steadily PEB is increasingly being favoured in almost all the infrastructure projects be it ports, metros, rail networks, airport hangers or complex projects. The industry is growing at a staggering rate compare to other building materials. The article highlights the current scenario and market demand for PEB in India

Pre-Engineered Buildings is taking the construction industry by storm. Pre-Engineered Buildings know popularly by its acronym PEB is today the fastest growing sector in India. There is no dearth of PEB projects in India. Just Google it with keywords “PEB Tenders India”, the results displayed are quite impressive and enormous and can be concluded that there are plenty of PEB projects in the tendering stage. There are plenty of tenders for “Construction of PEB shed, structures” from government bodies such as India Railways and the Airport Authority of India. The tendering requirements do not stops at “Construction of PEB shed, structures”, but it goes far further with requirements such as “design, engineering, supply, fabrication, erection and construction of peb (pre-engineered building) shed / warehouse with mezzanine floor with smoke detection & sprinkler system along with the associated allied civil, structural, electrical & instrumentation and mechanical works.” Looking at this type of requirements, it is hard to imagine just two decades this industry was relegated to just executing warehousing projects that too quite a few in numbers. “When PEB were introduced in India in late 1990’s, one of the first applications was in construction of oil filling stations as Canopy,” says P K Nagarajan, Director & CEO, Tiger Steel Engineering (India). Back than PEB structures were mostly imported from Middle East. Since then slowly and steadily PEB has entrenched the construction and infrastructure requirements for faster, durable and safer construction. Today, PEB has achieved what other construction materials have. Not only the once dull looking warehouses but aesthetically appealing malls, stadiums, auditoriums, educational facilities, tall buildings, dormitory, luxury villas on hill resorts, airport hangers, in fact all complex structures can be constructed by PEB. “Over the last two decades PEB has been steadily making inroads into construction of warehouses, factories buildings, process buildings, aircraft hangars, stadium, exhibition centres, school buildings and more recently into low cost housing,” says P K Nagarajan.

The advantage of PEB over other construction materials is the exclusive use of steel as the major component to create PEB structure. Steel structures (PEB) compare to other building materials – precast, concrete, cement - are quicker to construct, have recycle value and conforms to green norms. They can be easily re-locatable compared to conventional brick & mortar construction.

“Steel is versatile in nature, tensile, highly durable, recyclable, good scrap value and can withstand external pressures such as earthquakes when used in the form of a building. It has a high strength to weight ratio which means it has high strength per unit mass. So no matter how large the overall structure is, the steel sections will be small and lightweight, unlike other building materials and have a good load carrying capacity. Steel can be easily fabricated as it is flexible. It can be molded into any shape without changing its properties and also converted into sheets or other products as per the design. Steel sections can be produced off-site at shop floors and then assembled onsite using nut & bolt

connections. This saves time and increases the efficiency of the overall construction process resulting in faster project completion,” says D Raju, Managing Director, Kirby Building Systems & Structures India.



“Steel is used in the PEB structures. All the primary members are fabricated out of high strength steel plates with minimum yield strength of 345 mpa. While the secondary members such as purlins are manufactured out of galvanised steel with higher galvanised coating of 275 gsm and yield strength of 345 mpa. Roofing sheets are manufactured of Bare Alu Zinc with yield strength of 550 mpa,

while the wall cladding sheets are colour coated Alu Zinc Sheets. The main advantages are that these materials are easily available in the India Market, provide strength and durability,” says P K Nagarajan.

Future Outlook

The PEB industry is still in its developing stage and herein lies the opportunities. The industry has already proved its mettle by constructing marvelous PEB structures. The industry has come out with innovations par excellence like skylights and solar panels on rooftops of PEB structure to meet the daylight and captive power requirements. There are galore of opportunities for the growth of PEB sector in India. The market share of PEB is increasing in comparison to RCC. Market research analysts at Technavio are of the opinion that the coming years are promising for Pre Engineered Buildings (PEB) sectors. The Government of India has set a massive target for developing infrastructure. With manufacturing activity increasing in the last few years, logistics and warehousing has gained equal importance in order to provide better goods at lesser cost. Cold storage facilities are expected to increase which will trigger growth of PEB market in India. Metro rails projects, Power projects, and smart cities development offer immense scope for PEB industry. A huge opportunity awaits PEB industry!

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