

Steel SCENARIO

A JOURNAL ON FERROUS AND ALLIED SECTORS

COVER STORY



January 2022

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Due to increase in demand in various sectors like housing,

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- Publisher



Sakuntala, Editor & Publisher

The evolution of specialised steel structures

Kolkata hogged the limelight in 2016, with the construction of an all- steel building. Restello is the first all-steel building in India. It was built by Bengal Shrachi Housing Development and designed by Piercy Conher Architects of UK, Restello is the first all-steel building in India. In the last 5 years, steel structures and new ideas for using steel as a predominant material in designing buildings have come into focus in a big way. Steel is gradually gaining popularity as a construction material in India as well.

The consumption of steel, a key ingredient in industries such as construction and infrastructure, is closely linked to the economic prospects of a country or region. From helping build the world's most impressive buildings to providing the metal and expertise for infrastructure projects, Tata Steel has the products and services to meet the needs and standards of the global construction sector.

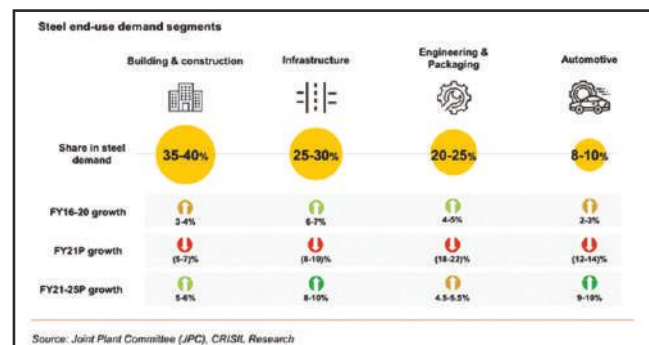
While India is firmly putting its foot in the PEB and structural steel segments, the global market has advanced much further ahead. According to a report published by Global Banking and Finance, the global structural steel market size is estimated to reach USD 141.49 billion by 2026, growing at a CAGR of 5.6% during the forecast period. The global market is highly competitive and moderately fragmented. Mergers and acquisitions and joint ventures are some of the key strategies undertaken by the major market players in the industry. **The India Structural Steel Fabrication Market – Growth, Trends, and Forecast (2019 – 2024) shows the India structural steel fabrication market is expected to grow at a CAGR of 5.5% over the forecast period.** The Indian structural steel market is expected to witness significant growth during the forecast period owing to factors such as the increasing demand from the manufacturing sector, the rising preference towards pre-engineered buildings and components, and government initiatives for infrastructure development activities.

While steel is still finding its foothold as a residential construction material in India, experts opine that it is a key material component for the development of affordable housing as it enables quicker and cost-effective construction of buildings at a time when construction costs are on the rise. The design of pre-engineered buildings is in no way different from that of conventional steel buildings. Manufacturing processes adapted in pre-engineered buildings, such as auto welding, cold roll forming, etc are also adapted in conventional steel construction. Erection by high strength friction grip bolting is adapted, when specified in design, in conventional steel construction as well, as in the case of pre-engineered buildings. Pre-engineered buildings are light and are not generating adequate work for a skilled work force. Automation is also causing low employment. Pre-engineered buildings consume less steel material, resulting in a large inventory.

Steel is no longer a labor-intensive industry, and a majority of the materials used in Indian construction are 100% recyclable. Steel's longevity, versatility, and sustainability grant exceptional construction applications, as has been noted and used by Access Architects, who aim to use steel in most of their buildings. With the emerging era of connectivity with technology, the steel industry has seen the adaptation of novel steel modular frame systems on construction sites. Steel is seen as well suited for modular construction and is further spurred by new technological advances. With the growing population and the expansion of urban centres, this demand will only continue to rise. The future of large span steel structures lies in the passion, setting new goals and innovation in computerised design procedures. The space frame companies will continue to develop steel structures with the extensive use of computers in both manufacturing and design phases. Computer aided manufacturing allows the cutting and drilling of elements with great precision, while computer aided design can help explore unprecedented complex configurations and geometries. Today, the emergence of specialized steel structures is the persistence of some outstanding and demanding features (like high strength, seismic endurance, fast erection, and aesthetics) that other conventional buildings cannot fulfill.

Wishing you all a very happy and prosperous New Year 2022.

Sakuntala Chanda



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