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Skyscrapers design and behavior of steel structures and connections complexities from constructibility perspectives

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Nowadays the client and architects are looking to have a more floor space utilization ration and unique shape of modern skyscrapers on one hand. The Engineers still tend to optimize a structure to a minimum of weight and optimum passing stress ratios on other hand, which are the hard criterion that available for Engineers during the design of the structures, eventually this criterion leads to structures that are expensive and have a poor quality and complex constructability during the executions phase. For this presentation the 60 story composite steel-concrete twisted peripheral building has been taken as an example to illustrate that the selection of adequate steel members and constructible connections, which leads to have a time reduction, high quality of the structure as a whole and within the budget. A three dimensional 60 stories structure has taken by considering the 4 cylindrical grids spacing 6m, tangential 30o with floor height at base, rest are 5m and 4m respectively. The arch Veirenderal system has been introduced to support the planted column on the grand entrance of the building.

Biography

M.Manikandan is the Sr. Structural Engineer at Gulf Consult-Kuwait with responsibility for Designing and Construction Consultation of the tall buildings, Colleges, Shopping Complexes, Multi story Car Parks, Hospitals, Bridges and Deep Underground structures by considering the Structural requirements and adequate construct able systems to complete the projects within allocated budget and time schedule. Prior to joining Gulf Consult-Kuwait, he has worked as Structural Engineer at several companies, including RECAFECO-Kuwait, SAEED HADI ALDOOSARY EST-Saudi Arabia, Where he has completed many Precast Structures and treatment plant including the deep underground structures with heavy equipment. Notable he is in the construction industry since past 15 years and has completed many land mark projects in Kuwait as well in Saudi. He is pursuing PhD in Risk Management in International Construction Projects as an External Part time researcher with Vels University Chennai-India the expected completion on 2016 and He has been received Civil Engineering Degree from Kamraj University Madurai-India on April, 2000 following that he has received MBA in Project Management from Sikkim Manipal University-India in 2012.

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