

In tall building, lateral load increases rapidly with increase in height. The top lateral deflection should be limited to $1/500$ of the height of building under normal condition (BS 8110) and under special circumstances to $1/1000$. To achieve this limitation, different structural systems can be used depending on height of the building.

An analysis has been made to determine the effect of shear wall in high rise office building by using FEM package. The geometric properties were determined based on BS 8110. Wind loading on the structure was obtained according to “CP3 chapter V”, Part 2, 1972 and the required wind velocity was selected in the region Colombo.

The analysis was done for different number of floors which consists shear walls at different locations with frame and consists only the frame elements. From the analysis it can be concluded that for maximum drift of $H/500$, the frame structure is effective upto 20 storey height and beyond that shear wall is preferable. But for drift limitation $H/1000$, frame structure is effective upto 10 storey. Further the symmetric arrangement of shear wall is better in carrying the lateral loads. The shear distribution of the shear wall is not proportional to the stiffness but it depends on the location. The results obtained contradict with general assumptions made at design offices. Therefore computer analysis is required in shear wall design.