

# DESIGN OF SINGLE STOREY INDOOR TENNIS COURT

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## ABSTRACT

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The design of the indoor stadium for a single storey buildings include the application of steel design and reinforce concrete design. The design is the portal frame. Spans of up to 60m can be achieved by this form of construction, the frame generally comprising hot rolled universal beam sections. However, with the in understanding of how slender plate elements react under combined bending moments, axial load and shear force, several fabricators now offer a structural frame fabricated from plate elements. The portal frames used to tapered stanchions and rafters to provide an economic structural solution for a single storey building, the frame being customs designed for each particular loading criterion.

The portal frame structure can span up to 60m resistance to lateral loading is provided by moment resisting connections at the eaves and column base. Frames which are designed on the basis of having pinned bases are heavier than those having fixed bases but is often offset by reduced foundation size for the pinned based framed. Lower roof construction as the maximum height clearance can be measured up to the bottom flange of rafter and save material costs.

The indoor stadium has been chosen to build on a hard clay type and the building inside consists of toilet, changing room, registration room, first aid. This building is designed for the tennis court.