

ABSTRACT

With the increase in population and development of civilization, the demand for Commercial building is increasing at a peak rate. Especially in towns due to rapid industrialization, the demand is very high. In present era, conventional RC Frame building are commonly used for construction. The use of flat slab building provides many advantages over conventional RC Frame building in terms of architectural flexibility, use of space, easier framework and shorter construction time

Flat slabs system of construction is one in which the beams used in the conventional methods of constructions are done away with. The slab directly rests on the column and load from the slab is directly transferred to the columns and then to the foundation. To support heavy loads the thickness of slab near the support with the column is increased and these are called drops, or columns are generally provided with enlarged heads called column heads or capitals.

ETABS is a special-purpose computer program developed specifically for building structures. It provides the Structural Engineer with all the tools necessary to create, modify, analyze, design, and optimize building models. ETABS provides an unequalled suite of tools for structural engineers designing buildings, whether they are working on one-story industrial structures or the tallest commercial high-rises. The finite element method is a numerical technique to find approximate solutions of partial differential equations. It was originated from the need of solving complex elasticity and structural analysis problems in civil.

A commercial building is a building that is used for commercial use. Such as office buildings, banks, hotels, super market, shopping mall, restaurant, warehouses, or retail

In our project, a Basement+G+3 Structure with flat slab is analyzed individually for Gravity loads Lateral loads. The complete process of Modeling, Analysis of whole structure is carried by using ETABS Packages and the check for punching shear is done by manually. Punching shear reinforcement is an efficient method to increase not only the strength but also the deformation capacity of flat slabs supported by columns. Especially, the increase in deformation capacity is desired so that the load can be distributed to other supports preventing a total collapse of the structure in the case of the occurrence of a local failure.