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In normal practice almost all of the design of reinforced concrete slabs are based on empirical methods based on Bs 8110 part I. But according to the theoretical method based on BS 8110 part II the slab thickness can be reduced by a considerable to determine the suitable slab thickness for both methods. In both methods deflection is considered as the important cariteria to determine the slab thickness but all the other necessary limitations in BS 8110 part I and part II are satisfied to withstand the other failures.

In the case of domestic building for a two way spanning slab of square panels with continuos support condition and 70% of humidity and without partition, reduced thickness and be obtained upto 6000 mm, span from the the theoretical method. With the same conditions, for a storage building, thickness can be reduced upto 4500 mm, span.

For a particular range of span and loading case, theoretical method of calculation gives considerable reduction in thickness of slab than in empirical method. In two way spanning slab the reduction is high when the slab approaches the square shape. Other

than the loading changes, the humidity value is also plays a major role in the thickness is also increases for a large range.

Most of the domestic buildings have a span less than six meters. In this range of span the percentage of reduction of slab thickness is very high and also for higher humidity areas theoretical method become more effective. This leads to give an economical design for the construction industry.