

DESIGN AND ASSESSMENT METHOD FOR REINFORCED CONCRETE SLABS ON SIMPLE SUPPORTS

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ABSTRACT

The primary purpose of the design of reinforced concrete slab is to ensure that its loads are carried safely. An assessment of the strength of the slab at failure must be associated with the study of the serviceability conditions. In the case of reinforced concrete slabs, one of the major serviceability conditions is deflection. For a slab designed on the basis of ultimate strength, it is necessary to check that the deflections at working loads of the slab do not exceed the permissible values as specified by an accepted standard. This paper gives a design and assessment method at ultimate and at service loads for simply supported reinforced concrete slabs based on yield line theory including membrane action effect.

Key words: *Design, Assessment, Simply Supported Slabs, Yield Line Theory, Ultimate load, Working load, Membrane action, Guidelines, Finite elements.*