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Behavior of hollow block slabs Under the effect of line loads

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ABSTRACT

The behavior of simply supported hollow block slabs under the effect of line loads at different positions is studied.

The study investigates the behavior of the slab due to different parameters such as, slab aspect ratio, top slab thickness, line load positions, direction of the loads and the number of ribs

The study carried out using two different numerical methods plan grid method for two way slabs and finite element method for one way slabs. The model which was used in the study is a simply supported panel surrounded by four edge beams, which were supported on four corner columns.

Design aids for bending moments, shear forces, and deflection in the simply supported hollow block panel due to line loads are developed and presented in tabulated form.

The method is used by practicing engineers to solve the problem of the line load of the block hollow slabs, was presented.

A comparison between the two methods are used in the analysis of the way hollow block slabs and the effect of increasing slab aspect ratio for one way slabs, are presented in the last of this study in appendicesA and B respectively.