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FEA OF DIFFERENT SHEET PROFILES EFFECT ON CONVENTIONAL CONCRETE COMPOSITE SLAB

Taha Abou Hamza¹ Vinod Kumar M²

¹ PG Student, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Tamil Nadu.

² Associate Professor, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Tamil Nadu.

ABSTRACT: The steel-concrete composite deck slab is an effective flooring option all over the world since last five decades and had become preponderant in modern constructions due to higher structural performance with minimum utility of materials, Composite deck slab comprise of two parts first is concrete slab and second is cold form profile steel sheet, This research conduct an analytical study to evaluate and comparison of the flexural strength using three standard type of sheet profiles(P1, P2, P3),Three types modeled using Finite elements (FE) software ABAQUS program of uniform size 1400mm*1400mm*150mm in addition of Conventional Concrete Slab (CCS) the results shows that Composite slab using profile sheet type 2 and type 3 has slightly same load carrying capacity but higher than type 1, also it give a clear concept about effecting of adding the sheet profile to the conventional concrete slab performance in term of flexural strength and deflection.

Keywords: Composite slab, sheet profile, Finite elements analysis (FEA), flexural strength

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