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Shear Behaviour of RC Composite Beams

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Abstract: This paper presents a study of shear behaviour of composite beams. The major parameters used were type of shear reinforcement, namely stirrups alone, wire mesh alone and combination of both wire mesh and stirrups as shear reinforcement. The replacement of wire mesh was done on the basis of weight with stirrups. A high range water reducing admixture (HRWRA) is used in the mix which showed better compressive strength and tensile strength than the mixes without admixture. The experimental program includes four (4) beams. The entire beams prototypes were tested using two point loading system. It is evident from the result that the use of wire mesh enhanced improved shear performance and bearing capacity in the examined beams. Beams with wire mesh as shear reinforcement and combination of both wire mesh and stirrups exhibited some amount of increase in shear capacity with respect to the beams with stirrups alone as shear reinforcement. Furthermore beams with wire mesh and combination of wire mesh and stirrups as reinforcement exhibited less number of crack patterns compared beams with stirrups.
Keywords: Ferrocement,Wire mesh, Shear behaviour and HRWRA.

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