

The Role of the Stud's Configuration in the Structural Response of Composite Bridges

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Abstract : This paper deals with the role of studs in the structural response of steel-concrete composite beams. A tri-linear slip-shear strength law is assumed according to literature and codes provisions for developing a finite element (FE) model of a case study of a composite deck. The variation of the strength and ductility of the connection is implemented in the numerical model carrying out nonlinear analyses. The results confirm the utility of the model to evaluate the importance of the studs capacity, ductility and strength on the global response (ductility and strength) of the structures but also to analyze the trend of slip and shear at interface along the beams.

Keywords : stud connectors, finite element method, slip, shear load, steel-concrete composite bridge

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