

# Evaluation of Effect of the Flexible Shear Connector Type Embedded in High and Normal Strength Concrete on Load-Slip Relationship

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## Abstract

Shear connectors resist shear force that developed between interface of concrete and steel and then prevent pull – out failure. Stud shear connectors are commonly used and most of research focused on behavior of this type. It's useful to study behavior and efficiency of other types. This investigation is about the effect of different parameters on load-slip and stiffness of flexible shear connectors. Three parameters were considered in this investigation; strength of concrete (35.5 and 62 MPa); type of connector (stud, C-shape and L-shape) and type of connection between shear connectors and steel section. It was found that increasing the compressive strength led to decrease in slip while load increasing. Stiffness of connectors increased with increasing of compressive strength. The stud connectors found to be stronger than C-shape and L-shape connectors while C-shape is the weakest one. Finally using welding connection gave a higher load, lower slip and higher stiffness compared to epoxy regardless of type of connectors and strength of concrete.