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## Composite action for continuous composite steel-concrete girders

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Continuous composite steel-concrete girders composed of cast-in-place concrete slabs and steel girders are widely used in bridges and buildings. The composite action between the concrete slab and the steel girders at hogging moment regions normally ignored in design due to development of tensile stresses in concrete slab. The loss of slab contribution at negative moment regions diminishes the full composite action of the girders, resulting in reduced strength and stiffness. Researchers over the last 30 years proposed different construction techniques to overcome the loss of composite action at negative moment regions for service load. Experimentally evaluated construction techniques are; partial pre-stressing of concrete slab at hogging moment region, external pre-stressing of the continuous composite girder and strengthening concrete slab at negative moment region using carbon fiber reinforced polymer. The objective of this presentation is to evaluate the construction techniques proposed by the researchers to maintain the composite action at negative moment region. An effort made to address the advantages and disadvantages of these construction approaches.

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