Objectives

The objective of the subcommittee ACI 343 is to write a state-of-the-art report that outlines the existing method, new concepts and materials for concrete deck slabs of slab-on-girder bridges. The report also will include the case studies of bridge decks that are designed and constructed in USA and Canada.

Scope

The scope of the report is to give appropriate background information and reference code implementation and design guidelines for reinforced concrete deck slab supported by girders, stringers or floor beams. The deck could be internally restrained or externally reinforced. It could be pre-cast, stay-in-place form or cast in-situ.

Definitions (not complete)

Internally restrained deck slab — a deck slab with internal primary reinforcement to provide internal confinement.

Externally restrained deck slab — a deck slab with external straps or other confining systems. Strap is a linear component of steel or FRP that provides transverse restraint externally in a deck slab.

Primary Reinforcement - reinforcement provided mainly for strength. It could be Black Steel, Epoxy Coated Steel, Galvanize Steel, Stainless Steel, Stainless Steel Glading, MMFX, GFRP-glass-fiber-reinforced polymer, CFRP-carbon-fiber-reinforced polymer

Secondary reinforcement — reinforcement provided mainly for control of cracking. It could be Black Steel, Epoxy Coated Steel, Galvanize Steel, Stainless Steel, Stainless Steel Glading, MMFX, GFRP, CFRP or Polypropylene fibers

Fiber-reinforced concrete (FRC) — a fiber-reinforced composite in which the matrix is Portland cement concrete or mortar and the fibres are discontinuous and uniformly and randomly distributed.
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