بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سلوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

BEHAVIOR OF LINK SLAB BRIDGE GIRDERS WITH JOINTLESS DECK

By

Asmaa Sobhy Ibrahim Mostafa

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY
in
Public Works

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

BEHAVIOR OF LINK SLAB BRIDGE GIRDERS WITH JOINTLESS DECK

Key Words:
Link Slab, Expansion Joint, Girder, ANSYS, Engineered Cementitious Composite.

Summary:

This study's main objective is to investigate the link slab's behavior on concrete bridge girders. Finite Element models were specifically developed using the ANSYS software package. A parametric study was performed using two-span bridge models with a link slab; this study included more than 500 models to thoroughly understand the link slab behavior. The current study focused on the following parameters; link slab thickness, length, debond zone, material type, and support condition) under live load, thermal load, and effect of the combination of strength and service limit state. Results showed that the link slab is generally subjected to negative moments at all support conditions under symmetric live loads. They were also straining actions in the link slab decrease with the increase of L.dz. The ECC material for the link slab is the optimum choice with partial thickness.

Disclaimer

I hereby declare that this thesis is my original work and that no part has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

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Dedication

I would like to express my deepest gratitude and sincere appreciation to my supervisor, Associate Professor Ahmed Sayed Abdelaaty Elmannaey, for his guidance, support, and patience as a Ph.D. student. I sincerely thank him for making this work possible. With his knowledge, experience, and research capabilities, he continuously guided me toward completing this work.

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