EFFECT OF REINFORCEMENT DETAILS ON BEHAVIOR OF REINFORCED CONCRETE DAPPED END BEAMS

By

Shaimaa Mohammad Elmansy Bastawy Mansour

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In
Structural Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
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Title of Thesis:

Effect of Reinforcement Details on Behavior of Reinforced Concrete Dapped End Beams

Key Words:

Reinforced concrete; Dapped end; Finite element model; Strut and tie model

Summary:

Dapped end beams are used where the structural details require the construction depth of precast concrete floors or bridges to be reduced at beam ends. This reduction in depth results in stress concentration at recessed areas. Therefore, dapped-end beams are unusual structural elements which require special reinforcement detailing. This thesis investigates the behavior of dapped-end beams with various reinforcement details. Simply supported, reinforced concrete dapped-end beams are analyzed using the nonlinear FE program ANSYS.

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