EXPERIMENTAL INVESTIGATION OF STRENGTHENING SLAB-COLUMN CONNECTIONS WITH CFRP FAN

By

Eman Abd Al Ghaffar Ahmed Essa

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
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FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis :

" Experimental Investigation of Strengthening Slab-Column Connections With CFRP Fan ".

Key Words :

Punching Shear Strengthening, Flat slabs, RC, CFRP string **.**

Summary :

The current thesis presents an experimental investigation of strengthening flat slab column connections in punching shear using CFRP string. Two types of strengthening were used; strengthening with CFRP string (fan shape) and strengthening with steel bolts. Parameters which were studied were the number of CFRP fan strengthener, arrangement or configuration of CFRP fan strengthener, and the type of strengthener (CFRP string or steel bolts). All the specimens were strengthened before starting loading, the results of the tested specimens showed that CFRP fan strengthening technique is able to enhance both the punching shear capacity and the ductility of tested flat slab specimens.

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DEDICATION

Dedicated to my parents, my brothers with love

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