شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

MONA MAGHRABY

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

Cairo University

REPAIR OF REINFORCED CONCRETE BEAMS SUBJECTED TO TORSION USING FERROCEMENT

By

Sarah Mohammed Yousef AL-Zabidi

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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Under the Supervision of

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Title of Thesis:

Repair of Reinforced Concrete Beams Subjected to Torsion Using Ferrocement

Key Words:

RC beams; Repairing; Ferrocement; Torque; Rotation angle

Summary:

In this research, an experimental study was performed to investigate the torsional behavior of RC beams repaired by ferrocement. Two main variables were considered, the influence of ferrocement configuration and ferrocement number of layers. The experimental investigation includes testing of six RC beams. The specimens were tested under pure torsion. The results showed that using all ferrocement strengthening technique improves the ultimate load carrying capacity of all the repaired beams except the U-jacket technique, where Full wrapping is the with 2-layer most effective configuration followed by 1-layer full wrapping configuration. In addition, ferrocement 2 layer strips give higher torsional strength than ferrocement 1 layer strips. The results show that number of layer play a vital role in strengthening, where the higher number of layer and the full wrapping increase in effective confinement compared to the lower number of layer and strips wrapping.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it 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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Signature:

ACKNOWLEDGMENTS

First and foremost, I thank ALLAH, the most gracious, the ever merciful for helping me finishing this work.

I would like to express my deep and sincere to my research my supervisor (Prof. Dr. Hany Abdalla and Prof.Dr. Ghada Diaa) for their exemplary guidance, advices, useful suggestions, support and their great efforts to achieve my objectives.

I want also to thank my mother for her continuous encouragement and supports. To my deceased father thank you for showing me that the key to life is education. My family and all my friends who always help me for the success. I would not have to achieve this goal without their help and support.

I would also like to thank all the people who have helped me in any way to accomplish my thesis as my friends.

Dedication

To my mother, my deceased father, my family and all my friends.

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