



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



HANAA ALY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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التوثيق الإلكتروني والميكروفيلم

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HANAA ALY



Cairo University

"Evaluation of Green Roller Compacted Concrete Behavior in Rigid Pavement for Roads"

By

Ibrahim Sobhy Khalil Ibrahim

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
Structural Engineering

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Under the Supervision Of

Prof. Dr. Osama A. Hodhod

Professor of Properties & Strength of Materials
Structure engineering
Faculty of Engineering - Cairo University

Prof. Dr. Zeinab Salah El Din

Professor of Properties & Strength of Materials
Housing and Building National Research Center

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Approved by the
Examining committee

Prof. Dr. Osama A. Hodhod,

Thesis Main Advisor

Prof. Dr. Zeinab Salah,

Advisor

Professor of Properties & Strength of Materials
Housing and Building National Research Center

Prof. Dr. Ahmed M. Ragab,

Internal Examiner

Prof. Dr. Hosam Seleem,

External Examiner

Professor of Properties & Strength of Materials
Housing and Building National Research Center

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2020

Engineer's Name: Ibrahim Sobhy Khalil Ibrahim
Date of Birth: 10 / 3 / 1981
Nationality: Egyptian
E-mail: ibrahimmsobhy@yahoo.com
Phone: 01157000904
Address: Kanater Khairia – Kaliopia – Egypt
Registration Date: 1 /10 / 2016
Awarding Date: / / 2020
Degree: Doctor of Philosophy
Department: Structure Engineering



Supervisors:

Prof. Osama Abd El Ghaphor Hodhod
Prof. Zienab Salah El Dien Houssien

Examiners:

P Prof. Osama Abd El Ghaphor Hodhod (main advisor)
Prof. Zienab Salah El Dien Houssien (advisor)
Housing and Building National Research Center
Prof. Dr. Ahmed M. Ragab (Internal examiner)
Prof. Hosam El Dien Hasan Seleem (External examiner)
Housing and Building National Research Center

Title of Thesis:

**"Evaluation of Green Roller Compacted Concrete Behavior in Rigid
Pavement for Roads"**

Key Words:

Rigid Pavement; Roads; Green Concrete; Local Byproduct; Nano Materials

Summary:

The main objective is to study the effect of using local byproduct pozzolanic and local available nano materials, and two types of fibers on the roller compacted concrete (RCC) with investigate the different properties and structure behavior of the (RCC) pavement slab, with and without fibers under three load cases (center, edge and corner) were rested on four types of subgrade (K0, K1, K2 and K3). Results shows an improvement for all tested parameters with using byproduct materials, more improvement when using nano-materials and best results were use both, with added 1% polypropylene fibers.

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.

Name:

Date: ../../ 2020

Signature:

Dedication

This work is dedicated to my mother, my family, prof. Osama A. Hodhod, prof. Zeinab Salah, prof. Hosam Seleem, prof. Ahmed M. Ragab and every one give me a hand and support.

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