



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



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التوثيق الإلكتروني والميكرو فيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكرو فيلم



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Cairo University

INVESTIGATING THE EFFICIENCY OF AN INNOVATIVE GEOPOLYMER COMPOSITES AS REPAIRING MATERIAL SUBJECTED TO HIGH TEMPERATURE

By

Ahmed Saleh Abdalla Moaly

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:

**Investigating The Efficiency Of An Innovative Geopolymer Composites
As Repairing Material Subjected To High Temperature.**

Key Words:

Geopolymer Composites; Repair; Efficiency; High Temperature

Summary:

This Research investigates the efficiency of An innovative Geopolymer composites as repairing materials subjected to high temperature as an alternative to epoxy resins exists in the market. To reach the research goals special tests were designed to study the efficiency of three innovative geopolymer composites to fill the cracks and enhancing the bond between steel and concrete through indirect tensile test and flexural test after exposing the samples to 300 degree c for 2 hrs. The research illustrates that these composites have a high performance compared with epoxy. The researcher recommends an extensive development for the tested composites and to test the composites under higher temperatures.

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:

Signature:

Dedication

To My Father & Mother,

The reason of what I become today,

The source of my success,

Thank you for your love, Support and Care.

To My wife, My Sisters, My Brother & My Children

Thank you for your love, Support and Care.

To My Great Professor

Mohamed I. Serag

**All my deep respect to you for teaching me,
supporting me, inspiring me and for your deep
effect on my way of thinking and on my life.**

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