



Cairo University

**TECHNOLOGY OF RECYCLING OF MARBLE AND
GRANITE POWDER IN PRODUCTION OF BRICKS
AND INTERLOCK**

By

Aya Ashraf Zakria Attia

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:

Technology of recycling of marble and Granite powder in production of Bricks and interlock

Key Words:

Marble powder, Interlock, compressive strength, abrasion resistance

Summary:

In this research two techniques of recycling the marble and granite powder were investigated to reach the most suitable technique to produce bricks and interlock for industrial purposes. Sixteen mixes were casted using the appropriate technique to determine the optimum cement content and powder to coarse aggregate ratio for each type of marble and granite powder .three different types of marble and granite were used. For each mix, bricks and different shapes of interlock were casted and tested. Compression test, absorption ratio, and abrasion test were carried out in order to evaluate the product properties and quality. Two curing techniques were applied, air curing and water curing. The results a prove that the marble and granite dust can be used to produce high quality of bricks and interlock .

Disclaimer

I hereby declare that this thesis is my own original work and 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 references section.

Name:

Date:

Signature:

Dedication

To My Mother, Father, My Sisters and My Brothers,

The reason of what I become today,

Thank you for your love, Support and Care.

To My Family

All my love and respect to you for your care and support.

To Nada Ahmed

I would like to thank my real friend and everything goes easier with her support and encouragement no words can describe how I am thankful for her existence in my life.

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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