بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

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

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

THE USE OF WASTE BABY DIAPERS IN THE PREPARATION OF CLAY BRICKS

By

Dahlia Abouelella Ahmad Abouelella

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
Chemical Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

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Title of Thesis:

The Use of Waste Baby Diapers in The Preparation of Clay Bricks

Key Words:
Diapers Scrap; Waste Recycling; Fired Clay Bricks; Standards of Building Bricks

Summary:
During the production of baby's diapers, waste scrap results in form on defective product and it's disposed with no use. The intent of this research is to study the possibility of recycling the diapers waste in the preparation of fired clay bricks and this addiction has environmental benefits of reusing the waste in a safe way and economic benefits due to its organic nature that allows for the use of the exothermic oxidation heat in the firing process of the brick. The diapers scrap was first shredded into small pieces then added to the bricks mixture by mixing percentage up to 5% by weight. second the effect of the waste addition was measured on the following characteristics: linear and volume drying shrinkage, green compressive strength. Also, the characteristics were measured for the bricks fired at 700C -900C, which are cold and boiling water absorption, saturation coefficient, porosity and fired compressive strength

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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Acknowledgments

The author wishes to express her deep thanks and gratitude to her employer Company "Procter and Gamble Egypt" for funding the experimental work as a part of S-LAB project for sustainability researches.

The author also wishes to thank her main supervisor Prof. M. F. Abadir, at the Chemical Engineering Department, Faculty of Engineering, Cairo University, for supervising the experimental work, in addition to his continuous encouragement.

The author also thanks Dr. Shereen K. Amin, Assistant Researcher Professor, at the Chemical Engineering and Pilot Plant Department, National Research Center, for supervising and following up the experimental research work and being highly supportive through every phase of the work.

Finally, the author expresses her gratitude to her all her family members, for their continuous support, help and believing in her for every step of the way.

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Nomenclature

Symbol	Variable	Unit
A	Cross-sectional area of sample	mm^2
D	Particle size	mm
L	Length	cm
m	Mass	g.
P	Fractional porosity	***
T	Temperature	^oC
V	Volume	cm^3
W	Applied load	N
WA	Fractional water absorption	***
x	Mass fraction	***
X	Percent waste	***
ρ	Density	$g.cm^{-3}$
σ	Strength	MPa