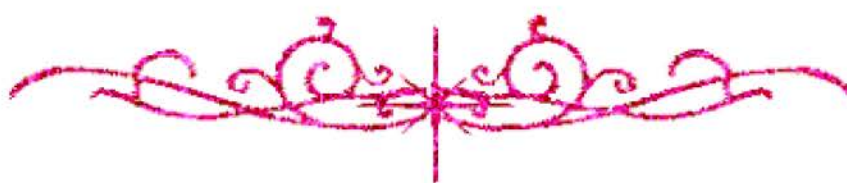


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بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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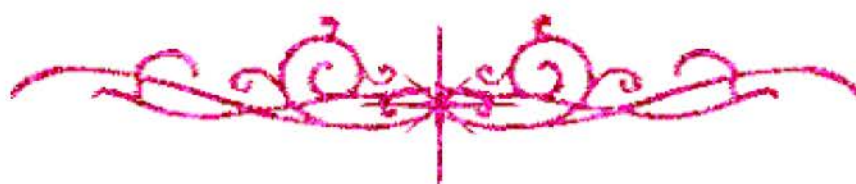
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بالرسالة صفحات لم ترد بالأصل



FEASIBILITY OF USING RICE STRAW IN CONCRETE MANUFACTURE

Thesis

Submitted by

Taher Mahmoud Ali El-samni

B. Sc. Civil Engineering, Minoufiya University
Very Good grade, June 1991

Partial fulfillment of the degree of M. Sc.
In Engineering
(Structural Engineering–Strength and Testing of Materials)

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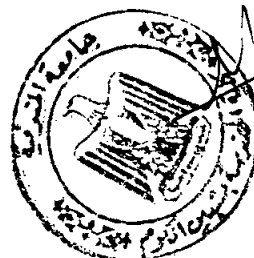
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Abstract

This paper presents results on the physical and chemical properties of Rice Straw Ash (RSA), and deals with the properties of fresh and hardened mortar and concrete incorporating the different percentages of ash. The properties of fresh concrete investigated included workability, setting time, and autogenously temperature rise, and those of the hardened concrete included compressive, splitting tensile, and flexural strengths, modulus of elasticity, resistance to chemical penetration and high temperature. The behavior of R. C. beams such as deflection, longitudinal strains and modulus of rupture were also checked by testing RSA R. C. beams. In addition the properties of the RSA concrete were also compared with those of the control cement concrete. The test results indicate that the RSA is highly pozzolanic and can be used as a supplementary cementing material to produce high-performance concrete, with satisfy the slump, and setting time also the RSA concrete had excellent resistance to chemical penetration. In general the RSA concrete had higher compressive strengths at various ages up to 180 days compared with that of the control concrete. The use of RSA R. C. beams, improved the flexural rigidity and increase the resistance to longitudinal tensile and compressive strains.

Acknowledgements

The author extremely grateful to Prof. Dr. Monir M. Kamal, Prof. of Strength and Testing of Material, Minoufiya University, for his continuous encouragement throughout the course of study and for standing like a father figure at the time of personal crisis and also for his valuable suggestion and help in reviewing this thesis. The author is also grateful to Prof. Dr. Yousry B. Shaheen, Prof. of Strength and Testing of Material, Minoufiya University, for his help during the whole period of the work. Thanks is also extend to Dr. Mohamed Anwer, Construction Research Institute, for his valuable guidance, helpful advice and also his perseverance during preparation of experimental work.

Gratitude is also extend to Dr. M. Saafan, for his help in caring out the finishing of this thesis. And many thanks are also due to all the staff of the strength of material and all the members are working in the same time for their encouragement and kind cooperation especially Eng. A. Omran.

The author is grateful for his younger brother Mr. M. El- samni, for his great help in the laboratory and to his Japanese wife Dr. Chie Hasegawa, who devoted much of her time and effort to make a kindly atmosphere, and for her smile and encouragement.

1. The first step in the process of identifying a problem is to define the problem. This involves identifying the symptoms of the problem and determining the scope of the problem. Once the problem has been defined, the next step is to identify the causes of the problem. This involves identifying the factors that are contributing to the problem and determining the root cause of the problem. Once the causes of the problem have been identified, the next step is to develop a plan to address the problem. This involves identifying the actions that need to be taken to address the problem and determining the resources that will be needed to implement the plan. Once a plan has been developed, the next step is to implement the plan. This involves carrying out the actions that have been identified in the plan and monitoring the progress of the implementation. Finally, the last step in the process is to evaluate the results of the implementation. This involves assessing the effectiveness of the plan and determining whether the problem has been resolved.

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