**Ain Shams University**
Faculty of Engineering
Department of Civil Engineering

# BEHAVIOR OF MASONRY WALLS WITH OPENINGS

A Thesis

Submitted for the Degree
of
Doctor of Philosophy
in
Structural Engineering

by

**HANY MOHAMED ABD EL-FATAH EL-SHAFIE**
B.Sc. and M.Sc.

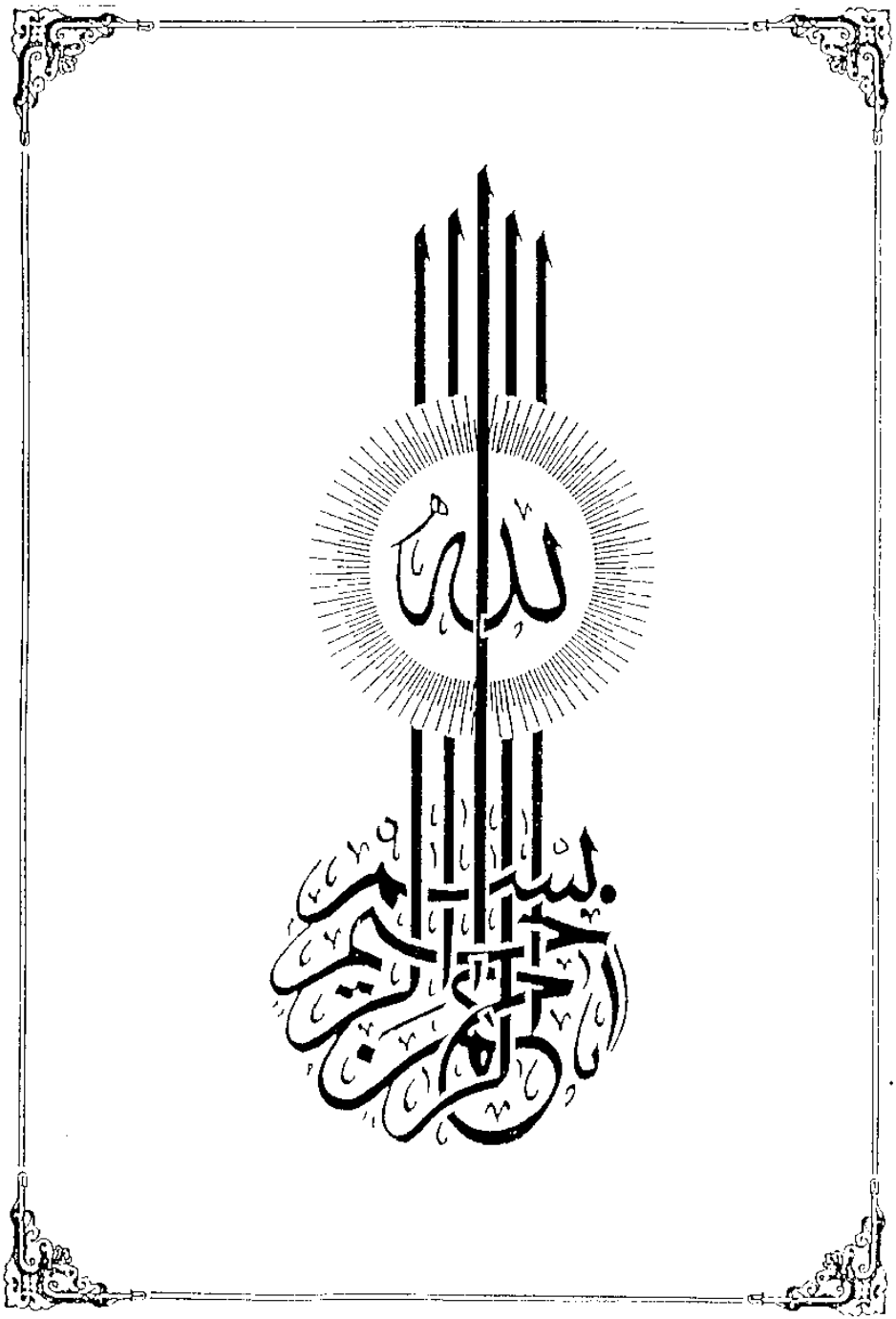
Supervised by

**Prof. Dr. SAMIR H. OKBA**
Professor of Properties and Testing
of Materials
Ain Shams University

**Prof. Dr. AHMAD A. HAMID**
Professor of Structural Engineering
Drexel University, USA

**Dr. EL-SAYED NASR**
Associate Professor of Structural Engineering
Ain Shams University

Cairo - 1997



*TO*
*MY PARENTS,*
*MY WIFE,*
*MOHAMED, AND YASSMEEN*

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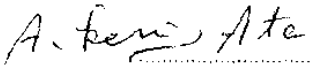
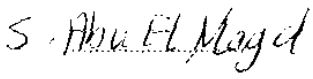
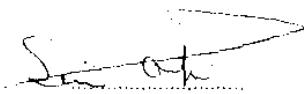
| 1. **Prof. Dr. Abd El-Kerim Ata**<br>Emeritus Professor of Structural Engineering<br>Faculty of Engineering, Ain Shams University |  |
| 2. **Prof. Dr. Sherief Abo El-Magd**<br>Professor of Structural Engineering<br>Faculty of Engineering and Technology, Mataryia,<br>Helwan University |  |
| 3. **Prof. Dr. Samir Okba**<br>Professor of Properties and Testing of Materials<br>Faculty of Engineering, Ain Shams University |  |
| 4. **Prof. Dr. Ahmad Hamid**<br>Professor of Structural Engineering<br>Faculty of Engineering, Drexel University<br>Philadelphia, Pennsylvania, U.S.A. |  |

STATEMENT

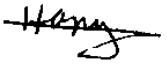
This dissertation is submitted to Ain Shams University for the degree of Ph.D. in Civil Engineering (Structural Engineering).

The work included in this Thesis was carried out by the author in the department of Structural Engineering, Ain Shams University, from February 1992 to November 1944 and from March 1997 to December 1997. The experimental phase of this study was carried out by the author at Civil and Architectural Engineering Department, Drexel University, Philadelphia, Pennsylvania, U.S.A., from November 1994 to March 1997.

No part of this Thesis has been submitted for a degree or a qualification at any other university or institution.

Date : 16/12/1997

Name : Hany Mohamed Abd El-Fatah El-Shafie

Signature: 

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