

شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو

بسم الله الرحمن الرحيم





MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلو



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية التوثيق الإلكترونى 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



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



Ain Shams University Faculty of Engineering Department of Structural Engineering

BOLTED RIGID CONNECTIONS OF STEEL I-BEAM TO SQUARE TUBE COLUMNS

A THESIS

Submitted in Partial Fulfillment of the Requirements of the Degree of

MASTER OF SCIENCE IN CIVIL ENGINEERING

Submitted by

Mohamed Tarek Mohamed Marie

B.Sc. in Civil Engineering – Structural Engineering (2016) Faculty of Engineering – Ain-Shams University

Supervised by

Prof. Ahmed Hassan Yousef

Professor of Steel Structures and Bridges
Department of Structural Engineering
Faculty of Engineering
Ain Shams University

Dr. Ihab Mohamed El-Aghoury

Associate Professor,
Department of Structural Engineering
Faculty of Engineering
Ain Shams University



Ain Shams University Faculty of Engineering Department of Structural Engineering

Name : Mohamed Tarek Mohamed Marie

Thesis : Bolted rigid connections of steel i-beam to

square tube

Degree : Master of Science in Civil Engineering (Structural)

EXAMINERS COMMITTEE

Name and Affiliation	Signature
Prof. Dr. Hazem Mostafa Ramadan Professor, Department of Structural Engineering, Faculty of Engineering Cairo University	
Prof. Dr. Sherif Mohamed Ibrahim Professor, Department of Structural Engineering, Faculty of Engineering Ain Shams University	
Prof. Dr. Ahmed Hassan Yousef Professor, Department of Structural Engineering, Faculty of Engineering Ain Shams University	
Dr. Ihab Mohamed El-Aghoury Associate Professor, Department of Structural Engineering, Faculty of Engineering Ain Shams University	

Date: / / 2021



Ain Shams University Faculty of Engineering Department of Structural Engineering

Name : Mohamed Tarek Mohamed Marie

Thesis : Bolted rigid connections of steel i-beam to

square tube

/ / 2021

Degree : Master of Science in Civil Engineering (Structural)

SUPERVISORS COMMITTEE

Name and Affiliation	Signature		
Prof. Ahmed Hassan Yousef Professor of Steel Structures and Bridges Department of Structural Engineering Faculty of Engineering Ain Shams University			
Dr. Ihab Mohamed El-Aghoury Associate Professor, Department of Structural Engineering Faculty of Engineering Ain Shams University			
Date: / / 2021			
Postgraduate Studies Authorization stamp: The thesis is authorization	orized at / / 2021		
College Board approval	University Board approval		

/ / 2021

Curriculum Vitae

Name: Mohamed Tarek Mohamed Marie

Date of Birth: 25 July 1993

Place of Birth: Egypt

Nationality: Egyptian

University Degree:

B.Sc. in Civil Engineering, Faculty of
Engineering, Air Shame University, 20

Engineering, Ain-Shams University, 2016

Current Job: Structural Engineer at COSMOS-E, Cairo, Egypt

Statement

This dissertation is submitted to Ain Shams University for the degree

of Master of Science in Civil Engineering (Structural Engineering). The

work included in this thesis was carried out by the author in the

Department of Structural Engineering, Faculty of Engineering, Ain

Shams University, Cairo, Egypt. No part of this thesis has been submitted

for a degree or qualification at any other university or institution.

Name: Mohamed Tarek Mohamed Marie

Signature:

Date:

VII

Acknowledgment

I wish to express the highest thanks and appreciation to my supervisors Prof. Ahmed Hassan Yousef and Dr. Ihab Mohamed El-Aghoury for their great support and useful instructions.

I would like to express my appreciation for engineer Haytham Zaghloul, whose discussions and help has been invaluable throughout this study. I also wish to thank the team of AGECS Research Center who has been a great source of support.

Words cannot describe the amount of support I had from my father engineer Tarek Marie, my mother, my aunt, my sisters and my fiancée for providing me with unfailing support and continuous encouragement throughout my years of study and through the process of researching and writing this thesis. This accomplishment would not have been possible without them.

Thank you.