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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

بالرسالة صفحات لم

ترد بالاصل

بعض الوثائق

الأصلية تالفة

Menoufiya University
Faculty of Engineering
Civil Engineering Department

BEHAVIOR OF SPACE FOLDED PLATE STRUCTURES SUPPORTED BY FLEXIBLE SUPPORTS

By

Eng. / **Ramy Ibrahim Shahin**

B.Sc., Civil Engineering Department
Menoufiya University, 2000

A Thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Civil Engineering
(Structural Engineering)

Under the Supervisor of

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2005

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Abstract

Folded plate structures such as roofs and curtain walls are flexible structures, and supported by flexible supports. The behavior of such structures under dynamic and static loads, especially earthquake loads, is affected by their flexible supports and joints.

In the first part of this thesis, a new finite element model based on theories used in SAP2000 program is presented, this model is extended to include flexible joints between plates. Results from this model agree well with experimental and theoretical work done by earlier investigator.

In the second part of this thesis, the above model was used to study the behavior of glass curtain wall structures. In these structures, a special member was introduced to act as "a spring" with nonlinear properties to transfer loads to the ground. The degrees of freedom of this member were defined. The behavior of real glass curtain wall structure was studied. The static and dynamic response of this structure were introduced. The internal forces and stresses for this structure were calculated and studied. Design recommendations were also introduced.

In the third part of this thesis, concrete folded plate structures supported by flexible supports are studied. In this part, different types of flexible connections are presented, and the effect of using flexible supports is studied. The static and dynamic behavior of these structures under their own weight, wind, and earthquake loads were

studied. General conclusions and recommendations for the safe design of such structures are also presented.

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TABLE OF CONTENTS

LIST OF FIGURES