بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

SHEAR TRANSFER IN COMPOSITE CONTINUOUS ONE WAY PRE-SLABS

BY
AHMED SHABAN ABDEL-HAY GABR
B.SC. Civil Engineering 1994 (Honor)
M.SC. Structural Engineering 2000

A Thesis Submitted To The
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
DOCTOR OF PHILOSOPHY
In
Structural Engineering

Under Supervision of

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Associate Prof. Of Structural Engineering
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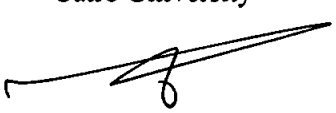

Faculty of Engineering, Cairo University

Mar.2006

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Abstract

One of the most common types of the composite concrete elements is the pre-slab which is used extensively in the construction of both buildings and bridges. It consists of a pre-cast concrete layer serves as a form or skeleton for the cast-in-place layer. The problem of shear transfer is the major in the study of the behavior of pre-slabs to achieve the composite action between two layers.

Many researches had been carried out to study the shear transfer between two concrete layers; few of them studied the behavior of continuous pre-slabs.

In this thesis, the behavior of continuous one way composite Pre-slab was studied. The experimental program consists of two parts; the first part contains testing of 40 push-off specimens consists of two parts cast at different times and subjected to compressive stress normal to the shear plan. The main studied parameters in this part were the degree of interface roughness, use of epoxy paint, use of steel dowels with different percentages of area and dowel length, use of concrete shear keys, compressive strength of existing and new part, and using of different stress levels normal to the shear plan. Based on test results of the first part, a suggested theoretical model to predict the ultimate shear strength was presented.

The second part of the experimental program was testing 10 slabs, one of them was reference monolithic slab and the others were composite pre-slabs composed of two layers casted at different ages using different types of interface connections such as roughing the interface to different degrees of roughness, using binding materials and using steel dowels with different distributions along the interface.

Finally comparison between experimental results of tested pre-slabs and theoretical results obtained from analysis using F.E. program was carried and recommendation was suggested.

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