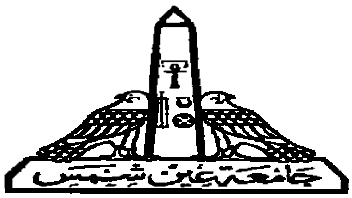

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"Moment Redistribution in Light Weight Concrete Beams"

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SUMMARY

This research presents an experimental and analytical investigation in the flexural behavior of reinforced lightweight concrete (LWC) beams. LWC was obtained through using of polystyrene foam as a partial aggregate's replacement to reduce the concrete dry unit weight from 25.0kN/m^3 to 18.00kN/m^3, Many factors had been studied in this research, First was the Longitudinal reinforcement ratio, second was confinement reinforcement so we examine six LWC Continuous beams were cast and tested under concentrated load at the mid-span and differences in longitudinal reinforcement ratio and confinement reinforcement. Third A four LWC Continuous beams made with T section were also examine to define the difference in behavior between rectangular and T-section, To make continuity we cast a big block at the end of each beam. All tested beams failed in flexure, hence, experiencing the traditional crack patterns, All experimental results were concluded and analyzed and used in drawing the geometric graphs and suggestion for future researches. An Analytical study was done by using finite program "ABAQUS" to Accurate and compare the experimental results.

STATEMENT

This thesis is submitted to Ain Shams University in partial fulfillment of the requirements for the degree of Master of Science in Civil Engineering (Structural).

The work included was carried out by the author at reinforced concrete lab of the faculty of engineering, Ain Shams University.

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

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Finally I would like to dedicate this thesis, to my dear parents, my brother and My Wife.

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