Lapuran Projek Tahun Akhir

Kursus Diploma Lanjutan Kejuruteraan Awam

Kajian Kejuruteraan, I.T.M Shah Alam

ANALYSIS AND DESIGN OF LONG SPAN BEAM SECTIONS UP TO 40 METRE

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NOVEMBER 1990

ABSTRACT

The aim of this project is to develop a model in designing long span beams. By referring to the model, the beam sizes and the area of reinforcement can easily be determined provided that the loadings and span are known.

Emphasis were given to Reinforced Concrete and Prestressed Concrete design. Spreadsheets were prepared to aid the design based on British Code of Practice, BS 8110 : 1985.

All analysis were made on the results obtained from the spreadsheets. Discussions were done on how the area of reinforcement, breadth and depth of beam changes with the variation of span and loading.

ACKNOWLEDGEMENT

I would like to convey my fullest gratitude to my project advisor, Ir. Dr. Wan Mahmood bin Wan Abd. Majid, Senior Lecturer of the Civil Engineering Department, for his guidence and usefull advise that led to the completion of the project.

I would also like to wish my sincere thanks to lecturers and friends who have in anyway give encouragement, motivation and ideas that led to the progress of the project.

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CONTENTS

1.0 INTRODUCTION

1.1 GENERAL

Nowadays, in most buildings there is tendency to reduce the number of intermediate columns and as a result the trend is towards long span structures such as beams.

However, there is no specific code that discuss about long span beam. Thus, it is hard to determine how long a span of a beam can practicably be used with the respect to its depth in a building. If the beam is used for outdoor purposes such as for bridges, the depth is not a problem because there are much space available. But in building there is space constraint.