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Modified Formwork System for Slab Element

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Abstract: ***Formwork in construction is the use of support structures and moulds to create structures out of concrete which is poured into the moulds. Formwork can be made using moulds. Out of steel, wood, aluminium and , or prefabricated forms. 2. Formwork refers to either temporary or permanent moulds into which concrete or similar materials are poured. In the context of concrete construction, the falsework supports the shuttering moulds. 3. Formwork is an ancillary construction, used as a mould for a structure. Into this mould, fresh concrete is placed only to harden subsequently. The construction of formwork takes time and involves expenditure up to 20 to 25% of the cost of the structure or even more. The operation of removing the formwork is known as stripping. Stripped formwork can be reused. Reusable forms are known as panel forms and non-usable are called stationary forms.***

Keywords: Modified Formwork, Slab

I. INTRODUCTION

Today India's urban population is the second-largest in the World , and its future development leads to increased demand for housing. To cope with this problem, India should desperately need to plan the acquisition of land and the rapid creation of dwelling units. The present strain on the Indian economy and the overgrowing demands for housing calls for the adoptions of appropriate building technology, which could lead to scrimping and speed in construction. As a result with experimentation of innovative construction techniques and modern construction management, it is now possible to achieve an overall saving to the extent of 10 per cent in the total cost of housing construction compared to the cost of traditional housing.

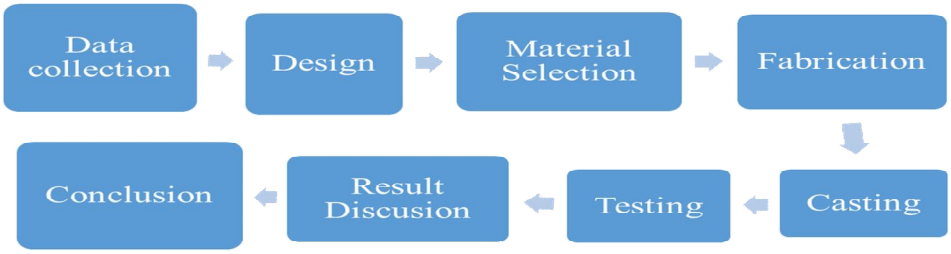
II. AIM & OBJECTIVES

The main aim of this project is to An attempt to fabricate formwork to cast slab elements.

Objectives are as follows:-

1) To model a modified formwork system for slab element
2) To design a modified formwork system for slab element
3) To manufacture chart of the modified formwork system.
4) Comparison study between conventional formwork and modified formwork system.

III.METHODOLOGY



1) *Data Collection:* The data display is the first stage in implementing this study to collect various data required for the project. A detailed collection of data is done in this stage. Details include the types of formwork used in the World and the India.
2) *Design:* In this stage design of formwork is done by using auto Cad.
3) *Material Selection:* Now a day, various materials are using for formwork like steel, timber and plywood in this project we are using steel as a formwork material.
4) *Fabrication:* Fabrication of plate is done in shop the required design, shape and size.
5) *Casting:* Casting of moulds is in actual construction site.
6) *Testing:* Testing of casted element

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7) Result Discussion: After testing of element, results are discussed.

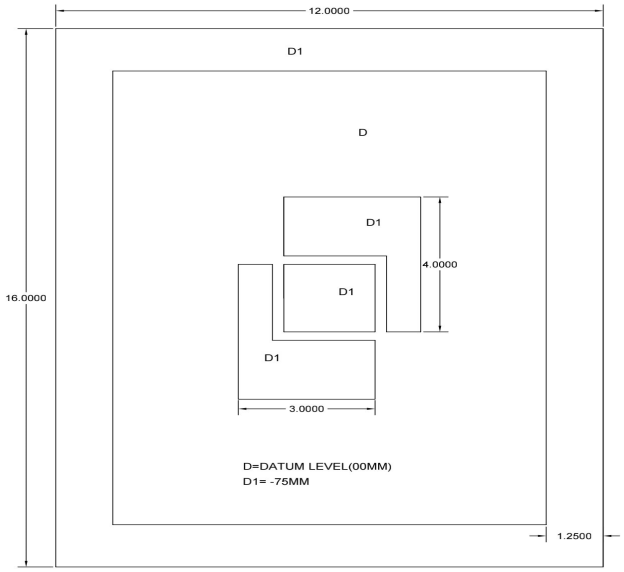


Fig Slab mould Layout



Site for casting mould

IV. LITERATURE REVIEW

A. Case Study On Slab Formwork

(Kim et al. 2006) the external and internal wall forms and slab forms which have mainly been used in residential buildings in South Korea since 2000, are the gang form and the aluminium form, respectively. Since buildings have recently been built higher, the sky-deck form is now widely used to construct high-rise buildings with over 30 (Kim et al. 2006).

B. Case Study on a Method for Selecting Formwork

Zayed et al. 2008). In most existing studies on selecting the slab condition, the form a method was chosen by conducting a survey using qualitative items. In other words, in these critical studies, a survey was born on the form selection factors, which were then used to determine and systematically evaluate the decision-making support system. These studies are all case-based, however, and if applied to a method with no case studies, it could result in errors during the evaluation. Also, there has been a lack of research that considers cost and productivity among the quantitative items.

C. A practical Limitation for Application to General Situations of Formworks

The research by Kim et al. (2006) provided the prototype of a decision-making model based on CBR (Case-Based Reasoning) by calculating the weights of criteria by AHP (Analytic Hierarchy Process) (Kim et al. 2006). These two kinds of research however, showed a practical limitation for application to general situations of formworks due to the lack of other performance information, excluding the data of productivity and the data based on the specific case.

V. SCOPE OF PROJECT

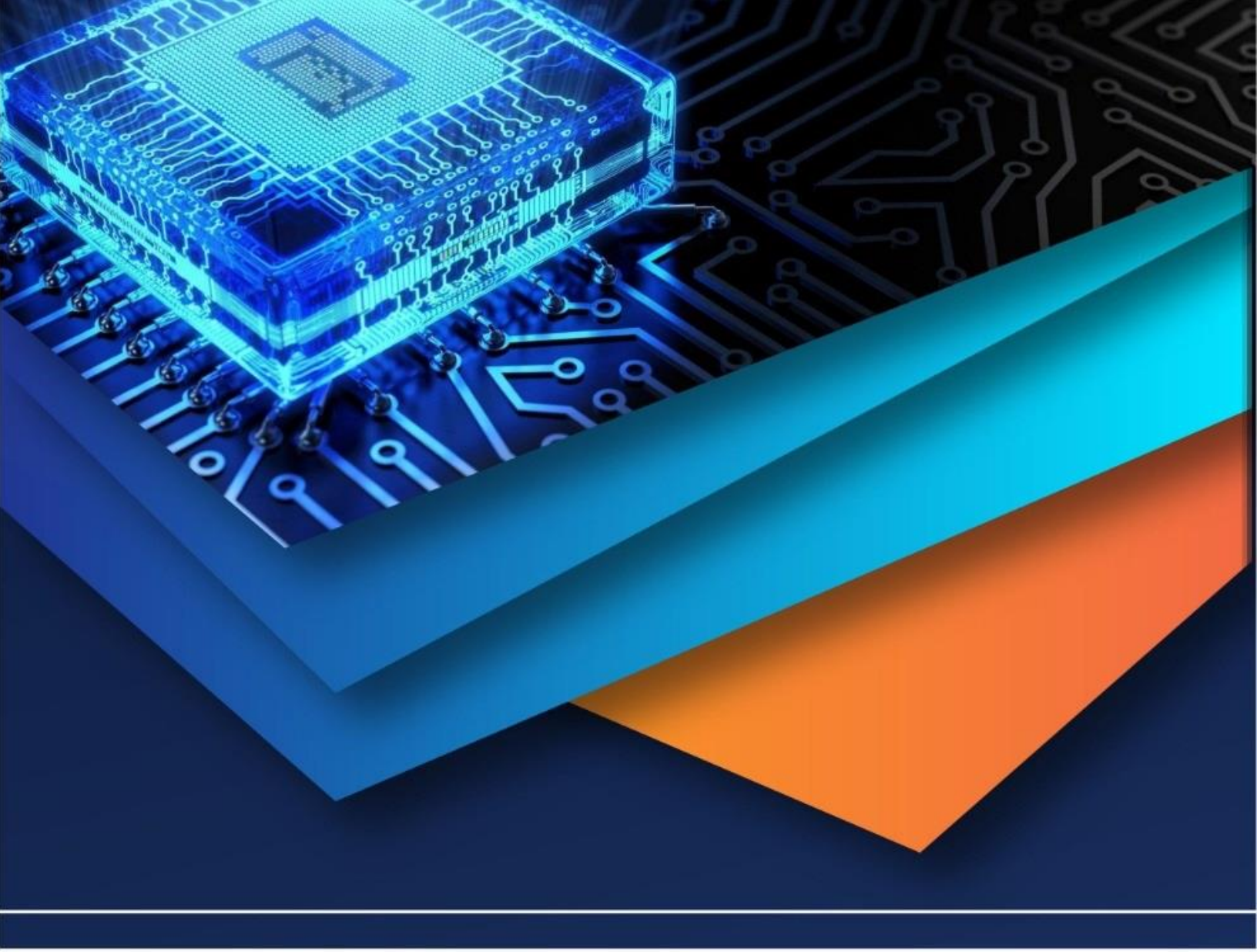
The disparity between the supply and demand for affordable housing is tremendous. Rapid urbanization has resulted in a geometric increase in the housing demand, which cannot be fulfilled using conventional materials and methods of construction. The traditional construction way for mass housing is comparatively a slow process and has limited quality control, particularly when a large size project is involved. It is therefore, obligatory to work out a method or a scheme where the speed and quality of construction are controlled automatically by a systematic approach. The study of a project gives the general idea about the modified formwork system for slab elements, which gives an aesthetic view by itself without using any other construction method. .

VI. RESULT & CONLUSION

Based on results obtained, it can be concluded that for the study project, modified formwork for slab consumed less time and reduced overall cost in the construction as compared To the conventional method and gives esthetical views without the used of any other way of construction.

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