

HANGING FORMWORK TECHNIQUE AS NEW INNOVATION FOR CASTING PLATES WITHOUT SCAFFOLDING

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ABSTRACT

Hanging Formwork Systems is a form of use of formwork for casting slab without using poles and quite efficiently applied in the implementation of building additions to fixed activities in the old building. Hanging formwork is a building element that functions while, so the efficiency of the material and the work is very important to reduce the cost of implementation of the work structure. The purpose of this study was to analyze the structure of the Hanging Formwork system while the purpose of this study was to review the cost-efficiency ratio formwork system hanging and conventional formwork system. This type of research is "Innovation Engineering" with the experimental method. Innovation Research Engineering with an experimental method is a study conducted by the technical problems encountered in the field, then gave birth to new innovations in engineered the settlement of the problem as problem - solving, and subsequently applied experimentation in the field that is scientifically calculated carefully and accurately, both of aspects of strength and cost aspects. This study was born spontaneously to answer any additional floors (3rd floor) in a 2-story building where owners requested to remain and act on the 2nd floor. From these results, we can conclude several things, among others: (1). The formwork system is hanging, very effectively applied to the implementation of the renovation of the building, requiring the basement still functioning, during the implementation process of construction of floors on it. (2). The system formwork hanging, more efficient in terms of execution time compared to the time of making a conventional formwork. (3). The formwork system is hanging, the cost is more economical compared to the costs of conventional formwork. (4). The cost efficiency in the implementation of hanging formwork for floor slabs measuring 4 x 4 m², as follows: (i) The cost efficiency for the 3rd floor, amounting to 57.69%; (ii) The cost efficiency for the 4th floors, amounting to 60.23%.

KEYWORDS: *Hanging Formwork, Scaffolding & Renovation*

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