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# Comparison Analysis of Plaster Aci Wall Finishing Method With Stick on Wall

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## Abstract

With the development of technology in the world of building materials, it is demanded that related parties include stakeholders to be able to respond and think effectively and efficiently which of course can be harmonized with the motto of the construction world, namely BMW (cost, quality, time) as well as the demands for the speed of construction projects causing manufacturers to materials compete to create new materials that can speed up the building construction process. Today a lot of products are popping up as a result of innovative creative ideas in order to compete to be the best. For the current building material products that have been and or are on the rise, one of them is the development of technology regarding wall finishing work. The wall is one of the non-structural elements in buildings, both low-rise and high-rise buildings must use this material. Wall finishing work usually uses wall plaster. Wall plaster on lightweight bricks is generally a mortar that has been mixed during the manufacturing process with a formulation that has been tested so that it has better properties than sand cement mortar which is generally mixed in the field, easy to use just by adding enough water and stirring until evenly distributed manually or by machine. stirrer. (license brochure, plaster). However, in recent years there have been developments in wall plastering materials, the emergence of gypsum walls which is a new material as an alternative to lightweight brick plastering in wall construction. This gypsum wall innovation is known for being faster and cheaper but has shortcomings in terms of quality and durability when compared to plastering. In this study the authors review the wall finishing work on the Grand Sungkono Lagon Apartement project which is located on Jl. KH Abdul Wahab Siamin. Where in this project using wall finishing in the form of stucco and stick on wall (gypsum wall). This became the basis of the research, namely by comparing wall plastering using aci plaster with wall plastering replaced using gypsum (stick on wall). The goal to be achieved in writing this scientific paper is to find out which method of construction of wall work is more efficient between the two methods of wall plastering and replacement of wall plastering.

**Keywords**
Aci Plaster, PT.Atap Perkasa, Stick On Wall

## 1. Introduction

### 1.1 Background Behind

In this study the authors review the wall finishing work on the Grand Sungkono Lagon Apartement project which is located on Jl. KH Abdul Wahab Siamin, Surabaya. In this project using wall finishing in the form of stucco and Stick on Wall (gypsum wall). This is the basis of the research, namely by comparing wall plastering using aci plaster with wall plastering replaced using gypsum ( Stick on Wall ). So based on this description, this study analyzed the comparison of time efficiency of workmanship and ease of wall finishing work.

The research was conducted to compare the two finishing methods in terms of implementation time with the work study method . According to Andardi and Faris Rizal (2019) work study is a technique that includes analysis and working time in a job. Work studies can be used to (a) collect information which will support decision-making that is intended for systematic analysis to address existing problems, (b) determine the time required for qualified workers in a particular job and eliminate factors that make work ineffective. This research uses the work study method because from this method obtained direct observation data from the field so that the data obtained is more accurate . The goal to be achieved in writing this scientific paper is to find out which method of construction of wall work is more efficient between the two methods of wall plastering and replacement of wall plastering.

### 1.2 Overview References

According to Ismail Marzuki (2017) explains that the wall is a solid structure which limits and sometimes protects an area. Generally, walls limit a building and supports other structures, limiting the space in the building Becomes rooms, or protect and limit something room in nature open.

According to Taufik Dwi Laksono (2010), there are several kinds of plastering work, including vertical wall plastering, floor plastering and brick plastering work. From several kinds of plastering work above, it will have different productivity. This is because each job will have factors that affect its own work productivity. Vertical wall stucco work is the work of covering the masonry with mortar so that a flat and smooth wall face area and a straight and vertical or upright wall face area will be obtained.

According to Arifatul Husna (2016) explaining that gypsum is one example of a mineral with a dominant calcium content in the mineral. In a balanced state, gypsum which is above a temperature of 108°F or 42°C in pure water will turn into anhydrite. Currently, gypsum as a building material is used to make gypsum boards and propyl as a substitute for plywood.

Stick On Wall is a wall covering made of gypsum board covered with thick paper which must be strengthened by a collection of glue/bond components as an adhesive to a lightweight brick wall. Stick on wall is a product with the latest technology using quality materials and experienced experts. an innovative product assembled by a certain company using quality imported materials based on requirements.

## 2. Methodology

The work to be observed in the Grand Sungkono Lagon Apartement project. Field observations were carried out for approximately 1 month. The object being observed is a craftsman who works in groups. The builders are grouped according to several jobs, namely land preparation work, material preparation, installation of gypsum walls, plaster and wall plaster. Observers must first observe several work cycles to understand the work cycle to be studied and by obtaining explanations from supervisors or workers.

Work study involves 2 main stages, namely:

Planning

The thing that should not be missed is planning for field observations so that when in the field observations can be carried out correctly. The equipment that must be prepared to conduct observations and prepare work study forms are as follows:

a. O'clock
b. Stationary
c. Field data form
d. Shop Drawing
e. Data collection in the field

This section is a realization to do what was previously planned, namely to fill out a field data form that contains: time observation long job . Observed work _ that is profession marking , mixing matrial , land preparation , matrial material , and installation . These data were obtained during field observations. Calculation of time in the field begins at the beginning of the first activity and the clock is not stopped until all activities are completed. The ineffective time encountered during the observation, it is also calculated and recorded. This ineffective time includes rest and relaxation, correcting mistakes, waiting time due to distractions such as waiting for materials, waiting for other workers, and so on. so this time inefficient can be taken as a continuous calculation.

## 3. Result and Discussion

This study aims to analyze the productivity of workers on the job Plaster Aci and Stick On Wall at the Grand Sungkono Lagon Apartement project, which is located on Jl. KH Abdul Wahab Saiman. Method research used _ that is method work studies . Live data retrieval done field observations . _ The data is in the form of observe time which is then processed Becomes basic time and standard time .

Each work on aci plaster walls and stick on wall walls will be analyzed for worker productivity to compare the actualization in the field with what was planned. Observations to collect primary data were carried out in approximately 1 month during the research period. Observations are carried out on weekdays (Monday-Saturday ) while the observation time starts at 08.00-17.00, with rest periods adjusting to field conditions. For more details can be seen in the flow chart image.

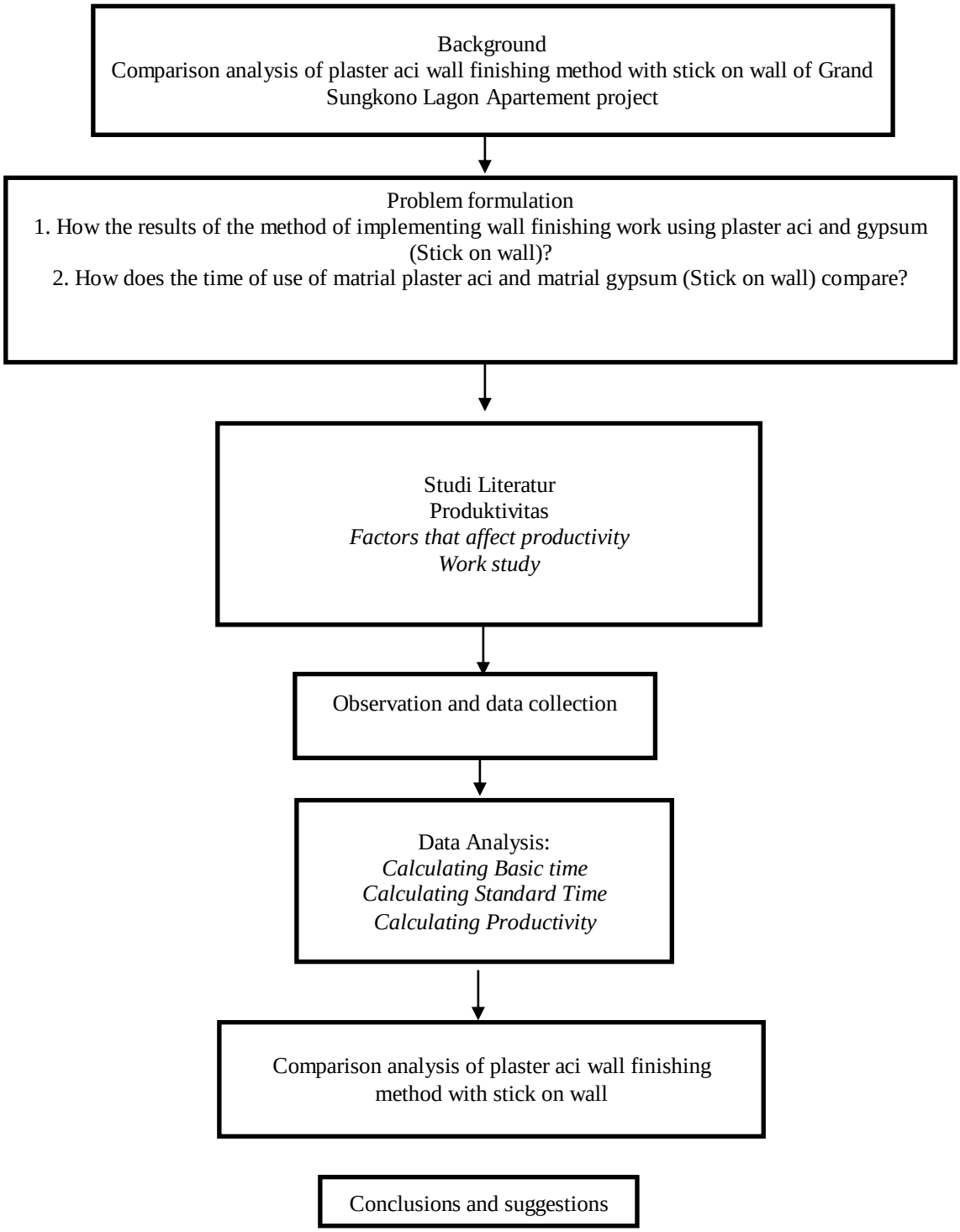


Figure : Research flow chart

The research steps are planned as follows:

1. Background : Describes the background of the research on labor productivity analysis.
2. Problem Formulation : Explaining the things that are the problem and the main discussion in writing this final project.
3. Literature study : Looking for existing theories to support the work of the final project.
4. Field Observation : Observing the work that will be calculated for the productivity of workers. In this case, it is plaster work and stick on wall.

5. Data Collection : Collecting data in the field through direct observation. This observation takes field workers as the object, namely the difference between plaster and stick on wall walls. Data collection is done by recording the duration of a job, the number of workers and the quantity of work.
6. Data Analysis : The data that has been collected will be analyzed using the time study method

The data that have been obtained from the field include:

Standard Time , is the sum of basic time , relaxation allowances and contingency allowances . The values of basic time and relaxation allowances were obtained from the field observation form. Then the total basic time is calculated on the summary form, and the total value of the basic time is added up with the value of relaxation allowances and contingency allowances on the conclusion form to get the standard time value .

Quantity of Work: is primary data that contains the volume of work and is obtained from shop drawings.

Number of Workers: is the primary data obtained when the observations were made.

Productivity

Factors affecting worker productivity, this data was obtained after calculating the value of worker productivity and adjusted for the number of workers and conditions in the field that occurred during observations.

7. Conclusions and Suggestions: From working on this final project, conclusions can be drawn regarding worker productivity in plastering aci and stick on wall work, and also knowing what factors hinder worker productivity on the project, as well as optimizing labor productivity.

## 4. Conclussion and Suggestion

### 4.1 Conlussion

1. The method of carrying out wall finishing work using aci plaster is slower than stick on wall because one installation gets 2.88 m2, and installation is easier because you only need to glue the stick on wall material to the plaster. The materials for gluing are also cheap and easy to obtain. in addition to having a high level of durability and stability. While plaster aci tends to be slow because it requires a longer step, and also requires more workers if you want to speed up the work, besides that the results of the work are not necessarily neat depending on the skills of the craftsman.
2. Productivity of correct plaster The comparison of the overall productivity of the craftsmen is greater than the productivity of the non-workmen and the productivity of SNI. The overall average productivity for builders is 9.14 m2/day while the overall average productivity for builders is not 6.35 m2/day, and. Comparison of the overall productivity value between workers who are not and builders is 1:1,44. If Stick on the wall Productivity whole = 1.9015 m2 / hour.

### 4.2 Suggestion

This study only examines the productivity comparison between Acid and Stick on Wall Plaster in 1 different project using the Work Study method. This study only counts on the variable ability of the workforce. Research with the Work Study method is very useful for every company that wants to evaluate the shortcomings of each workforce on construction projects so that they get a productivity archive of each workforce that is useful in determining construction project planning. This study has a drawback, namely that it does not calculate the motivation and competitiveness variables. Therefore, it is recommended for further researchers to continue this research in terms of evaluating the workforce with wider variables as well as other research studies with different work objects so that there are more benchmarks in construction education.

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