MATERIAL USE COMPARISON OF RED BRICK WITH I-CON LIGHT BRICK DUE TO THE CHANGES OF STRUCTURE DESIGN BASED ON COST AND TIME (CASE STUDY: RECTORATE BUILDING AND IT SURABAYA STATE UNIVERSITY)

Name: Dwina Oni Susanto
ID Number: 3111.105.017
Department: Department of Civil Engineering and Planning Sepuluh Nopember Institute of Technology Surabaya
Supervisor: 1. Cahyono Bintang Nurcahyo, ST, MT
2. Yusroniya Eka Putri, ST, MT

Abstract
With the rapid growth of knowledge and technology in the construction field, making us pay more attention to quality standard and labor productivity in order to participate in increasing construction development. Required the building material that has better advantage than the existing building materials. In addition the material must have some advantages such a form that can suit the needs, technical specifications, durability, speed of construction and green environment.

With these considerations, then the development of rectorate building and IT Surabaya State University that has 14 floors. In the beginning plan and building development, the wall is made from bricks. Based on the existing specifications, planned with new method that is expected to minimize time and cost of building project. but still in accordance with the specifications that set at the beginning plan.

In this final project, trying to compare material use on development of rectorate building and IT Surabaya State University with using materials of red brick and I-CON light brick. From structure analysis with SAP2000 showed that there is no change in the beam and column dimension due to the
maximum design for dimension and quality of concrete. red brick material use on arrangement work till finishing is obtained cost IDR 7,123,276,816.45 with time estimate 241 days. Light brick material use on arrangement work till finishing is obtained cost IDR 7,091,180,355.89 with time estimate 213 days. From the above calculation, it can be concluded that the use of light brick material can be an alternative and applied to development of rectorate building and IT Surabaya State University.

**Key Words:** light concrete, CLC, hot insulator, finishing, estimate, precision.