ABSTRACT

THE EFFECTIVENESS OF BUILDING ENVELOPE DESIGN OF BUILDING B PEMBANGUNAN JAYA UNIVERSITY THROUGH OTTV VALUE ANALYSIS

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According to the Directorate General of New, Renewable Energy and Energy Conservation in 2017, one of the largest contributors to gas emissions in the Refrigeration and Air Conditioning (RAC) sector in Indonesia is Unitary Air Conditioning (UAC). The total gas emissions produced by UAC are 51% of the total gas emissions produced by the RAC sector. The increase in population growth, also increases the use of UAC. Moreover, in 2015, as many as 2000 skyscraper constructions took place in Indonesia (The Council on Tall Buildings and Urban Habitat, 2016). This makes several buildings implement energy conservation and efficiency which is also one of the applications of the Green Building concept. The envelope of the building is one way of doing energy efficiency.

The energy efficiency of the building envelope can be determined by calculating the Overall Thermal Transfer Value (OTTV). Based on SNI 6389:2011, OTTV in a building has a maximum value of 35W/m^2. The lower the OTTV value, the lower the heat load that enters the building. Thus, the use of air conditioning is also lower. Building B Universitas Pembangunan Jaya is currently using external shading for the building envelope. However, even with the presence of external shading, the use of air conditioning and internal shading (curtains) when the room is operating still occurs. Thus, it is assumed that the existing building envelope in Building B may not function effectively. Therefore, the researcher wants to find out whether the building envelope in Building B, Universitas Pembangunan Jaya is effective through OTTV analysis.

Keywords: *Energy Efficiency, Building Envelope, OTTV*

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