ABSTRACT

THE INFLUENCE OF PHOTOVOLTAICS INSTALLATION ON BUILDING WALL SOFROOM TEMPERATURE

By

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In urban areas there are a lot of buildings that used for offices or business centre, with glass or concrete wall model. In general, the parts of building illuminated by the sunlight periodically or continuously throughout the day. The shines without a hitch will increase the heat that enter the room and the air conditioner loads will increase, so that the consumption of electrical energy will increase too. This research purpose is knowing the influence of light intensity and light installation of photovoltaic (PV) on the wall of the building to the room temperature.

This research was conducted on the model of the building, where PV is mounted on the wall with the mounting angle and position of the lights shines 15^0 with a 0^0, 30^0, and 60^0. The parameters tested was the temperature of the PV, temperature of the outer and inner walls, and room temperature. The test results will be compared with the variation of the light intensity output of 500 Watts and 1000 Watts.

The research results showed that installation of PV on building walls can make the rising of room temperature increases slowly. PV installation with oblique position, providing a positive influence on the reduction of the rate of heating room.

Keywords : photovoltaic, temperature, light intensity