Saksit Sommanut : Design for Aluminum Composite Envelop of Building for Efficiency Energy

This research aims to find the design of Aluminum Composite used with the building's wall to protect the heat in the building. This can reduce the use of electrical energy inside the building and has more efficiency under the environment of Thailand. This research was divided into two parts as follows.

First, we have surveyed, evaluated and analyzed the condition of comfortable temperature within the building. We made the similar model of the researched building and collect temperature data for analysis and evaluation in the next process.

Second, the researcher tried out to find the design which was suitable with the use of Aluminum Composite as the wall of building. This was considered from the heat reducing property from outside to inside building for efficiency energy.

The research result found that the building with Aluminum Composite wall and brick wall with white-wash, the wall installed the foam with its thickness of 2 inches and the wall installed alu.foil+fiberglass with its thickness of 2 inches had different temperature inside the building. It was found that the wall installed the foam with its thickness of 2 inches and the wall installed alu.foil+fiberglass with its thickness of 2 inches had lower temperature than Aluminum Composite wall installed with brick with white-wash 3-4 ^{O}C during 2.00-4.00 pm. Aluminum Composite with the foam which had its thickness of 2 inches had lower temperature than the wall installed alu.foil+fiberglass with its thickness of 2 inches.

Therefore, with Aluminum Composite wall installed the foam with its thickness of 2 inches was the most suitable to use as the component of building wall which can reduce the heat pierced inside the building and resulted in Efficiency Energy in the building.