

ABSTRACT

The potential of renewable energy in Indonesia is very large to be utilized and developed. The solar thermal collector is one of the technologies that can be used to absorb thermal/heat energy from the sun. In this research a flat plate solar thermal collector was made and tested. The efficiency value was obtained with many variations. This thermal collector was tested with several variations to obtain the efficiency value of the collector. This collector was tested indoors using a solar radiation simulator as a source of radiation to replace the sun. From the experiments, it was found that the solar thermal collectors have the highest average efficiency around 54.33%. In the future, it is expected that the use of solar heat collectors can be used more broadly given the enormous potential of solar energy to be used in Indonesia.

Keywords: Solar Energy, Thermal Collectors, Efficiency, Solar Radiation