

## **Pendinginan Panel Surya *Polycrystalline silicone* 20Wp Menggunakan *Mineral oil***

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### **ABSTRACT**

*Renewable energy that is currently popular is solar energy, which can be converted into electrical energy with the help of solar panels. Solar panels are made from silicon semiconductor material which absorbs photons from solar energy. However, the sun not only produces photons which can be converted into electrical energy, but there is also heat energy which can increase the temperature of solar panels which can reduce the performance of solar panels, therefore researchers conducted research to reduce the temperature of solar panels by using a type of solar panel cooling method. Polycrystalline uses liquid mineral oil with a variation of flow immersion cooling technique. However, from data from field experiments, the results were less good, where solar panels without cooling were superior to solar panels with cooling. This research was conducted for 9 days using quantitative experimental research methods. Data analysis tests carried out showed that the temperature of solar panels with a cooling fluid variation of 6 LPM produced a temperature of 48.89°C, while solar panels without cooling fluid produced a temperature of 46.19°C, so there was a difference of 2.7°C. Solar panels with a coolant variation of 7 LPM produce 39.59 W of power while solar panels without coolant produce a power of 39.94 W, so research on solar panels using liquid mineral oil with a flow variation technique was not successful in reducing the temperature.*

***Keywords: Polycrystalline, immersion cooling, flow rate***