

## **ABSTRACT**

*Electrical cable which in English is called Electrical Cable is a medium for conducting electric current consisting of Conductors and Insulators. The conductors or electricity-conducting materials that are usually used by electric cables are copper materials and also those made from aluminium. An electric current flowing in the conductor of a cable will cause heat which raises the temperature of the conductor and its insulation, thus affecting the current-carrying ability of the cable. The current carrying capacity of a cable is influenced by the cable design, the way the cable is installed, the ambient temperature and. For medium voltage cables, thick insulation is required to withstand exposure to the electric field, but otherwise the heat generated by the conductor is increasingly difficult to escape from the cable so that the temperature of the conductor is higher and reduces the permissible current through the cable.*

*This final project discusses the effect of the bending angle and the amount of current in the cable on the cable temperature. Electrical installations in homes and factories are not always straight, under certain conditions and at certain locations cable installation requires bending. Cable bending that does not take into account the bending angle results in a high temperature rise that allows the insulation to burn and the conductor wire to melt.*

*The test was carried out by bending the cable with a mat of 30,90,60,120. The cable was connected to a power source and a load of 1.2 A, 3.3 A, 6.1 A. The insulating part of the cable that was bent was peeled off and then the rise and fall of the conductor temperature was observed with a thermo gun for 5 minutes.*

*The results showed that the installation of cables with obtuse bending angles reduced the temperature significantly so that the insulation did not burn and the conducting wires did not melt. Installation of cables with an acute bending angle causes the temperature to rise significantly so that the insulation is more flammable.*

**Keywords: Cable, Cable Bending, Electricity**