

# The Temperature Effect to the Concrete due to the Single Strike of High Electric Current

## Abstract

The protection against lightning had been increasingly used in the building to protect the building from the direct lightning impact. One of the methods is to embed the lightning protection cable in the concrete structure. The objective of this research is to investigate any changes of temperature during the lightning strike, which the lightning strike were stimulated by high electric current equipment. The high electric current were provided by high current equipment model Haefely P90.1 and flowed into the concrete cube. There are two method used in this research, by using Thermal Imager Camera Model FLUKE Ti20 to monitor the surface temperature and fiber thermocouple with Data logger model DATATAKER T80 to monitor the temperature in the concrete cube. As the result there are no drastically changes in temperature in both methods. The changes are very small and can be negliable. This is due to the duration of the high electric current strike is too short and not caused any changes in the temperature.

**Keywords;** Concrete, High Electric Current, Lightning, Temperature