DESIGN AND MATERIAL OPTIMIZATION OF COLLING FINS IN ELECTRIC VEHICLE MOTOR HOUSING

A PROJECT REPORT

Submitted
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BONAFIDE CERTIFICATE

Certified that this project report **"DESIGN AND MATERIAL OPTIMIZATION OF COOLING FINS IN ELECTRIC VEHICLE MOTOR HOUSING"** is the bonafide work of **"P.V.ASWIN (112818114004), R.LOGESH (112818114025), G.R.SAIKUMAR (112818114039), S.VIGNESHKUMAR (112818114047)"**, who carried out the project work under mysupervision.

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ABSTRACT

The present study summaries the Selection of fin materials for different applications. Fins are having different applications such as Economizers, Heat Exchangers etc. Due to the continuous running of moto wall subjected to high temperature and heat transfer takes place through the fins. If the heat is not dissipated properly then it decreases the working efficiency of the motor and burnt. Mostly the heat transfer rate through the fin material is depending on the thermal conductivity and other properties of the chosen material.

This project is about a comparative study of different types of materials for fins. The main aim of this research is to optimize the cooling rate of the fin in electric motors. Since now a day's the fossil fuels are deteriorating gradually, so the automobile industry is changing to E-Vehicles.

In EV's the motor is the very important part, if that motor has a best design for fins to eliminate heat from the motor then it will be helpful for the efficient running of the vehicle. So, to resolve the heat transfer problem various designs of motor fins are modeled in 3-D modeling software (CREO) and analyzed by the analysis software (Ansys-2020) for their heat transfer properties. To improve the results even more a research has been done and by the help of various research paper study, the materials are selected. Then by the results we can able to find out the best material among the chosen 4 materials.

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