



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR

Department of Mechanical Engineering

REPORT OF SKILL BASED MINI PROJECT

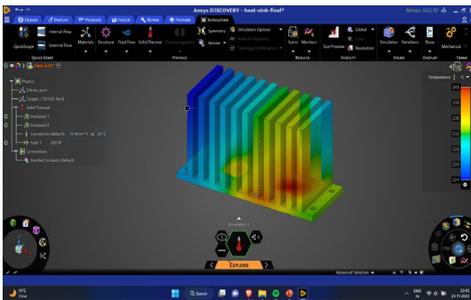
Heat and Mass Transfer (120513)

Title of Project: Heat Sink for Computer CPUs

Introduction:

Computer cooling is necessary to take away the dissipate heat formed by computer components, to stay components contained by their safe working temperature restrictions. CFD thermal analysis of heat dissipation is carried out in this project and presented.

Description of Model



The performance criterion of heat sinks is the thermal resistance, which is expressed as the temperature difference between the electronic components and ambient per watts of heat load. It is expressed with units K/W.

Applications of Model

Computer cooling is the process of removing heat from computer components. Because a computer system's components produce large amounts of heat during operation, this heat must be dissipated in order to keep these components within their safe operating temperatures. In addition to maintaining normative function, components which produce heat and are susceptible to performance loss and to CPUs.

What I Learned Through Project:

The heat sink temperature difference results have been compared with an experimental result to find out best heat sink designs, and it shows the good correlation. Improvements on heat sink designs are possible by the use of CFD thermal analysis. Eventually it is possible to finish up with a new heat sink design which has better thermal performance and uses less material.

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