HEAT TRANSFER THEORY REPRESENTLY

BY HEAT PIPE

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PREFACE

The heat pipe has become recognized as an important development in heat transfer technology.There are three mode of heat transfer , i.e conduction, convection, and radiation.Conduction is the simplest from the heat transfer.As the amount of heat to be transferred increased, the device used to conduct the heat away, become conduction limited.In convection heat transfer device, the system is complex and expensive.Then , the heat pipe is one of the alternative for heat transfer problem.

In this project, experiment is carried out on a thermosyphon with Freon-22 as the working fluid. Experiment is conducted with the thermosyphon in the vertical position, 60° inclination to
the horizontal, and 30° inclination to the horizontal.The axial heat flux of the thermosyphon is then calculated based on the power output of the thermosyphon . Comparision of the axial heat flux of the copper rod is made to establish its superiority over the rod. Comparision of performance for different position of thermosyphon and different flow rate of cooling water is also carried out.

Comparision is made on the thermosyphon conductivity and the conductivity of copper. From this comparision the thermosyphon and heat pipe is established as a super thermal conductance.