**Thermal Analysis Of Coolant Plumbing Pipe**

**Abstract:**

A heat pipe is a heat-transfer device that combines the principles of both thermal conductivity and phase transition to efficiently manage the transfer of heat between two solid interfaces. At the hot interface of a heat pipe a liquid in contact with a thermally conductive solid surface turns into a vapor by absorbing heat from that surface. The vapor then travels along the heat pipe to the cold interface and condenses back into a liquid – releasing the latent heat. The liquid then returns to the hot interface through capillary action, centrifugal force, or gravity, and the cycle repeats. Due to the very high heat transfer coefficients for boiling and condensation, heat pipes are highly effective thermal conductors. The effective thermal conductivity varies with heat pipe length, and its thermal properties of materials. The objective of this project is to study the heat transfer in the sq and select the best material on basis of thermal analysis results. Cad model is generated in catia v5. And thermal analysis has done in Ansys thermal simulation.

Keywords: Coolant Plumbing Pipe, Solar Collector Arrays, catia v5.