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# Investigation on Cooling Rate of Different Fin Design of an I.C. Engine by use of CFD

**J B Chauhan[1], Dr. D B Jani[2], K K Bhabhor[3]**
PG Student, M.E. CAD/CAM, Department of Mechanical Engineering[1]
Faculty, M.E. CAD/CAM, Department of Mechanical Engineering[2,3]
Government Engineering College, Dahod, Gujarat, India

**Abstract:** *The Cylinder block is most important components in IC engine vehicles, which is under very high temperature stresses. To control the engine in efficient way we required to cool the cylinder, extended surface is provided on the cylinder to increase the speed of temperature reducing. By doing thermal analysis on the cylinder block fins, it is helpful to find the heat transfer outside the cylinder. The principle use in this research is to improve the heat dissipation rate by using the surrounding air flow direction and new geometry. We all know that, by expanding the surface area we can improve the heat transfer rate, so designing fin geometry. The main aim of using these cooling fins is to cool the engine cylinder by environmental air. The main aim of the research is to analyze the thermal properties by varying geometry, material and thickness of cylinder fins. Model is created to analyze and simulation purpose in solid works software. The models are created by varying the geometry and shape of fin. Present thickness and shape of the fin is changed. The 3D modelling software used is Solid works. In the current year Material used for manufacturing cylinder block's fin body is Aluminium Alloy 204 it has thermal conductivity of 110-150W/mk. In this research, it is replaced with aluminium alloy 6061 and analysis is done in Ansys.*

**Keywords:** IC Engine, Fins, Solid works, Ansys, CFD Analysis, etc.

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