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Design and Static Analysis of Piston Head Using Honeycomb Structure

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Abstract: *This project is focused on the stress distribution of the piston four stroke engines by using FEM. The main objectives are to investigate and analyze the thermal stress and maximum or minimum principal stresses, Vanishes stresses distribution on engine piston at the real engine condition during combustion process. The project describes the optimization techniques using finite element analysis technique (FEM) to predict the higher stress and critical region on that component. The stress concentration on the piston head, piston skirt and sleeve are reduced by optimization with computer aided design, CATIAV5 software the structural model of a piston will be developed. Furthermore, the FEM analysis is done using Computer Aided Simulation software.*

Keywords: FEA Analysis, Honeycomb Structure, Piston, etc.

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