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اَوْنِيُوْ سِيْتِي تِي كُوْلُو كِي مَارَا  
**UNIVERSITI  
TEKNOLOGI  
MARA**

**FINITE ELEMENT ANALYSIS  
OF PISTON  
CROWN FOR A DIESEL  
ENGINE**

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Dissertation submitted in partial fulfillment  
of the requirements for the degree of  
**Diploma in Mechanical Engineering**

**College of Engineering**

**January 2024**

## **ABSTRACT**

The objectives of this project is to locate stress and heat concentration on piston crown of diesel engine using Finite Element Method and to analyse structural integrity of various material of piston crown for diesel engine. An existing diesel engine piston is measured to obtained dimensions which will be modelled in Solidwork. Then the model will be analysis using Finite Element Analysis in Ansys Workbench. The boundary conditions use engine speed at certain speed in rpm. The results will show the maximum value for each different piston material in three boundary conditions which is total deformation, equivalent stress and total heat flux. The conclusion of this analysis is to determine the best piston material to use in a diesel engine.

## **ACKNOWLEDGEMENT**

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor, Mr. Helmisyah bin Ahmad Jalaludin.

Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah's.

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