

DESIGN AND DEVELOPMENT OF JACK  
HAMMER MACHINE FOR TILE LAYING  
PREPARATION

by

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Report submitted in partial fulfillment  
of the requirements for the degree  
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## ACKNOWLEDGEMENT

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## DECLARATION

This project report titled design and development of jackhammer machine for tile laying preparation was prepared and submitted by Raja Ahmad Irwan b. Raja Hassan Nadzri (Matrix Number: 051120623) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Manufacturing Engineering) in University Malaysia Perlis (UniMAP)

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REKABENTUK DAN PEMBINAAN PEMECAH LANTAI BAGI PROSES PENYEDIAAN  
JUBIN

ABSTRAK

Pembinaan berasaskan automasi mendapat permintaan yang tinggi pada masa kini di dalam industri pembangunan. Penggunaan mesin-mesin di tapak pembangunan boleh menurunkan kos pekerja dan dalam masa yang sama dapat meningkatkan masa projek. Mesin pemecah lantai adalah satu idea baru dalam pembinaan mesin dimana ia digunakan untuk memecah lantai dengan menggunakan alatan merupai tukul. Pada kebiasaan, kerja pemecahan lantai ini dilakukan dengan manual dengan menggunakan tukul. Ciptaan ini dipercayai masih tidak dikomersialkan dalam pasaran dan mempunyai potensi pasaran yang luas.

Di dalam projek ini, satu rekaan mesin akan dibina dengan menggunakan perisian SolidWork. Dengan menggunakan perisian CAD, satu demonstrasi bagaimana mesin itu bekerja akan ditunjuk. Mesin tersebut akan dijangka berkebolehan melakukan kerja memecah lantai kira-kira 12.2 m<sup>2</sup> dalam masa seminit. Analisis berikutan dengan penyediaan jubin lantai juga akan dibuat bagi memperolehi spesifikasi yang diperlukan pada mesin tersebut.



# DESIGN AND DEVELOPMENT OF JACK HAMMER MACHINE FOR TILE LAYING PREPARATION

## ABSTRACT

Construction automation nowadays is highly demand especially in construction industry. The implementation of machines in the construction site can decrease the labor cost and in the same time improve up the project progress. Floor breaker machine is a new idea of construction machine where it will be used to break the floor as a preparation for laying the tiles. This work normally done manually by beating the floor with hammer. It is believe this innovation is still not commercialized in the market and have a wide commercial potential.

In this project, a design of the machine will be construct by using Solid Work / CATIA. By using the CAD software, the animation of working machine will be demonstrated. The machine is estimated to work at 12.2 m<sup>2</sup> per minute An analysis and literature review are made to reveal the technical specification that should have for the machine

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