UNIVERSITI TEKNOLOGI MARA

MEC 332: MECHANICAL ENGINEERING DESIGN

J4EM1105G

PROJECT NAME: MASONRY MORTAR TOOL

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ACKNOWLEDGEMENT

Our first and foremost gratitude is to God Almighty Allah S.W.T. who has been with us all along and giving us the strength to complete this project. We would like also like to acknowledge our deepest gratitude to our supervisor, Sir Ahmad Najmie Bin Rusli, for her guidance, constant attention, valuable suggestion, enthusiastic support and personal concern during the project. Furthermore, our appretiation also goes to our lab technicians, Encik Bakri bin Shahidan Mohd Ali, Encik Jamil bin Mohamad Mokhtaron, Encik Khairul Hazwan bin Abdul Hadi, and Encik Afiq bin Othman from the Mechanical Engineering workshop for their time, attention and guidance.

Moreover, special thanks go to the Department of Mechanical Engineering for their permission to use the facilities and equipment available at the Department which aided us to complete this project successfully. And a special appreciation goes to our loving parents who bought us here and always on our side, riding along with us on our ups and downs as well as giving us the encouragement to pursue our dreams. We would like to say a huge thank you for all the supports.

CHAPTER 7: CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION OF DESIGNED PRODUCT

The designed prototype for this project is considerably seems as a successful build or project. It fulfilled every criterion set by faculty of Mechanical Engineering, UiTM Pasir Gudang which focus on the innovations and inventions that can be used as a construction tool. Besides that, it also fulfilled the criteria of team members which the main task is to have a convenient and reliable model for teaching and make spreading the masonry. The prototype is built due to the lack of understanding of the true meaning of mechanical engineering among students specifically thus looking in striving for a better and new knowledge also experience for Mechanical Engineering students. Here are the stated some the pros and cons obtained through the process of making the project.

In the aspect of the pros that are obtained through the project, during the designing process of the project thoroughly, there are many things that each individual in the project team experienced and most of it are new to the project member. First of all, the team members experienced many problems and instant decision-making process and these processes where the importance of critical thinking is proven. Creating and planning a solution to identify all the need or problem in an innovative manner and defines a standard for others to follow. Providing from the very basics where the process of the fabrication flow process obtained from brainstorming process between team members to gives a very significant impact on each individual knowledge and basics of designing and fabricating a product. Therefore, there are many things that are reflected on the team during the design period. The most important of all the soft skills obtained through teamwork and communicating between group members could enhance the skills required in the working fields. Basic skills of Solidworks and fabrication process such as grinding, cutting, molding also are learned throughout the project.

For the aspect of the cons obtained during the entire project's fabrication and designing process, it cannot be ensuring that everything will go according to plan and meet the expectation, especially on the fabrication because it involves hand on application which need more skills rather than calculation and theory-based assumption. The hard reality of engineer is significantly proven especially the process of fabrication. Going through all the hardship and endurance, the best design of masonry mortar tool according to the theme was able to be achieved by the project members.

Therefore, this prototype results show that it is ergonomics also suitable for every range of customers and it has a high potential to be place on the many small construction nowadays. A non-stop improvement is needed for this design in order to ensure that the design performs as expected and satisfy the market whole fully. To conclude the whole chapter of the entire process, the project members are able to meet the expectation and delivers the very most of the skillset among the group members and are fully devoted in making the project reliable and customer-friendly.

7.2 FUTURE WORKS

In the future endorsement, the project members dream on building a fully automatic mechanical structure for masonry mortar tool and adding more reliable and more efficient supporting mechanical tools such as hydraulic pump and gearing system. The finishing touch also need some improvement to make it more customer-friendly. These future planning can be realized by adding a gearing system to increase the efficiency of the tool. The hydraulic pump also makes the force required to push the mortar flow out to the hole to be more effortless and easier. Lastly, the project members are hoping to add some sensors that are able to calculate the total stress on the tool if something happened.

9.0 REFERENCES

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