



**DESIGN OF A SOUND INSULATOR
FOR FOOD BLENDER**

**ROSIDI BIN JASMI
(2006689158)**

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Faculty of Mechanical Engineering
Universiti Teknologi MARA (UiTM)

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ABSTRACT

In this project, a device that can muffle sound that are produced by food blender was designed and developed. The noise that generated by blender while it is operating especially by the high speed blades is about 90-110 decibels. Repeated and continuous exposures to this level of noise will make a permanent hearing loss. This project was based on design process and the aesthetics value. It covers the design of a sound insulator food blender which can minimize the sound of food blender and the aesthetic of the design to make sure the product will valuable in market. The design of the sound insulator for food blender was done by using CAD software that was CATIA V5R18 and SolidWorks 2005. The material selected to be used in this design was plastic and legetolex. Legetolex is a lightweight damping material that is used for reducing sound especially in automotive sector. This material is manufactured with a butyl adhesive layer that is suitable for this product application which is very flexible, extremely light and less dependent on temperature. A testing was done on a mock-up of this product after the detailed design was completed. The testing was done to check whether this sound insulator can reduce the noise or sound below 80 decibels to make sure the sound level is in the safe mode range for humans. The testing was done by using a sound meter which is a device that can measure the sound level in decibels (dB). Hopefully this project can provide a new design of an environmental friendly sound insulator for food blender. Therefore, the design will help to protect consumers from any hearing loss or health effect.

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