



CLEANING AUTOMOTIVE PART USING FLUIDIZED BED REACTOR.

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“I declared this thesis is the result of my own work except the ideas and summarizes which I have clarified their sources. The thesis has not been accepted for any Degree and is not concurrently submitted in candidature of any Degree.”

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ABSTRACT

Cleanliness of a machinery component is an important consideration to avoid machinery breakdown and application failures. Currently, industries are turning away from using chemical compounds and solvent for cleaning purpose due to its adverse effect on health and the environment. Efficiency and cleaning are two parameter that are demanded by the industry. Thermal cleaning using fluidized bed is an attractive, offering higher cleaning efficiency and flexibility in process control. Before fabricate this fluidized bed heat – cleaning system, there are some investigations to determine the parameter that involved in fluidized bed process. The experiment is done by using the Fluidization & Fluid Bed Heat Transfer Unit H 692 in the thermodynamics Laboratory. From that experiment, we observe that the parameters that give influence for that process are size and mass of solid particles, Bed Height of particles, distributor design, air flow rate, and pressure drop across the bed. After that experiment, a new design of bed rector for fluidized bed heat – cleaning process is fabricate. The design of this is base on the Fluidization & Fluid Bed Heat Transfer Unit H 692 with 90 cm in their height and 50 cm for their diameter. Then, continue that fabricate until the fluidized bed heat – cleaning process can exists. But, our project is only to make the fluidized process in the bed. The future fabricate will be continue to the other students in completing this project.

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