



**INFLUENCE OF PARTICLE SIZING OF FIBROUS MATERIAL IN IMPACT
TESTING USING AN AXIAL COMPACTION TECHNIQUE WITH NATURAL
DRYING**

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“ I declared that this thesis is the result of my own work except the ideas and summaries 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

In Latin, incense means to burn, which is composed of aromatic biotic materials, which release fragrant smoke when burned. In production of incense, many essential oils and artificial fragrances are used for scenting incense. The powdered or granulated incense material is mixed with a sticky and incombustible binder, such as dried fruit, honey, or a soft resin and then formed to balls or small cakes. However, in this study, we only used water as the binder. Therefore, it will produce the natural aromatic odor. In production of incense, the sample is in the form of pellet. The pellet is produced using compaction process and the raw material used is fibrous wood material. The method for compaction technique is based on soil compaction method. In compaction process, the load imposed was measured, not the load transmitted to the upper punch. Other analysis that was measured was the bulk density and porosity. The value of porosity in different size of fibrous will affect the hardness of the material. The lower the value of porosity, the impact resistance of the pellet increased.

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