

Investigation of oil palm empty fruit bunch (OPEFB) embedded with artocarpus odorattisimus mechanical behaviour as an alternative replacement for raw material in wood industry

ABSTRACT

This paper presented the investigation of Oil Palm Empty Fruit Bunch (OPEFB) reinforced with Artocarpus Odorattisimus (Mahang/Tarap) board in which fabricated manually using hand lay method and hot pressed in order to determine a suitable alternative fiber board as a replacement for the usage of woods as raw materials in various types of industry. The idea of conducting this research came due to the worldwide community attention on major deforestation which may lead to natural disaster throughout the world. The effects of adding Artocarpus Odorattisimus (Mahang/Tarap) to the oil palm empty fruit bunch (OPEFB) on certain dry weight ratios are being studied and the main objective of this research is to determine certain mechanical properties of the board especially tensile strength to be compared to the pure oil palm empty fruit bunch (OPEFB) board (4.712 Nmm⁻²)[22]. The experimental process is carried out in accordance to test standard of ASTM D3039/3039m-17. Morphological structure study by using Scanning Electron Microscope (SEM) also conducted on the tested samples to further understand the board properties. Practically, aluminium swarf (chips) collected from an automotive production line is less likely to have any contaminants once the lubricants are removed. In theory, metals do not degrade in value and can be used infinitely.