

Thesis title:

Development of a Composite Partitioning Wall Panel Using Coconut Fiber Reinforced Polymer Composite

Abstract :

This research presents an investigation of the physical and chemical properties of natural fiber based composite building material which is applicable for tropical climatic regions. The composites panels are made of thermoset/elastomers containing coconut fibers. Coir fibers are available throughout Sri Lanka. Since this non-load bearing composite panel walls are intended to be light weight comparative with the load bearing walls, these materials can be used as in non- structural applications (ex : partitioning walls) in the construction industry specially in multi-storied buildings to reduce the weight of the structure.

The research mainly focuses on identifying the effects on both content of coir fibers with thermoset and elastomers to enhance the physical, mechanical and thermal properties of products. By playing the different amount of dry rubber (Elastomers) with thermoset resin, try to develop the composite panel to achieve the required properties.

Further, the research will focus to enhance the existing impact resistance, flame resistance, water absorption and hardness properties of the wall panels.