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HEAVY DUTY AND ECO-FRIENDLY HYBRID COMPOSITE

Patent No.: PI 2013 000 352



PROBLEM STATEMENT

There is a dramatically surge in interest in environmentally materials and technology in industrial sectors and composites derived from natural, renewable resources. Manhole covers, septic tanks, automotive parts and structural composite are widely made of fiberglass and steel which is expensive, cause harm to workers, abrasive to processing equipment and not environmentally friendly. So we need an alternative to replace the fiberglass to other material which is greener, safer and at the same time offer high performance properties. Promoted as low-cost and low-weight (low density) alternatives to fiberglass, kenaf has signaled the start of a "green" composite industry with enormous potential. This hybrid biocomposite features an advanced FRP which hybrid the natural (Kenaf fibers) and glassfiber technology, remains the strength with lightest mass and safest processing can be used as reinforcement in cement concrete. The advanced ergonomic aspects of kenaf biocomposite are lightweight, high performance, less expensive and offer safety to workforce from injuries associated with heavy casting, ease of recycling and carbon dioxide neutrality (environmentally friendly). The hybrid biocomposite has signalled the start of eco-friendly composite industry with enormous benefits to environment, customer as well as workers.

NOVELTIES

- This innovation is new and use combination of kenaf fiber and fiberglass as reinforcement in hybrid FRP composite
- This innovation is new and use combination of kenaf fiber and fiberglass as reinforcement in cement concrete.
- Utilization of kenaf fiber (natural fiber) as reinforcement which is non-expensive, lightweight into heavy duty and high performance commercial products in composite industry
- Cheaper prize (estimated 50 % lower than existing products)
- Comparable properties with commercial product (e.g. mechanical properties)
- Mass productions with simple to moderate engineering skills.

COMMERCIAL POTENTIAL

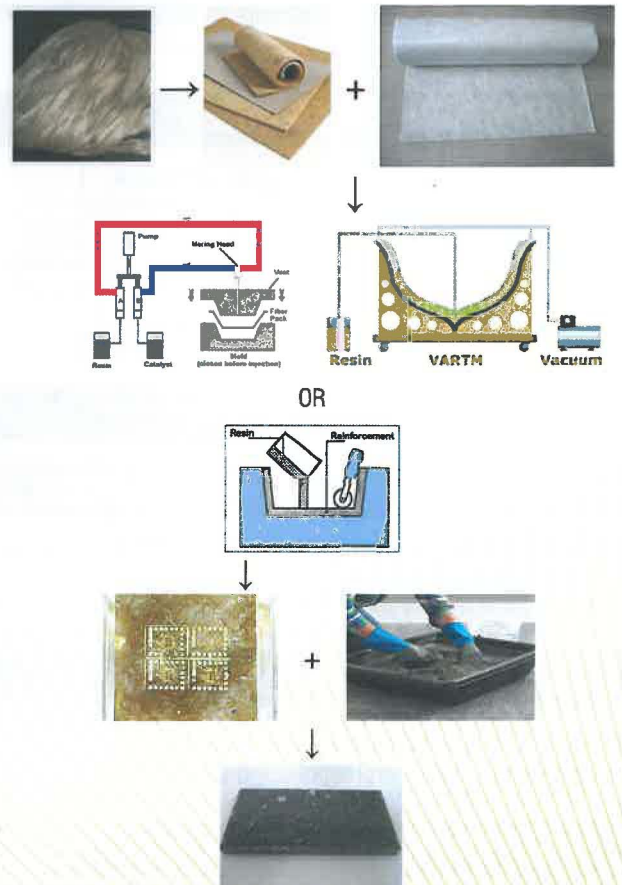
- To overcome environmental problems caused by production of glass fiber and concrete
- Environmental friendly of final product making
- To overcome the injury problem caused by bulky and heavy manhole cover during production and remover of the cover
- Use environmental friendly and renewable material as reinforcement
- To overcome stolen of steel and sold for scrap metal
- Weight about one-fifth as much as steel (low density of kenaf fiber)
- These composites do not rust or corrode like steel
- Encourage production of kenaf in Malaysia

TARGET APPLICATIONS

- Manhole cover for areas which can be used by pedestrians, pedal cyclists and footways, car parks, hard shoulder
- Rain Collector Tank
- Water Tank
- Fish Tank
- Septic tank: Aeration Tank, Separation Tank
- Automotive parts



PRODUCT DESCRIPTION



ACKNOWLEDGEMENT

- Universiti Malaysia Perlis
- Bayu Tiara Engineering Sdn. Bhd.