# POST IMPACT FATIGUE OF KENAF POWDER, PP, MAPP LAMINATED WITH KEVLAR HYBRID COMPOSITES.

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## ABSTRACT

The post impact fatigue tests were carried out on Kenaf powder /PP [KPP] without and with MAPP [KPPMAPP] specimens. The same tests were also carried out on KPP / Kevlar Hybrid composites [KPPLK] and KPPMAPP / Kevlar Hybrid composites [KPPMAPPLK] to determine their modulus, ultimate tensile strength (UTS) and the fatigue life of the materials. The UTS determined from these tests were then used as the fatigue test parameters. Three different weight ratio of 20%, 30% and 40% Kenaf powder size 100μm were involved in this investigation. Tensile test were conduct and the result shows that the 30% of Kenaf powder is the best weight ratio of Kenaf powder. The low energy impact tests were conduct using energy levels 0.55J, 0.94J and 2.23J on the specimens. Fatigue test using constant weight ratio, 30% of Kenaf powder were carried out for with and without post impact KPP, KPPMAPP, KPPLK and KPPMAPPLK at the stress ratio of 0.1 and frequency of 6Hz. The results for tensile properties and post impact fatigue behavior were evaluated. The results show that the KPPMAPPLK have longer fatigue life.



Keywords: Kenaf powder, PP, MAPP, Kevlar, post impact fatigue.

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