

## **Effect of Processing Parameters and Fibre Loading On Compression Molded Flax Fibre Reinforced Biocomposite**

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Compression molded natural fibre reinforced biocomposites is mostly developed using thermoset materials. Due to limiting petroleum resources the trend of plastic usage is shifted from thermoset to thermoplastic. Reinforcing thermoplastic with flax fibre can develop high quality products. Though flax fibre pre-treatment is important, yet processing parameters also play vital role in biocomposite formulation. Lignocellulosic fibres like flax fibre are prone to decomposition after 184°C, therefore low processing temperature is applicable. Thermoplastic like PE, PP, polyvinyl chloride (PVC) and polystyrene (PS) are most common thermoplastic workable in the low processing temperature (Schartel et al., 2003). Major work has been done on flax fibre reinforced thermoplastic biocomposite using injection molding technique. There is no work done on flax reinforced HDPE composites developed by compression molding technique and limited work has done on compression molded flax reinforced PP composites. In this study, the effect of processing parameters (molding temperature, molding pressure, residence time, curing time) and fibre loading on the physical and mechanical properties of compression molded flax fibre reinforced HDPE biocomposite was investigated. The various physical and mechanical properties were tested following ASTM standards to characterize and study the developed biocomposites.