

MECHANICAL AND MORPHOLOGICAL BEHAVIOR OF WASTE GFRP POWDER REINFORCED POLYBUTYRATE COMPOSITES

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ABSTRACT

Biocomposites have emerged to become one of the most sought-after materials, these days. Yet, their high cost, limits their applications. On this regard, the blending of low-cost fillers into the biodegradable polymer may be an alternative solution.

This present work concentrates on the development of Polybutyrate/waste GFRP powder (Both Raw and Treated) composites. These composites were synthesized by melt mixing using a Haake Rheocord. Later, samples were prepared by Compression Moulding Technique, followed by Punching and Saw-Cutting. The samples were then tested for Mechanical (Tensile, Flexural and Impact Properties) and Morphological behaviour. The results indicate that the blending was highly successful in improving the fore said properties, while reducing the cost effectively. These biocomposites could be applied in packaging, garden products, waste bin liners, etc.

KEY WORDS: Polybutyrate, Waste GFRP Powder, Treatment, Mechanical, Morphology.

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